



United States Department of  
**Health & Human Services**

**Federal Real Property Asset Management  
Sustainable Buildings Implementation Plan**



31 December 2008

**Office for Facilities Management and Policy**  
*Office of the Assistant Secretary for Administration and Management*





# Department of Health and Human Services Sustainable Buildings Implementation Plan

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## Preface

On September 8, 2006, the Department issued the HHS Policy for Sustainable and High Performance Buildings. The Department subsequently issued its initial Sustainable Buildings Implementation Plan (SBIP) in December 2006 implementing the *Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings* and has since updated the plan annually. The continued emphasis to make the existing inventory sustainable and all new facilities the most energy efficient and environmentally friendly as possible, is an important part of the HHS over all strategy for its facilities inventory now and in the future. The SBIP is an important tool designed to provide a single point of reference of current sustainable measures for new, existing and leased facilities and guidance for implementation of these measures.

This December 31, 2008 submission updates the Department's Sustainable Building Implementation Plan incorporating the requirements of the *Energy Independence and Security Act* (EISA) of 2007 and the updated technical guidance for the Guiding Principles released in December 2008. The revised SBIP is a critical element to the Department's sustainability program as it advances into a highly effective program. This 2008 update includes a revised sustainability checklist for leased properties and a new draft Operations and Maintenance (O&M) checklist for building operators. In addition to the checklists, an update to the sustainability progress achieved to date by the Department and its continued progress towards the established 2015 goals is detailed.

Through the coordination and team work of the Department and its components, the HHS Sustainable Buildings Program is evolving towards achieving sustainability across the Department's real property inventory. HHS will continue to report semi-annually on its progress to promote continuous improvement toward achieving the established goals and beyond.

/s/

Howard D. Kelsey  
Deputy Assistant Secretary  
Office for Facilities Management and Policy (OFMP)





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## Executive Summary

The HHS Sustainable Buildings Implementation Plan (SBIP) is evaluated and updated yearly to incorporate new policy and progress in the Department's sustainability program. The SBIP is a collection of policy, procedures, guidance and tools designed to implement, manage and record the sustainable measures incorporated in the Department's building assets. The SBIP provides the framework for the Department's sustainable program and provides status of current accomplishments in incorporating of the *Guiding Principles* into the HHS building inventory.

The Department has developed the SBIP in a format to educate the user on the history of sustainability in the Federal government, to provide the user with the guidance and information needed to implement the policy, and to provide the means to record the accomplishments of the Department. The SBIP continues to evolve, continually refining the process to achieve sustainable buildings and record accomplishments.

The Department has faced many challenges in incorporating sustainable measures into building assets. There is great diversity in the mission of the individual HHS components from small, isolated health care facilities on remote Indian reservations to large, complex biomedical laboratories. The Indian Health Service has legislative authorities that continue to make it difficult to mandate data reporting from facilities operated by the Tribes and to incorporate sustainable requirements into direct leases with Tribes. There has also been some reluctance from the regional GSA entities to incorporate and document the HHS requirements into lease procurements. BSL-3 and BSL-4 laboratories rarely meet the Energy Efficiency requirements. These challenges led HHS to define a capital building asset threshold for incorporating sustainable measures at 5,000 square feet or more, excluding land, structures and housing. Although the latest technical guidance issued on December 5, 2008 requires that compliance with the *Guiding Principles* be captured on all owned and direct leased assets in the Federal Real Property Profile (FRPP), the Department continues to make its highest priority those assets above its defined capital threshold for sustainable buildings. To that end the HHS Sustainable Buildings Progress Report (Exhibit IV.B.1) reports as a separate line those assets above the defined capital threshold.

The FRPP reflects a total inventory of 3,091 buildings with a total square footage of 35,065,336, currently 4 buildings (0.13%) at 951,611 square feet (2.71%) total are compliant with the *Guiding Principles* based on third-party certification. In context of its defined capital threshold for sustainable buildings, HHS identified 406 buildings at a total of 25,633,314 square feet as its highest priority. Within this context the 4 buildings represent 0.99% of buildings and 3.71% of square footage above the capital threshold.

To date no direct leases have achieved the incorporation of the *Guiding Principles*. Since the largest numbers of direct leases are between the Indian Health Service and the Tribes, opportunities for compliance with the *Guiding Principles* are limited. Lease actions through GSA in other than the remote locations provide the greatest opportunity for compliance.

The attached table summarizes the current status of the HHS milestones from July through December 2008 and provides planned milestones from January through June 2009.







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<b>Milestones by 1/1/09 – Status as of December 31, 2008</b>	
<b>Milestones</b>	<b>Status</b>
Annual review and update of HHS Sustainable Buildings Policy and Implementation Plan to incorporate requirements of OMB Circular A-11, guidance from OFEE/ISWG and EISA 2007. Incorporate SBIP Addendum dated 6/30/08 into update	The SBIP has been revised and updated to reflect the latest OMB, OFEE and HHS requirements. Update includes the December 5, 2008 <i>Technical Guidance for High Performance and Sustainable Buildings</i> .
Update Appendix J Matrix of Current Status of Implementation with Land Holding OPDIVs.	Operating Divisions updated their sustainable actions and progress on their existing inventory. SBIP Exhibit IV.A.1 captures the OPDIVs status of implementation (former Appendix J)
Update HHS Facilities Program Manual to reflect current Sustainable Buildings requirements.	HHS Facilities Program Manual, Section 3-5 updated to reflect latest HHS policy. The update includes all applicable E.O. 13423 and EISA 2007 requirements and the latest technical guidance. Issuance pending OGC/Departmental final clearance.
Review and incorporate update for reporting projects and lease actions into Appendix M.	SBIP Exhibit IV.B.1 (former Appendix M) reflects the HHS sustainability progress for new, existing and leased assets. Report formatted to incorporate reporting metrics for both square footage and facility number and to add direct leases consistent with latest <i>Technical Guidance</i> .
Status report on land holding OPDIV program to train and accredit at least one facilities person in LEED.	Sustainability is incorporated into training programs and OPDIVs have sponsored workshops on sustainable actions. OFMP, NIH, CDC and IHS each have at least one LEED accredited person on staff and FDA currently uses A/E services to provide sustainable buildings expertise on the IPT for new projects. FDA is in the process of training personnel to be LEED A.P. All the OPDIVs are increasing their efforts to accredit additional LEED A.P. personnel.
Develop a draft O & M Operators Checklist for sustainable actions; incorporate into Appendix I.	A new O & M checklist (SBIP Exhibit III.A.1) was created to assist building maintenance personnel in recording a building's sustainable features and to identify opportunities for improving sustainable performance.
Status report on incorporation of sustainable design principles in AAGAM (grants).	AGAAM update in October 2008 included sustainable language encouraging inclusion of sustainable design principles in grants over \$1 million.
Update Appendix L and P to reflect existing building inventory for progress report (Appendix M).	SBIP Exhibit I.B.1 (former Appendix L) reflects the end of FY08 summary of HHS owned and leased buildings.



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<b>Milestones by 1/1/09 – Status as of December 31, 2008</b>	
<b>Milestones</b>	<b>Status</b>
	HHS uploaded to the FRPP 2,832 owned and 259 direct leased buildings. SBIP Exhibit I.B.2 (former Appendix P) reflects the updated sustainability goals on an annual basis. Table 1 captures goals based on the HHS capital threshold of 5,000 sf or more; Table 2 captures goals based on the FRPP upload.
<b>7/1/09 Milestones</b>	
<b>Milestones</b>	<b>Status</b>
Review any new guidance and requirements; issue addendum to SBIP if required.	
Update SBIP Exhibit IV.A.1 to reflect Current Status of Implementation with Land Holding OPDIVs, including status of training and accreditation of staff.	
Update SBIP Exhibit IV.B.1 to reflect current progress in assessing existing buildings and incorporating sustainability into projects, lease actions and existing buildings.	
Review and update Sustainability Checklists and Existing Building Assessment tool as needed for FY 11 budget cycle.	
Work with GSA to develop strategy to ensure incorporation of HHS requirements into new lease actions.	



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## Section I – Policy

### A. Federal Leadership in High Performance and Sustainable Buildings

On January 24, 2006, the Department of Health and Human Services joined other federal agencies and authorities in signing the *Federal Leadership in High Performance and Sustainable Buildings Memorandum of Understanding* (MOU) at the White House Summit for Federal Sustainable Buildings (<http://www.wbdg.org/references/mou.php>). Sustainability is the outcome of an integrated process of facility development incorporating a balance of life-cycle cost, environmental impact and occupant health and safety, security, and productivity. The MOU established a common set of *Guiding Principles* for sustainable buildings design:

1. Employ Integrated Design Principles
  - Integrated Design
  - Commissioning
2. Optimize Energy Performance
  - Energy Efficiency
  - Measurement and Verification
3. Protect and Conserve Water
  - Indoor Water
  - Outdoor Water
4. Enhance Indoor Environmental Quality
  - Ventilation and Thermal Comfort
  - Moisture Control
  - Daylighting
  - Low-Emitting Materials
  - Protect Indoor Air Quality during Construction
5. Reduce Environmental Impact of Materials
  - Recycled Content
  - Bio-based Content
  - Construction Waste
  - Ozone Depleting Compounds

The *Guiding Principles* provide the framework by which each agency can incorporate and develop policy and guidance in order to achieve sustainable buildings measures for new, existing and leased assets in their inventory. These *Guiding Principles* help federal agencies achieve the MOU goals to:

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

On September 8, 2006, the Department issued its initial HHS Policy for Sustainable and High Performance Buildings. The Department subsequently issued its initial Sustainable Buildings Implementation Plan on December 31, 2006 implementing the *Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings*.



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On January 24, 2007, Executive Order 13423 – Strengthening Federal Environmental, Energy, and Transportation Management mandated Agencies incorporate sustainable buildings practices consistent with the MOU *Guiding Principles*. Additional requirements were issued on December 19, 2007 with the signing of the *Energy Independence and Security Act of 2007* (EISA). EISA consists mainly of provisions designed to increase energy efficiency and the availability of renewable power.

On December 5, 2008 new guidance on High Performance Federal Buildings for the MOU *Guiding Principles* ([www.wbdg.org/references/sustainable\\_eo.php](http://www.wbdg.org/references/sustainable_eo.php)) was issued by the Office of Management and Budget for the incorporation into Agency sustainability programs. The new guidance includes:

- Revised *Guiding Principles* for new construction and major renovations
- New *Guiding Principles* for existing buildings
- Clarification of reporting guidelines for entering information on the sustainability data element (#25) in the Federal Real Property Profile
- An explanation of how to calculate the percentage of buildings and square footage that are compliant with the *Guiding Principles* for agency scorecard input.

## B. HHS Policy for Sustainable and High Performance Buildings

To promote the health of the public and our employees and minimize potential impacts of our mission activities on the environment, each Operating Division (OPDIV) of the Department of Health and Human Services (HHS) will incorporate sustainable and high-performance design principles in the planning, acquiring, siting, designing, building, operating, maintaining and decommissioning of all facilities.

### 1. Scope

The HHS policy for Sustainable and High Performance Buildings applies to all buildings under the control of the Department and all OPDIVs, including all buildings that are reported in the HHS Automated Real Property Inventory System (ARIS), whether owned or leased and operated by HHS, or operated on behalf of HHS. This policy does not apply to tribally owned and operated buildings under the authorities of P.L. 93-638.

Exhibit I.B.1 captures the HHS Fiscal Year End Summary of Owned and Leased Buildings. Per the *Executive Order 13423 Technical Guidance for Implementing the Five Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings* issued on December 5, 2008, applicable assets are defined as all buildings as reported to the Federal Real Property Profile (FRPP) database. Applicable buildings include all assets regardless of size, including housing, excluding only structures and land. For HHS this means incorporation of the *Guiding Principles* is reported on all owned and direct leased buildings. Exhibit I.B.1 is updated annually to reflect the most current HHS buildings inventory.

HHS has defined the capital asset threshold for incorporating sustainable buildings practices in existing buildings as 5,000 gross square feet or more, excluding housing, structures and



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land. The HHS threshold was deemed most appropriate for the asset types and sizes within the HHS inventory. The HHS threshold accounts for 84% of the total inventory square footage and focuses incorporation of sustainable actions into those assets having the greatest impact to the environment. Exhibit I.B.1 breaks out the HHS buildings inventory based on the capital asset threshold and for housing.

The reporting requirement for buildings in the Federal Real Property Profile (FRPP) is required beginning in FY 2009. A new Sustainability Data Element (#25) was added to the FRPP, as well as to the HHS ARIS for recording sustainable accomplishments. The required information will reflect whether or not an asset meets the sustainability goals set forth in section 2 (f) of the Executive Order 13423. The 4 options for recording a buildings data are:

- Yes (1) – asset has been assessed and meets guidelines set forth in section 2 (f) of the Executive Order 13423
- No (2) – asset has been assessed and does not meet guidelines set forth in section 2 (f) of the Executive Order 13423
- Not yet Evaluated (3) – asset not yet been evaluated on whether or not it meets guidelines set forth in section 2 (f) of the Executive Order 13423
- Not Applicable (4) – guidelines set forth in section 2 (f) of the Executive Order 13423 do not apply to the asset

In order to select “Yes (1)” for a sustainable building, an OPDIV must verify that it meets the sustainability requirements for new, existing or leased buildings as defined in this document and consistent with the December 5, 2008 Technical Guidance.

The “Not Applicable (4)” option is only appropriate for structures and land assets. Information on the “sustainability” data element is required on all buildings reported to the FRPP.

Based on the summary reported in Exhibit I.B.1, interim (annual) HHS Sustainability Goals are defined in Exhibit I.B.2 to achieve the 2015 goal of incorporating the *Guiding Principles* into 15% of our existing building inventory. Exhibit I.B.2 includes two tables to demonstrate the difference between basing the calculation on the HHS capital asset threshold for sustainability and on all HHS buildings as reported in the Federal Real Property Profile (FRPP) (owned and direct leases). Table 1 reflects the Applicable Buildings per HHS 5,000 square foot capital asset threshold (CAT). Table 2 reflects the Applicable Buildings per the FRPP.

## 2. Policy

a. All construction<sup>1</sup> projects will incorporate the *Guiding Principles* of the MOU into the planning, design, construction, operation, maintenance, and decommissioning processes. Construction projects under the scope of this policy, which have a total project cost equal to or greater than \$10 million, will obtain a third party certification to meet the requirements of

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<sup>1</sup> Construction includes new buildings, additions and build-to-lease buildings as defined in the HHS Facilities Program Manual, Volume 1, May 19, 2006.



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a multi-attribute green building standard or rating system developed by an ANSI-accredited organization.

New housing projects with a total project value equal to or greater than \$10 million shall be designed to meet a third party certification of a multi-attribute green building standard or rating system developed by an ANSI-accredited organization.

b. Existing facilities will incorporate the *Guiding Principles* of the MOU to the maximum extent feasible in all improvement, repair and maintenance projects. In addition to incorporating the *Guiding Principles* of the MOU, improvements projects, which have a total project cost equal to or greater than \$10 million and/or impacting 40% or more of the overall floor area, will obtain a third party certification that meets the requirements of a multi-attribute green building standard or rating system developed by an ANSI-accredited organization.

In addition, existing buildings shall be assessed for compliance with the *Guiding Principles* of the MOU to ensure that 15% or more of the HHS building inventory incorporates the sustainable buildings practices in the *Guiding Principles* by FY 2015. The process and tool for assessing existing facilities is incorporated in Section II.C.

Existing housing projects with a total project value equal to or greater than \$10 million and/or impact more than 60% of any individual unit shall also obtain a third party certification of a multi-attribute green building standard or rating system developed by an ANSI-accredited organization. Sustainable buildings practices will be incorporated into existing housing as projects are developed. See Section I.C for the Sustainable Buildings Strategy for Housing.

c. All new lease actions<sup>2</sup> 5,000 useable square feet (usf) or more will incorporate the *Guiding Principles* of the MOU to the maximum extent feasible. New lease actions under 5,000 usf will consider the *Guiding Principles* as one criterion for lease evaluation. Leases that have received a third party certification at any point can claim compliance with the *Guiding Principles*.

A build-to-suit lease is treated as a construction project and will be third party certified to meet the requirements of a multi-attribute green building standard or rating system developed by an ANSI-accredited organization.

In cases where the lessor or GSA prohibits the collection of the building data that can confirm compliance with the *Guiding Principles*, a Letter of Non-Conformance must be submitted to OFMP within 60 days after lease award.

d. The latest update of the Awarding Agency Grants Administration Manual (AAGAM) Chapter 6.99.106 incorporates the requirement that sustainable buildings design considerations should be included to the maximum extent feasible in construction or modernization grants or activities that will be funded at \$1 million or more. Sustainable buildings design considerations relate to ensuring consistency with, and contributing to,

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<sup>2</sup> Lease actions include all new leases, renewals, extensions, permits, agreements, or licenses for real property assets that are reported in the HHS Automated Real Property Inventory System.



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maintaining the economic, social, and ecological environment. Examples of such design considerations include use of low-impact materials, ensuring energy efficiency, and maximizing reuse/recycling capabilities.

e. In certain circumstances, the third party certification can qualify a building for compliance to the *Guiding Principles*. The definition of a third party certification is one that meets the requirements of a multi-attribute green building standard or rating system developed by an ANSI-accredited organization. The use of the third party certification can be attributed to new, existing and leased assets. A construction or housing project or build-to-suit lease can achieve compliance if the design contract was awarded prior to October 1, 2008 and the building or space has been third party certified. An existing building can achieve compliance where a documented commitment to a third party certification has been made, e.g., registered a project, prior to October 1, 2008 and the building is later certified. Leases, other than build-to-suit leases, that have received a third party certification at any point can claim compliance with the *Guiding Principles*.

f. A project that does not meet the *Guiding Principles* can request a waiver from achieving individual metrics within the *Guiding Principles*. Waiver requests shall be considered on a case-by-case basis for individual projects. The waiver is considered when a metric is not achievable due to specific mission requirements. The Deputy Assistant Secretary, Office for Facilities Management and Policy, Office of the Assistant Secretary for Administration and Management (OFMP/ASAM) must approve waivers and any other exceptions to the provisions of this policy.

g. Exhibit I.B.3 summarizes sustainable buildings requirements for all applicable projects referenced herein.

### 3. Roles and Responsibilities

a. Deputy Assistant Secretary, Office for Facilities Management and Policy, Office of the Assistant Secretary for Administration and Management

The HHS Office for Facilities Management and Policy will serve as the principal point of contact for sustainable buildings design and construction activities and will:

- i. Monitor compliance with this policy for all capital building assets as defined in OMB Circular A-11 Part 7, and all HHS assets reported in the Federal Real Property Profile.
- ii. Review and approve exceptions to this policy.
- iii. Conduct an annual Lessons Learned workshop to address sustainability and its application in HHS projects.

b. Operating Divisions (OPDIVs)

Individual OPDIVs will manage the planning, design, construction, operation, maintenance, and decommissioning of their buildings to ensure compliance with this policy. Each OPDIV shall develop a plan that includes:

- i. Policies, procedures and plans to ensure compliance with this policy and the Department's Implementation Plan and Guidelines associated with this policy.



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- ii. A data collection mechanism that ensures the reporting requirements of this policy is achieved.
- iii. A self audit process to assess the OPDIV's implementation progress and compliance with this policy.
- iv. Documentation of sustainability on individual projects and leases through the Sustainable Buildings Checklists, and on existing inventory through Existing Building Assessment Tool.

## C. HHS Sustainable Buildings Strategy for Housing

All housing projects shall follow the baseline measures of each of the *Guiding Principles* in the *Federal Leadership in High Performance and Sustainable Buildings MOU* and as modified by E.O. 13423, EISA 2007 and the latest *Technical Guidance* to the maximum extent feasible except for the following measure:

### Energy Efficiency

1. Design to achieve energy consumption level 30% or greater below the International Energy Conservation Code (IECC), 2004 Supplement Edition, January 2005 baseline.
2. If a 30% reduction in energy consumption is not feasible, lower reductions may be considered when approved by OFMP. In such circumstances, energy consumption reduction levels shall be targeted at 5% intervals (i.e. 25%, 20%, 15%, etc.) until the maximum feasible energy consumption level is achieved. In no case may energy consumption levels exceed the IECC baseline.
3. Energy consumption calculation shall include space heating, space cooling, and domestic water heating.

In the event that the A/E and OPDIV conclude that implementation of specific sustainability requirements within the *Guiding Principles* is not feasible due to cost, operational feasibility, or technological application, a request for waiver must be submitted to the Office for Facilities Management and Policy (OFMP) for approval. The rationale for the exclusion of specific sustainability measures shall be submitted in writing and include detailed information on the specifics as to why the measure can not be achieved.

## D. Abbreviations and Acronyms

AAGAM	Awarding Agency Grants Administration Manual
ARIS	Automated Real Property Inventory System
EMS	Environmental Management Systems
EISA	Energy Independence and Security Act of 2007
FPAA	Facility Project Approval Agreement
GBI	Green Building Initiative
GSA	General Services Administration
HHS	Department of Health and Human Services
IDIQ	Indefinite delivery / indefinite quantity
IEQ	Indoor Environmental Quality
IP	Implementation Plan
IPT	Integrated Project Team
LEED	Leadership in Energy and Environmental Design





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MOU	Memorandum of Understanding
NLT	No later than
OA	Occupancy Agreement
OFEE	Office of the Federal Environmental Executive
OFMP	Office for Facilities Management & Policy (HHS)
O&M	Operations & Maintenance
OMB	Office of Management and Budget
OPDIV	Operating Division (within HHS)
PDRI	Project Definition Rating Index
POR	Program of Requirements
RAMP	(HHS) Real Property Asset Management Plan
SFO	Solicitation for Offers
USGBC	U.S. Green Building Council
WBDG	Whole Building Design Guide

## Section II – Procedures

### A. Integrated Project Team Definition and Project Charter

Each project shall have a core Integrated Project Team (IPT) that shall be cross-functional to accomplish the various tasks of the project. Expertise required shall be based on specific project scope and size. Members should reflect the user community, the project's stakeholders and should have core knowledge of project management, budget, finance, sustainable buildings design and procurement. An assessment shall be made of the availability of internal or external resources. The IPT shall be assembled according to the guidance provided in OMB Circular A-11, Section 7, Appendix 2. An IPT Charter, which outlines IPT membership and responsibilities, shall be created. For charter format see Exhibit II.A.1. for HHS Owned Facilities and Exhibit II.A.2. for Leased Facilities. If a Project Definition Rating Index (PDRI) assessment is required, core team members must participate.

#### 1. Integrated Project Team Definition

- For HHS-owned facilities, the IPT shall be led by the Program Manager, Project Manager, or Team Leader (the first signatory on the FPAA). The IPT shall also include the Contracting Officer, a Sustainability Coordinator or Green Building Specialist (preferably one who is LEED certified), and a representative of the end user group. The IPT should also include stakeholders from Operations & Maintenance, Financial, Environmental, Health and Safety, Security, IT, and Facilities/Space Planning.
- For delegated leased facilities, the IPT shall be led by the warranted Contracting Officer. The IPT shall include the Project Officer, a Green Buildings Specialist (LEED certified), and a representative of the end user group. The IPT should also include stakeholders from Operations & Maintenance, Financial, Environmental, Health and Safety, Security, IT, and Facilities/Space Planning.
- For GSA assignments, the GSA representative shall lead the IPT in the Contracting Officer capacity, and an OPDIV/STAFFDIV-appointed team leader (Acquisitions/ Project Officer) shall provide liaison and coordination for the IPT. The Contracting Officer and the HHS Team Leader shall assemble a team to include, but not limited to, the end user and



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representatives from GSA/HHS who are versed in Green Buildings, Operations & Maintenance, Financial, Environmental, Health and Safety, Security, IT, and Facilities/Space Planning. If resources are available, HHS should fill these roles since they are the primary stakeholders.

### B. Sustainable Buildings Checklists

A Sustainable Buildings Checklist is completed on each project and lease action to record sustainable measures. Exhibit II.B.1, Sustainable Checklist for Projects, Exhibit II.B.2, Sustainable Checklist for Lease Actions and Exhibit II.B.3, Letter of Non-conformance are discussed below and attached for reference.

#### 1. Exhibit II.B.1, Sustainable Buildings Checklist for Projects

The Sustainable Buildings Checklist for Projects is required on all projects requiring submittal of a Facility Project Approval Agreement (FPAA). The checklist is divided into two parts to capture planned sustainable measures and actual sustainable measures. Part 1 – Project Planning is completed and included with the initial submission of the Facility Project Approval Agreement. Part 2 – Project Completion is completed at the end of the project to record the actual sustainable measures achieved. The completed Part 2 is forwarded with the final project report. Although not required, an OPDIV may choose to use the Sustainable Buildings Checklist at the completion of design to record the sustainable measures incorporated into the final design package.

#### 2. Exhibit II.B.2, Sustainable Buildings Checklist for Lease Actions

The Sustainable Buildings Checklist for Lease Actions is required on all new lease actions 5,000 square feet or greater except Build-to-Suit leases. Build-to-Suit leases by definition are construction projects and shall use the Sustainable Buildings Checklist for projects. For all other lease actions, the Sustainable Buildings Checklist for Lease Actions is not intended to be used during the solicitation process but to record the sustainable features of a building **after** occupancy. Checklists for Lease Actions shall be submitted semi-annually in May and November so that OFMP can summarize the data in it semi-annual progress report (see Exhibit IV.B.1).

#### 3. Exhibit II.B.3, Letter of Non-conformance

In cases where the collection of the sustainable building data cannot be obtained from the lessor or GSA on lease actions and the OPDIV does not have the expertise to evaluate the sustainable measures incorporated into a building, a Letter of Non-Conformance must be submitted in lieu of the Sustainable Buildings Checklist. The letter must detail the reasons for not submitting the Sustainable Buildings Checklist.

### C. Existing Building Evaluation and Prioritization

The Exhibit II.C.1, Existing Building Assessment Tool is designed to help in the collection and recording of sustainable actions achieved on an existing applicable capital asset. The tool is designed to collect and measure the Department's achievement in meeting the *Guiding Principles* as described in Executive Order 13423 and the Energy Independence and Security Act of 2007 (EISA). The checklist will provide a score by which to measure a buildings sustainable achievement. The score will help in prioritizing the buildings that would require the least amount of effort to achieve compliance to the *Guiding Principles*.



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OPDIVs are encouraged to complete the assessment of existing buildings for sustainable actions concurrent with Facility Condition Assessments. Each OPDIV shall develop a plan to ensure that assessments of all existing assets are completed by 2015 consistent with the goals established in Exhibit I.B.2.

## Section III – Guidance and Information

### A. O & M Sustainability Practices for Buildings

To ensure the benefits of sustainability carry on throughout the life cycle of the facility additional guidance is required in the area of Operations and Maintenance (O & M). The information contained herein provides guidance needed by a facility manager or an A/E firm who plans to integrate sustainable principles into O & M practices as part of design and construction in an existing facility.

An O & M Checklist (Exhibit III.A.1) is attached to provide facility managers and operations and maintenance personnel with a simple survey tool to determine the extent of the use of sustainable practices in their facility. A score of 50% or more (yes answers) in each of the five guiding principle categories might warrant a more in depth evaluation to see if the facility meets the intent of the *Guiding Principles*. This comprehensive evaluation should follow the guidelines set forth in Exhibit II.C.1, Existing Building Assessment Tool. If the intent of the *Guiding Principles* is met, the building can be included in the Federal Sustainable Buildings Database.

#### 1. Definition of Operations and Maintenance

The definition of O & M was established in the 3Q FY2008 President's Management Agenda (PMA) deliverable HHS Operations and Maintenance Cost and Implementation Guidance. The goal is to insure the use of uniform reporting procedures by each HHS component. Reporting of O & M costs applies to all constructed assets that are HHS owned and leased assets for which HHS has delegated authority for operations and maintenance.

O & M costs are made up of four components and include labor, materials and contract services:

- a. Recurring maintenance and repair costs.
- b. Utilities (includes central plant operation and purchase of energy).
- c. Cleaning and/or janitorial costs (includes pest control, refuse collection and disposal to include recycling operations, etc.).
- d. Road/grounds costs (includes grounds maintenance, landscaping and snow and ice removal from roads, piers and airfields, etc.).

#### 2. Sustainable Buildings O & M Practices

This section is organized by the *Guiding Principles*. Under each guiding principle is a list of sustainable practices that apply to the specific principle. After the description of each sustainable practice is the area of O & M in which it applies.

A good O & M program that employs sustainable practices should:



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- a. Set demanding short and long term goals.
- b. Measure performance so that the building can be benchmarked against other buildings.
- c. Easily adjust to changing occupant needs by designing in the capability to modify HVAC, lighting, electrical, telecommunications, safety, housekeeping and building automation control systems.
- d. Repair, upgrade, and re-commission building systems to ensure that they are performing at their peak performance.
- e. Extend the useful service life of materials and equipment.
- f. Prevent disruptive failures in the building and its systems.
- g. Promote greater productivity.
- h. Incorporate environmentally-protective features into all contracts, and all maintenance and procurement practices.
- i. Develop and maintain a master equipment list, with model and serial numbers, required spare parts, equipment specifications, and parts suppliers list.
- j. Develop and maintain an equipment history record file, noting dates of installation and repair history.
- k. Maintain operating manuals and specifications for equipment.
- l. Maintain air balancing reports and airflow specifications.
- m. Maintain as-built blueprints of mechanical, electrical, and plumbing systems and control blueprints showing how the systems operate.
- n. Develop and maintain preventive maintenance charts for each piece of equipment and work orders for those activities.

These practices coupled with the sustainable elements listed below create a robust sustainable O & M program. These lists can also be used by the facility manager to upgrade an existing program. Samples of some O & M elements relating to the *Guiding Principles* are listed below. Please note this is not intended to be a comprehensive list, but an example of some ways to integrate the *Guiding Principles* into O & M.

### Employ Integrated Design Principles

- a. Integrated Design
  - i. Train building occupants, facilities managers and maintenance staff in sustainable design principles.
  - ii. Design the HVAC system so that maintenance and inspection will be easy to accomplish, including adequate space to maintain, repair and replace equipment in mechanical rooms and interstitial spaces. This includes providing access doors in ceilings or walls to reach air handling units, filter banks, fan-coil units, terminal boxes, and controllers or sensors that require regular maintenance and calibration (repair and maintenance).
  - iii. Provide adequately sized and properly designed storage facilities in the building, such as a separately exhausted central chemical supply area near the loading dock, janitor's closets on each floor, dedicated recycling storage areas, and handling and transport mechanisms (custodial).
  - iv. Include permanent walk-off grilles or mats at all entrances to eliminate tracked-in dirt. Use landscaping or railings to keep people on the pavement near the building entrances (custodial).
  - v. Select durable, low-maintenance, soil-resistant, low-emitting building materials, equipment, and furnishings. In heavily trafficked areas, carpet tiles may be preferable



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to broadloom because small stained sections can be replaced and recycled, avoiding use of powerful carpet cleaners (custodial).

- vi. Provide documentation of design intent for building systems (repair and maintenance).
  - vii. Incorporate controls and feedback systems for building systems to inform the facility manager of conditions and deviations of the design intent.
- b. Commissioning
- i. Implement a comprehensive, preventive maintenance program to keep all building systems functioning as designed. Provide operations support to facilities managers and maintenance crews to answer questions and offer additional information. At a minimum, re-commission on a 4 year cycle (repair and maintenance).
  - ii. During the construction phase and prior to turnover of the facility, O & M manuals are provided by the construction project manager to the O & M organization and O & M organization personnel are provided training required for O & M of the new facility (repair and maintenance).

Optimize Energy Performance (utilities – all)

- a. Energy Efficiency – Controls
  - i. Use schedule, occupancy, or luminance sensors to control lighting and other functions.
  - ii. Use timers to turn on/off equipment.
  - iii. Manually turn off the lights, computers, and equipment if not equipped with automatic controls when not in use.
  - iv. Enable power-down features on office equipment (Energy Star).
- b. Measurement and Verification
  - i. Meter and monitor all utilities (utilities).
  - ii. Benchmark the facility using EPA's Energy Star benchmarking tool (utilities).
- c. Conduct energy and O & M audits.
- d. Purchase energy from renewable sources (utilities).

Protect and Conserve Water (utilities – all)

- a. Indoor Water
  - i. Inspect and repair leaks in a timely manner.
  - ii. Install low flow fixtures.
- b. Outdoor Water
  - i. Landscape with native, or indigenous, plants to minimize watering requirements (grounds).
  - ii. Discharge water meets EPA regulations (repair and maintenance).
  - iii. Cooling tower make up water is metered (repair and maintenance).

Enhance Indoor Environmental Quality

- a. Ventilation and Thermal Comfort



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- i. Develop and maintain master schedules for operations and preventive/predictive maintenance (repair and maintenance).
  - ii. Continuously monitor equipment performance (repair and maintenance).
  - iii. Assure early detection of defects or failures in equipment through use of service alarms (repair and maintenance).
  - iv. Minimize equipment failures by use of preventive maintenance, standbys, etc. so that the failed component can be isolated and repaired without interrupting system performance (repair and maintenance).
  - v. Use internal and external test systems to locate faults and fix problems (repair and maintenance).
  - vi. While HVAC systems may be designed to isolate operations (kitchens, dry cleaners, etc.) from other occupancies, the O & M staff should check to see that pressure differentials are in fact maintained, to avoid the undesirable flow of contaminants from restrooms, kitchens, parking garages, laboratories, etc. (repair and maintenance).
  - vii. Outside air ventilation meets ASHRAE 62-2004 standards (repair and maintenance).
  - viii. Indoor temperature and humidity conditions meet ASHRAE 55-2004 standards (repair and maintenance).
  - ix. Air handling equipment is equipped or modified to be equipped with an economizer cycle (repair and maintenance).
- b. Moisture Control
- i. Dry surfaces promptly. Water-damaged, porous building materials or furnishings, if not dried and cleaned within 24 hours, may have to be replaced (custodial).
  - ii. Prevent moisture condensation (repair and maintenance).
  - iii. Maintain a water tight building envelope, including the roof (repair and maintenance).
- c. Day-lighting – none specified
- d. Low-Emitting Materials
- i. Use integrated pest management methods of pest control as part of the overall building maintenance program (custodial).
  - ii. Shut down ventilation system(s) and remove occupants until pesticide applications are completed. Perform applications during non-working hours to the maximum extent practicable (custodial).
  - iii. For carpets, follow guidelines of the Carpet and Rug Institute (custodial).
  - iv. Prevent excess moisture or cleaning residue accumulation (custodial).
  - v. When appropriate, select "certified" environmental cleaning products (custodial).
  - vi. Develop safe handling, disposal, and storage practices including procedures for spill control (repair and maintenance).
  - vii. Establish maintenance practices to minimize exposure to hazardous materials by substituting less hazardous materials (repair and maintenance).
  - viii. Use cleaners that biodegrade rapidly (custodial).
  - ix. Purchase products that are concentrated, using less packaging for more power (custodial).
  - x. Use non-toxic pest control for indoor spaces and plants (custodial).



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- xi. Implement a structured preventative maintenance program to insure air ducts are clean and free of microorganisms through a structured program of preventive maintenance (repair and maintenance).
        - xii. Low emission paint is used for maintaining surfaces (repair and maintenance).
      - e. Reduce Environmental Impact of Materials
        - i. Recycled Content
        - ii. Start a comprehensive recycling program with source separation and occupant incentives (custodial).
        - iii. Use on-site composting of organic materials (grounds).
        - iv. Use landscaping products with recycled content (grounds).
        - v. Bio-based Content
        - vi. Bio-based products are used that meet or exceed the USDA's biobased content recommendations (custodial).
        - vii. Recycled paper products are purchased (custodial).
        - viii. Construction Waste – Demolition waste is separated and recycled to the maximum extent practicable.
        - ix. Ozone Depleting Compounds
        - x. Retrofit/replace A/C equipment with environmentally friendly refrigerants (repair and maintenance).
        - xi. Retrofit/replace Halon-based fire suppression equipment with environmentally friendly fire suppression agents (repair and maintenance).
3. Specific O & M References
  - [WBDG—Construction Operations Building Information Exchange \(COBIE\)](#)
  - [Benchmarking, a Reliability Driver](#) by Ray Oliverson, SMRP Presented at the 8th International Process Plant Reliability Conference (October 26, 1999)
  - [DOD UFC 3-270-06 Paver Asphalt Surfaced Airfields Pavement Condition Index \(PCI\)](#)
  - [DOD UFC 4-310-02N Design: Clean Rooms](#)
  - DOE/EE-0249 FEMP [Low Energy Building Design Guidelines](#)
  - DOE FEMP Operations and Maintenance Best Practices Guide: [Chapter 3: O & M Management](#)
  - DOE FEMP Operations and Maintenance: [Pump Design / Selection](#)
  - DOE FEMP Utility Services Case Study—[Thermal Energy Storage at a Federal Facility](#)
  - [EPA I-BEAM](#)—The Indoor Air Quality Building Education and Assessment Model (I-BEAM) is a guidance tool designed for use by building professionals and others interested in indoor air quality in commercial buildings.
  - [Chapter - Ductwork cleaning/standards](#)
  - [Chapter - Exhaust System Design](#)
  - GSA 2003 Facilities Standards (P100)—[Appendix 3: New Constructions and Modernizations](#)
  - [WBDG—Construction Operations Building Information Exchange \(COBIE\)](#)
  - DOE FEMP Commissioning Case Study—[In-house Retro-commissioning at a DOE National Laboratory](#)
  - DOE FEMP Operations and Maintenance Best Practices Guide: [Chapter 7: Commissioning Existing Buildings](#)
  - [FEMP O & M Continuous Commissioning Guidebook](#)
  - Energy Star® Buildings Manual [Recommissioning](#)



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- [Example Retro-Commissioning Scope of Work](#)
- GSA - [Succession Planning](#)
- [Mechanical Systems Commissioning](#)
- [Society for Machinery Failure Prevention Technology](#)
- [TM 5-697 Commissioning of Mechanical Systems for Command, Control, Communications, Computer, Intelligence, Surveillance, and Reconnaissance \(C4ISR\) Facilities](#)
- [WBDG—Construction Operations Building Information Exchange \(COBIE\)](#)
- [DOD UFC 3-410-05N Heating Systems Operation and Maintenance](#)
- DOE FEMP Operations and Maintenance Best Practices Guide: [O & M Management - Section 3.4 Measuring the Quality of Your O & M Program](#)
- DOE FEMP Operations and Maintenance Best Practices Guide: [Types of Maintenance Programs - Section 5.1 through 5.5](#)
- DOE FEMP Operations and Maintenance Best Practices Guide: [Types of Maintenance Programs - Sections 5.5 and 5.6 Reliability Centered Maintenance](#)
- DOE FEMP Operations and Maintenance Best Practices Guide: [Chapter 8: Metering for Operations and Maintenance](#)
- Energy Star® [Operation and Maintenance \(O & M\) Reports](#)
- "FEMP Operations and Maintenance Best Practices Guide" by Greg Sullivan PE, CEM, Pacific Northwest National Laboratory, Presented at the Energy 2003, August 18, 2003
- FEMP [Operations and Maintenance](#)
- [Society for Machinery Failure Prevention Technology](#)
- [Air Force Instruction 32-1051 Roof Systems Management](#)
- [DOD UFC 3-600-02: O & M: Inspection, Testing, and Maintenance of Fire Protection Systems](#)
- DOE FEMP Operations and Maintenance Best Practices Guide: [Types of Maintenance Programs - Section 5.4 Predictive Maintenance](#)
- DOE FEMP Operations and Maintenance Best Practices Guide: [O & M Ideas for Major Equipment Types - Section 9.3 Steam Traps](#)
- DOE FEMP Operations and Maintenance Best Practices Guide: [O & M Ideas for Major Equipment Types - Sections 9.4.6 to 9.4.8 Maintenance of Chillers](#)
- DOE FEMP Operations and Maintenance Best Practices Guide: [O & M Ideas for Major Equipment Types - Section 9.5 Cooling Towers](#)
- DOE FEMP Operations and Maintenance Best Practices Guide: [O & M Ideas for Major Equipment Types - Section 9.6 Energy Management/Building Automation Systems](#)
- DOE FEMP Operations and Maintenance Best Practices Guide: [O & M Ideas for Major Equipment Types - Sections 9.6.6 to 9.6.9 EMS Maintenance](#)
- DOE FEMP Operations and Maintenance Best Practices Guide: [O & M Ideas for Major Equipment Types - Sections 9.10.6 to 9.10.9 Maintenance of Air Compressors](#)
- [Elevator inspection/repair](#)
- Energy Star® Buildings Manual [Fan System Upgrades](#)
- Energy Star® Buildings Manual [Lighting](#)
- [EPA I-BEAM](#)—The Indoor Air Quality Building Education and Assessment Model (I-BEAM) is a guidance tool designed for use by building professionals and others interested in indoor air quality in commercial buildings.
- [Chapter - Cooling Towers](#)
- FEMP Operations and Maintenance [Fans Maintenance](#)





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- FEMP Operations and Maintenance [Lighting Technologies](#)
- FEMP Operations and Maintenance [Maintenance of Pumps](#)
- FEMP Operations and Maintenance [Steam Traps](#)
- FEMP Operations and Maintenance [Types of Motors](#)
- [Society for Machinery Failure Prevention Technology](#)
- [TM 5-617 Facilities Engineering - Maintenance and Repair of Roofs](#)
- [TM 5-692-1 Maintenance of Mechanical and Electrical Equipment at Command, Control Communications, Intelligence, Surveillance, and Reconnaissance \(C4ISR\) Facilities](#)
- [TM 5-692-2 Maintenance of Mechanical and Electrical Equipment at Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance \(C4ISR\) Facilities](#)
- [VA Boiler Plant Operations - VHA Directive 2003-050](#)
- [VA Electrical Power Distribution System Operations - VHA Directive 2006-056](#)
- DOE FEMP Operations and Maintenance Best Practices Guide: [Chapter 4: Computerized Maintenance Management System](#)

### B. Integration of Sustainable Practices into Environmental Management Systems (EMS)

Many programs that involve facilities overlap with significant impacts on one program or another. This is the case with the sustainable buildings programs and environmental management systems (EMS) being implemented at the Department of Health and Human Services (HHS) land-holding and non-landholding Operating Divisions (OPDIVs). HHS continues to improve, expand and integrate sustainable practices within EMS at all appropriate facility and organizational levels.

HHS land-holding OPDIVs began implementation of EMS under Executive Order (E.O.) 13148 (“Greening the Government Through Leadership in Environmental Management,” April 2000). E.O. 13148 required all Federal Agencies to determine “appropriate facilities” for implementing EMS.

Executive Order 13423 (“Strengthening Federal Environmental, Energy, and Transportation Management,” January 2007) builds upon this and requires EMS implementation at all “appropriate organizational levels.” Section 3(b) of E.O. 13423 requires that EMS serve as the primary mechanism for achieving compliance with all aspects of the order (of which Sustainable Buildings is a major element). As a result, HHS OPDIVs continue to expand efforts to integrate Sustainable Buildings programs into their respective EMS structures.

The Office of the Federal Environmental Executive (OFEE) has provided implementation guidance (October 31, 2008) regarding “appropriate organizational levels.” This guidance contains explanations and definitions on the following three types of EMS that are now recognized under E.O. 13423: facility, multi-site and higher-tier. HHS is incorporating all three EMS typologies into its comprehensive EMS strategy.

In general, appropriate facility EMS’s are incorporated at the four major HHS landholding OPDIVs: the Centers for Disease Control and Prevention (CDC), the Food and Drug Administration (FDA), the Indian Health Service (IHS) and the National Institutes of Health (NIH). As of December 2008, the landholding OPDIVs developed and fully implemented 18 EMS’s.



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HHS Sustainable Buildings Implementation Plan (SBIP) has added a requirement for review and consideration of OPDIV EMS goals and targets to the FPAA sustainability checklist and the existing buildings evaluation matrix. The revised checklist and evaluation matrix will be primary EMS management control measures listed in the applicable Environmental Management Plans (EMPs) to ensure full incorporation of sustainability features in major facility-related projects.

It is important to note, however, that while the Sustainable Buildings Program will be aligned with the facility's EMS, operational control will not change. The organization's current proponents for building planning and construction will maintain full control and decision-making authority over their programs.

EMS integration is further supported by the development of cross-functional teams at all OPDIVS. Nine cross-functional roles have been designated and staffed at HHS headquarters and each OPDIV to promote and maintain the sustainable practices identified in E.O. 13423.

These nine roles correspond with those comprising the EMS "Go Green" cross-functional teams (referenced later), are as follows:

- Senior E.O. 13423 Coordinator
- Environmental Compliance Manager
- EMS Manager
- Federal Preservation Coordinator
- Green Procurement Manager
- Energy Manager
- Fleet Manager
- Electronics Stewardship Manager
- Sustainable Green Buildings Manager

HHS is committed to continual growth and improvement and will begin implementation of the "HHS GO Green" initiative in 2009. This initiative will be coupled with additional EMS implementation and include the following:

- HHS Headquarters will establish a higher-tier EMS at headquarters ("HHS Go Green" foundation)
- HHS Headquarters and Non-landholding OPDIVs will come under a single multi-site organizational EMS.
- NIH will establish a new EMS at its Bayview facility in Baltimore, MD;
- IHS has identified an additional 18 appropriate facilities for EMS development;

HHS headquarters, NIH and IHS will negotiate an implementation schedule with OFEE in 2009.

Exhibit III.B.1 is a diagram of the proposed HHS EMS Structure, and Exhibit III.B.2 lists the facilities that currently have EMS instituted at the four land-holding OPDIVs.

Below is a discussion on the status of the HHS EMSs Structure including a description of each land-holding OPDIV regarding their coordination of the Sustainable Buildings Program with EMS at appropriate facilities.



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### 1. HHS Higher-Tier EMS

At this level, environmental management responsibilities relative to implementation of E.O. 13423 include establishment of agency-wide policies, objectives, targets and a communication plan, as well as identification of responsibility, accountability and measures of performance and reporting.

As mentioned earlier, HHS has established cross-functional teams at both the headquarters and OPDIV levels that will bolster existing and promote new EMS efforts. Sustainable practices as directed by E.O.13423 will be integrated in the existing management programs for energy, environment, electronic stewardship, acquisitions/procurement, property (sustainable buildings) and transportation. Sustainable practices integrated at this higher-tier level will be promoted through the “HHS Go Green” initiative and through existing formal workgroups.

HHS Go Green Initiative logo:



ENERGY • ENVIRONMENT • ELECTRONICS • PROCUREMENT • SUSTAINABILITY • TRANSPORTATION

### 2. HHS Operating Division EMS Progress

#### a. Centers for Disease Control

CDC's [EMS](#) is an organized approach to manage its environmental practices during routine and emergency operations. It focuses on practices that improve and protect the environment for CDC's campuses and neighbors.

The [Sustainable Buildings](#) Program contributes to EMS success by requiring borrowed light (exterior and interior windows), motion sensitive office lights and materials that reduce environmental impacts and promote pollution prevention through best management practices. Some of these best management practices include reduced energy consumption, improved environmental protection, [green procurement](#), native and drought-tolerant landscaping, and effective storm water management.

Coordination of the sustainable buildings program and the EMS is a joint effort involving:

- CDC's Environmental Quality Council (EQC),



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- Office of Health and Safety (OHS) and
- Buildings and Facilities Office (BFO) Asset Management Teams (AMTs)

Objectives and targets established for the EMS are presented with recommendations to the EQC. The EQC comprises members from various programs at CDC, including OHS and BFO. The EQC makes a final determination of the aspects and impacts that should be included as objectives and targets in the EMS. The OHS Environmental Protection Section maintains CDC's EMS program.

BFO has established a point of contact to serve as the main proponent for the Sustainable Buildings portion of the EMS. The point of contact resides in the BFO Office of the Director (OD) and is closely involved with facilities planning and construction. The point of contact works closely with the OHS Environmental Protection Section to coordinate overarching matters related to the EMS.

As an operational control, BFO AMTs utilize the Project Evaluation Ranking Tool (PERT) to evaluate facility projects under the HHS approval thresholds. A ranking factor to be evaluated is the project's impact on EMS objectives. Projects that have positive impacts receive a positive score, those with no impacts receive a score of zero and those with negative impacts receive a negative score. In this manner, the AMT can coordinate work related to EMS targets through the EQC and make adjustments in project scope as needed.

The CDC/BFO Design and Construction Standards were released in 2004. Included in these standards are sustainable requirements for facilities. All (100%) capital and renovation projects are developed and executed in accordance with these standards. The standards provide daily guidance to project teams and fulfill the EMS objective to minimize infrastructure construction and development impacts.

Monitoring for progress at the BFO level is integrated with the PERT. At the completion of facility projects, the Project Team provides an analysis of results based on the scores given in the initial PERT review. Final results against the baseline score are managed through the CDC Integrated Facility Management System (IFMS). With this monitoring process, BFO will be able to trend how well progress is being made to integrate EMS objectives and targets into projects. CDC will continue to refine the process as trending data becomes available at the completion of facility projects.

### b. Food and Drug Administration

The FDA has developed and is implementing EMS's at two appropriate facilities: the White Oak Federal Research Center (White Oak) in Silver Spring, MD, and the Jefferson Laboratories Complex (JLC) in Jefferson, AR.

White Oak is a General Services Administration (GSA) owned site. GSA, using funding through the GSA appropriation, is designing and constructing federally owned buildings to consolidate FDA at White Oak. Newly constructed buildings at White Oak will replace all the existing fragmented facilities that support the Office of the Commissioner (OC), the Office of Regulatory Affairs (ORA), the Center for Drug Evaluation and Research (CDER), the Center for Devices and



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Radiological Health (CDRH), the Center for Biologics Evaluation and Research (CBER) and offices for the Center for Veterinary Medicine (CVM). The final site will consist of new laboratories, office buildings and support facilities. As these buildings are constructed, GSA is responsible for ensuring that Federal sustainability requirements are met. The current EMS at White Oak does not include GSA operations. FDA plans to partner with GSA to develop a comprehensive EMS at the site. As part of this process and as FDA begins to contemplate renovations in existing buildings, FDA will incorporate specific goals and targets, management controls and reporting requirements at the White Oak facility level.

The FDA self-declared the EMS at its JLC site in September 2007, which concluded the development process. As implementation begins, the HHS guidance document “Approach for Integrating Sustainable Buildings Programs and HHS Environmental Management Systems” will be shared with the facility EMS Coordinator. The EMS Coordinator will work with the on-site facility planning and construction representative responsible for sustainability to ensure that the local sustainable buildings program is integrated into the EMS.

Consistent with the FDA’s interpretation of the intent of E.O. 13423, a project was initiated in FY 2008 to develop an agency-wide EMS framework. This framework would be the basis for any additional appropriate facilities identified in the future as well as for the existing appropriate facilities noted above. The integration of sustainability in this EMS framework will be included as part of this project.

**c. Indian Health Service**

IHS has developed and implemented EMS in a decentralized manner. IHS has self-declared Comprehensive Healthcare Environmental Management Systems (CHEMS) at two facilities (Exhibit K.2). In establishing these management systems, each facility conducted a local evaluation to determine environmental aspects and significant impacts. To assist the process, IHS Headquarters developed a template that included aspects of sustainability. After identifying significant environmental impacts, each facility prioritized the findings and determined which issues would be addressed in a 12-month time frame. Both sites identified sustainability-related targets and objectives to reduce energy use and paper consumption and to increase recycling of paper and cardboard. One site included a target and objective to reduce water consumption.

IHS is building on the success of the CHEMS and has designated 16 additional appropriate facilities in 5 IHS administrative Areas Offices that are targeted for CHEMs in 2009-2013.

<b><u>IHS Designated Appropriate Facilities for CHEMS Expansion</u></b>				
<b><u>Aberdeen Area</u></b>	<b><u>Navajo Area</u></b>	<b><u>Phoenix Area</u></b>	<b><u>Billings Area</u></b>	<b><u>Oklahoma Area</u></b>
Pine Ridge	Fort Defiance	PIMC	Crow	Claremore
Belcourt	Shiprock	Whiteriver	Browning	Lawton
Rosebud	GIMC	Hopi		
Winnebago	Chinle			
	Red Mesa HC			



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The new IHS A/E Design Guide will include sustainable design guidance in the areas identified through implementation of E.O. 13423, Federal Leadership in High Performance and Sustainable Buildings Memorandum of Understanding (MOU), LEED and /or Green Globes. The Integrated Project Team shall establish performance goals in compliance with the guiding documents and EMS targets and objectives. In formulating the performance goals, IHS shall consider all phases of the building's life cycle. All IHS designs are developed according to the A/E Guide.

Each facility implementing a CHEMS determines the targets and objectives based on evaluation of local environmental aspects and significant impacts. Items related to sustainability in this evaluation are detailed in the attached tool, which IHS facilities use to implement CHEMS. Sustainability targets have been set and are being monitored.

#### d. National Institute of Health

NIH's approach has been to establish EMS working groups focused on facility sustainability. The groups have met several times and drafted EMPs for major phases of the facility life cycle: design and construction; lease acquisition; and decommissioning. EMPs for major campuses have also been drafted to cover all aspects and impacts of facility operation and maintenance. The EMPs list annual targets and five-year goals applicable to all NIH facilities.

The NIH Division of Environmental Protection staff includes the EMS and Sustainability Coordinators who are members of the Integrated Project Team (IPT) and provide design review consultation to ensure incorporation of EMS and sustainability goals and targets.

#### C. Additional Information and Assistance

##### 1. Executive Orders and Statutes

- Executive Order 13327: Federal Real Property Asset Management
- [Executive Order 13423, Strengthening Federal Environmental, Energy and Transportation Management](#)
- *P.L. 109-58* Energy Policy Act of 2005 (EPAAct 2005)
- *P.L. 110-140* (EISA) [Energy Independence and Security Act of 2007](#)

##### 2. Other Directives

- OMB Circular A-11, Part 7, Planning, Budgeting, Acquisition, and Management of Capital Assets
- The Federal Leadership in High Performance and Sustainable Buildings, Memorandum of Understanding
- Affirmative Procurement Plan, Purchasing Environmentally Preferable Products and Services at the Department of Health & Human Services - <http://intranet.hhs.gov/environmental/documents/APPMay2007.doc>

##### 3. Assistance

- FedCenter - [www.fedcenter.gov](http://www.fedcenter.gov)
- US Green Building Council – [www.usgbc.org](http://www.usgbc.org)
- Office of the Federal Environmental Executive – [www.OFEE.gov](http://www.OFEE.gov)
- Whole Building Design Guide – [www.wbdg.org](http://www.wbdg.org)



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- EO 13423 Technical guidance for Implementing the Five Guiding Principle for Federal Leadership in High Performance and Sustainable Design – [www.wbdg.org/sustainableEO/](http://www.wbdg.org/sustainableEO/)
- Green Globes™/MOU Mapping Guide – [www.thegbi.org/assets/pdfs/MappingTheEnvironmentalExecutiveObjectiveAndGreenGlobesV1.pdf](http://www.thegbi.org/assets/pdfs/MappingTheEnvironmentalExecutiveObjectiveAndGreenGlobesV1.pdf)
- LEED™/MOU Mapping Guide [www.wbdg.org/pdfs/mou\\_leed\\_guide.pdf](http://www.wbdg.org/pdfs/mou_leed_guide.pdf)
- Green Building Initiative – [www.thegbi.org](http://www.thegbi.org)
- Labs21 Environmental Performance Criteria – [www.labs21century.gov/toolkit/epc.htm](http://www.labs21century.gov/toolkit/epc.htm)

## Section IV – Reporting

### A. OPDIV Reporting

Progress in implementation of the HHS Sustainable Buildings Program is measured semi-annually as part of the Environmental Management scorecard. To help provide the progress and the end of year status, HHS collects the status of the sustainable implementation that each of the OPDIVs is achieving.

In order to meet the semi-annual reporting requirement, Exhibit IV.A.1, Current Status of Implementation with Landholding OPDIVs is updated in May and November by the landholding OPDIVs and the progress is incorporated into the HHS semi-annual submission to OMB and OFEE.

Exhibit IV.A.1 is formatted to collect progress as it relates to each of the five *Guiding Principles* and their subparts. The Exhibit is divided into separate columns for the Department and its four land holding OPDIVs. The Department's column discusses the actions required and each of the OPDIVs respond by detailing their progress in achieving the metric in their particular column.

### B. Departmental Reports

The HHS Sustainability Progress Report is designed to collect and measure the Department's achievement in meeting the *Guiding Principles* as described in Executive Order 13423 and the Energy Independence and Security Act of 2007 (EISA). The report is a compilation of all projects incorporating sustainability design principles. The report identifies accomplishments for existing buildings, new projects and lease actions.

Exhibit IV.B.1, HHS Sustainability Progress Report is revised using data collected from Existing Building Assessments and Sustainability Checklists in June and December of each year. The table provides updates to the HHS progress towards meeting compliance to the *Guiding Principles* across the owned and direct leased inventory.

OFMP will issue a data call to collect current OPDIV progress in implementing the *Guiding Principles* in May and November each year. The November data is the basis for OMB's determination of actual status; hence it will be reconciled with actual reporting in ARIS/FRPP.

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**Exhibit 1B.1**  
**HHS Summary of Owned and Leased Buildings**

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**Exhibit 1B.1**  
**HHS Summary of Owned and Leased Buildings <sup>1</sup>**

	OWNED		DIRECT LEASED		GSA LEASED		All Buildings	
	# buildings	aggregate GSF	# buildings	aggregate GSF	# buildings	aggregate GSF	# buildings	aggregate GSF
<b>Total</b>	<b>2832</b>	<b>30,563,081</b>	<b>259</b>	<b>4,502,255</b>	<b>683</b>	<b>13,617,146</b>	<b>3774</b>	<b>48,682,482</b>
5,000 sq ft or more Inventory	406	25,633,314	124 <sup>2</sup>	4,252,484	257	12,900,667	787	42,786,465
	14.34%	83.87%	47.88%	94.45%	37.63%	94.74%	20.85%	87.89%
Less than 5,000 sq ft Inventory	915	1,362,314	134 <sup>3</sup>	207,571	426	716,479	1475	2,286,800
	32.31%	4.46%	51.74%	4.61%	62.37%	5.26%	39.08%	4.70%
Housing & Dormitory/ Barracks Inventory	1511	3,567,017	1	42,200	0	0	1512	3,609,217
	53.35%	11.67%	.38%	.94%	0%	0%	40.07%	7.41%

Data as of FY 2008 Year End (9/30/08)  
Excludes Land, Structures and Disposed assets

<sup>1</sup> FRPP summary data identifies 13 more building assets than were coded in ARIS for upload; 9 owned (277,919 sf) and 4 direct leases (17,519 sf). HHS is in the process of reconciling by asset identifier to ensure that there are no duplicate entries in FRPP.

<sup>2</sup> 122 of the 124 Direct Leases 5,000 sf or more have initiation dates prior to the issuance of E.O 13424. The 2 Direct Leases initiated after 24 Jan 2007 were renewals with Tribes under P.L.94-437 comprising of only 12,655 sf.

<sup>3</sup> 101 of the 134 Direct Leases less than 5000 sf are IHS leases that are renewed on a yearly basis with the Tribes. Of the remaining 33 leases, only 3 Direct Leases comprising of only 8,597 sf were initiated after the issuance of E.O 13423 on 24 Jan 2007.

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**Exhibit I.B.2**  
**HHS Sustainability Goals**

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## Exhibit I.B.2 HHS Sustainability Goals

**Table 1. Applicable Buildings per HHS 5,000 SF Threshold**

Year	Total Assessments Completed		HHS 5,000 SF Threshold Total Building Data	
			Total Buildings	Square Footage
			<b>406</b>	<b>25,633,314</b>
2008	5%	<b>End of Year Goal</b>	20	1,281,666
2009	10%		41	2,563,331
2010	20%		81	5,126,663
2011	30%		122	7,689,994
2012	40%		162	10,253,326
2013	60%		244	15,379,988
2014	80%		325	20,506,651
2015	100%		406	25,633,314
Year	Total Sustainable Compliance		HHS 5,000 SF Threshold Total Building Data	
			Total Buildings	Square Footage
			<b>406</b>	<b>25,633,314</b>
2008	3%	<b>End of Year Goal</b>	12	768,999
2009	4%		16	1,025,333
2010	5%		20	1,281,666
2011	7%		28	1,794,332
2012	9%		37	2,306,998
2013	11%		45	2,819,665
2014	13%		53	3,332,331
2015	15%		61	3,844,997

**Exhibit I.B.2  
HHS Sustainability Goals**

**Table 2. Applicable Buildings per FRPP Threshold**

Year	Total Assessments Completed		FRPP Total Building Data	
			Total Buildings	Square Footage
			<b>3091</b>	<b>35,065,336</b>
2008	5%	<b>End of Year Goal</b>	155	1,753,267
2009	10%		309	3,506,534
2010	20%		618	7,013,067
2011	30%		927	10,519,601
2012	40%		1236	14,026,134
2013	60%		1855	21,039,202
2014	80%		2473	28,052,269
2015	100%		3091	35,065,336
Year	Total Sustainable buildings Compliance		FRPP Total Building Data	
			Total Buildings	Square Footage
			<b>3091</b>	<b>35,065,336</b>
2008	3%	<b>End of Year Goal</b>	93	1,051,960
2009	4%		124	1,402,613
2010	5%		155	1,753,267
2011	7%		216	2,454,574
2012	9%		278	3,155,880
2013	11%		340	3,857,187
2014	13%		402	4,558,494
2015	15%		464	5,259,800



**Exhibit I.B.3**  
**HHS Applicable Building Projects**

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**Exhibit I.B.3**  
**HHS Applicable Building Projects**

	<i><b>DEFINITIONS</b></i>	<i><b>REQUIREMENTS</b></i>	<i><b>APPLICATIONS</b></i>	<i><b>MANDATORY GOALS</b></i>
<p><b>CONSTRUCTION</b> All HHS projects meeting the definition of “construction” in the HHS Facilities Manual</p>	New buildings	<p>Must meet all MOU requirements</p> <p>\$10M or more: must be certified through a third party certification system by an ANSI-accredited organization</p>	<p>All new capital project starts not previously submitted to OMB, FY 2007 and forward</p>	<ul style="list-style-type: none"> <li>• Integrated Design including Integrated Project Team (IPT), performance goals and Life Cycle Cost analysis</li> <li>• Commissioning</li> <li>• Energy performance (EPA 2005, EO 13423 and EISA 2007)</li> <li>• Water conservation (EO 13423 and EISA 2007)</li> <li>• Ventilation &amp; Thermal Comfort</li> <li>• Moisture control</li> <li>• Daylighting</li> <li>• Low-emitting materials</li> <li>• Indoor air quality during construction</li> <li>• Recyclable content</li> <li>• Biobased content</li> <li>• Construction waste</li> <li>• Ozone depleting compounds</li> </ul>
	Additions			
	Build-to-Lease: any building (not owned by HHS) built to HHS requirements or specifications			
	New housing projects			
<p><b>LEASES</b> Leased space of 5,000 or more usable square feet</p> <p>Leases that have received a third party certification at any point can claim compliance with the guiding principles.</p>	GSA buildings (federally-owned), with Occupancy Agreements	<p>Monitor GSA-identified MOU and certification requirements:</p> <ul style="list-style-type: none"> <li>• Include sustainability in SFO</li> <li>• Include sustainability in POR</li> <li>• Include sustainability in Award Factors</li> </ul> <p>For <b>Delegated Buildings</b>, ensure that MOU is incorporated to the maximum extent feasible in the O&amp;M</p>	All lease actions initiated in FY 2008 and forward, with approved Business Case	<ul style="list-style-type: none"> <li>• IPT</li> <li>• Energy performance (EPA 2005, EO 13423 and EISA 2007)</li> <li>• Water conservation (EO 13423 and EISA 2007)</li> <li>• Ventilation &amp; Thermal Comfort</li> <li>• Moisture control</li> <li>• Low-emitting materials</li> <li>• Indoor air quality during construction</li> <li>• Recycled content</li> <li>• Biobased content</li> <li>• Construction waste</li> <li>• Ozone depleting compounds</li> </ul>

**Exhibit I.B.3  
HHS Applicable Building Projects**

	<i><b>DEFINITIONS</b></i>	<i><b>REQUIREMENTS</b></i>	<i><b>APPLICATIONS</b></i>	<i><b>MANDATORY GOALS</b></i>
	GSA leased (not federally-owned), with Occupancy Agreements	Monitor GSA incorporation of MOU requirements: <ul style="list-style-type: none"> <li>• Include sustainability in SFO</li> <li>• Include sustainability in POR</li> </ul> Include sustainability in Award Factors		<ul style="list-style-type: none"> <li>• IPT</li> <li>• Energy performance (EPA Act 2005, EO 13423 and EISA 2007)</li> <li>• Water conservation plan</li> <li>• Ventilation &amp; Thermal Comfort</li> <li>• Moisture control</li> <li>• Low-emitting materials</li> <li>• Indoor air quality during construction</li> <li>• Recycled content</li> <li>• Biobased content</li> <li>• Construction waste</li> <li>• Ozone depleting compounds</li> </ul>
	Direct leases	Must meet MOU to maximum extent feasible: <ul style="list-style-type: none"> <li>• Include sustainability in SFO</li> <li>• Include sustainability in POR</li> <li>• Include sustainability in Award Factors</li> </ul>		<ul style="list-style-type: none"> <li>• IPT</li> <li>• Energy performance (EPA Act 2005, EO 13423 and EISA 2007)</li> <li>• Water conservation plan</li> <li>• Ventilation &amp; Thermal Comfort</li> <li>• Moisture control</li> <li>• Low-emitting materials</li> <li>• Indoor air quality during construction</li> <li>• Recycled content</li> <li>• Biobased content</li> <li>• Construction waste</li> <li>• Ozone depleting compounds</li> </ul>
<b>EXISTING BUILDINGS EXCEPT HOUSING</b>	Improvements, Repair and Maintenance projects (as defined in the HHS Facilities Program Manual)	Must meet the MOU to the maximum extent feasible.  Improvement projects \$10 million and/or impacting 40% of the overall floor area must be certified through a third party certification system by an ANSI-accredited organization	All new projects initiated in FY 2007 and forward, which did not have an approved FPAA as of March 2007.	<ul style="list-style-type: none"> <li>• IPT</li> <li>• Energy performance (EPA Act 2005, EO 13423 and EISA 2007)</li> <li>• Water conservation (EO 13423 and EISA 2007)</li> <li>• Ventilation &amp; Thermal Comfort</li> <li>• Moisture control</li> <li>• IAQ during construction</li> <li>• Recycled content</li> </ul>

**Exhibit I.B.3  
HHS Applicable Building Projects**

	<i><b>DEFINITIONS</b></i>	<i><b>REQUIREMENTS</b></i>	<i><b>APPLICATIONS</b></i>	<i><b>MANDATORY GOALS</b></i>
				<ul style="list-style-type: none"> <li>• Biobased content</li> <li>• Construction waste</li> <li>• Ozone depleting compounds</li> </ul>
<b>EXISTING HOUSING</b>	Sustainable building practices will be incorporated as projects are developed.	<p>Meet MOU to the maximum extent feasible.</p> <p>Projects with a total project value equal to or greater than \$10 million and/or impact more than 60% of any individual unit shall also obtain a third party certification of a multi-attribute green building standard or rating system developed by an ANSI-accredited organization.</p>	All new projects initiated in FY 2009 and forward.	<ul style="list-style-type: none"> <li>• E.O. 13423 and EISA 2007 to maximum extent possible except for the following: <ul style="list-style-type: none"> <li>• 30% or greater energy consumption reduction below the ICC International Energy Conservation Code (IECC), 2004 Supplement Edition, January 2005 baseline</li> <li>• If 30% reduction is not feasible, lower reductions may be considered when approved by OFMP. Target reduction shall be targeted at 5% reductions to the maximum achievable.</li> <li>• Energy consumption calculations to include space heating, space cooling and domestic water heating.</li> </ul> </li> </ul>
<b>EXTRAMURAL CONSTRUCTION</b>	Construction projects with a grant award amount of \$1M or more	Sustainable design considerations shall be included to the maximum extent feasible. Examples of such design considerations include use of low-impact materials, ensuring energy efficiency, and maximizing reuse/recycling capabilities.	All new grant applications in FY 2009 and forward.	

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**Exhibit II.A.1**  
**Charter-HHS Owned Facilities**

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## Exhibit II.A.1 Charter-HHS Owned Facilities

*(This is a living document and will be updated as required)*

**HHS Landholding Operating Division:** *(NIH, CDC, etc.)*

**Operating Division's Component:** *(occupant/end user)*

**Location of New Facility:** *(address)*

**Project:** *(Name of project, project number)*

**Description:** *(Purpose of Acquisition, i.e., New Program Initiative, New Hires, Support Space, Labs, etc.)*

**Date:** *(Date Prepared)*

**Revised Date:** *(Date Updated)*

**Prepared by:** *(Name/Title)*

**IPT Lead:** *(Name/Title)*

**Construction schedule:** *(Summarize or attach a schedule)*

### **IPT:**

*List each team member and their responsibilities; provide contact information to include name, phone, fax, cell phone, e-mail, and mailing address. Team members and their responsibilities may include the following:*

- **Project Manager/Project Officer**

Project Manager/Project Officer (PM/PO) leads IPT. PM/PO is responsible for coordinating all technical requirements including project planning and programming, project management through design and construction, and ensuring incorporation of all policies and guidelines. All design and construction requirements will be directed through the Project Manager to the Contractor unless there contractual change outside the scope, cost or schedule. The PM/PO will communicate regularly with the Contracting Officer to avoid any inadvertent changes to the contract terms.

- **Contracting Officer (CO)**

Responsible for developing and executing contract instruments, coordinating source selection criteria, ensuring that evaluation plan is adhered to, receiving evaluation plan consensus in order to make an award according to the award factors, ensuring that funds are available, modifying and enforcing the contract, obligating funds on behalf of the government, negotiating on behalf of the government with the Contractor, authorizing on behalf of the government, and approving invoices and committing funds.

- **Occupant/End User Representative(s)**

*Usually Executive Officer or their designee; may also include Finance Officer and/or Administrative Officer.)*

Responsible for budgeting, overall program requirements, certifying funds availability and internal budget/finance coordination, and overall program requirements.

## **Exhibit II.A.1**

### **Charter-HHS Owned Facilities**

- **Physical Security**  
Responsible for developing and incorporating physical security requirements that meet the ISC recommendations into the project. Physical security requirements may include shatter-resistant materials, progressive collapse requirements, etc.
- **IT/Telecommunications**  
Responsible for developing data/telephone requirements and coordinating with the construction schedule for cabling rough-in.
- **Environmental Health and Safety (EHS) Specialist**  
Responsible for reviewing compliance with regulations and OPDIV requirements relating to EHS aspects of facility design. The documentation may include, but is not limited to, design drawings; specifications; sampling and analysis data; reports from environmental audits, site assessments and surveys; air and other indoor environmental monitoring data; descriptions of safety and accessibility features; waste management plans; data on water and energy use relating to sustainability; and reports from environmental audits, site assessments and surveys.
- **Sustainability/Green Building Specialist**  
*(Preferably LEED™/Green Globes certified.)*  
Responsible for coordinating sustainability issues.
- **Operations & Maintenance**  
Responsible for ensuring that the building's infrastructure is designed and built to ensure overall operability and maintainability. Also a key player in commissioning and ensuring proper systems documentation at project turnover.
- **Procurement Specialist**  
Responsible for coordinating the purchase of services, materials and equipment in support of the project, i.e., fixtures, furnishings, equipment, moving services, etc.
- **Real Property Acquisition Officer**  
Responsible for property acquisition and/or changes to the property.
- **Construction Quality Manager (CQM)**  
Per contract, is responsible for assisting the CO by performing the pre-design, design, procurement, construction phase, and post-construction claims services specified in the CQM contract, and for maintaining working relationship with the architect-engineer and construction contractor(s). The CQM is not responsible for duties of other government contracts listed below, such as architect-engineer or construction contractor(s).
- **Architect-Engineer**  
Responsible for designing the project, and for performing all design-related services in accordance with its government contract.
- **Construction Contractor(s)**

## **Exhibit II.A.1 Charter-HHS Owned Facilities**

Responsible for constructing (means, methods, sequence and procedures used in the construction project), and for related performance in accordance with its government contract.

### **Communication Plan:**

*The IPT shall develop a communication plan addressing lines and methods of communications for information, approvals, changes, etc.*

- **Formal** is defined as any written agreement or notification that may result in a contractual modification or any changes to scope, budget and schedule. The IPT must review and concur with such modifications and changes. All contractual requirements that affect the POR, schedule, process and cost must have been reviewed by and have signature approval of the Project Officer, Contracting Officer and Contractor.
- **Informal** is defined as the everyday communication and dissemination of information that normally occurs via telephone or email. This should not result in any changes to scope, budget, schedule or process.

### **Disputes:**

*The IPT shall develop a process for handling disputes within the IPT.*

### **Risk Management Plan:**

*The IPT shall identify internal and external factors that require contingency planning or risk analysis and planning, and consider mitigation measures. Examples may include:*

- **Schedule**  
The IPT shall develop a project schedule and identify potential impacts to timely completion of the project. The construction schedule is made part of the construction contract and will be updated as required and forwarded to appropriate parties.
- **Budget Estimate**  
The IPT shall develop a process to track project budget and expenditures.
- **Construction Services**  
The method for delivering the space shall be defined. The IPT shall develop specific requirements and timelines for the A/E and Construction Contractor to minimize change orders, delay of the project and cost overruns.
- **Customer Management/Care issues**  
Through its communications plan the IPT shall identify and assess how to deal with day-to-day management of the project to ensure involvement of all stakeholders.

### **Closeout:**

The IPT will perform a walkthrough of the substantially completed space and prepare a punch list for the Contractor. The Contracting Officer and/or Project Officer are responsible for acceptance of substantial completion and will consult with Project Manager and include a punch list with the sign off.

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**Exhibit II.A.2**  
**Charter-Leased Facilities**

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## **Exhibit II.A.2 Charter-Leased Facilities**

*(This is a living document and will be updated as required.)*

**HHS Operating Division:** *(NIH, CDC, etc.)*

**Operating Division's Component:** *(occupant/end user)*

**Location of New Facility:** *(address)*

**Lease:** *(Lease Identification)*

**Description:** *(Purpose of Acquisition, i.e., New Program Initiative, New Hires, Support Space, Labs, etc.)*

**Date:** *(Date Prepared)*

**Revised Date:** *(Date Updated)*

**Prepared by:** *(Name/Title)*

**IPT Lead:** *(Name/Title)*

**Lease/Project Milestones:** *(Summarize or attach a schedule)*

### **IPT:**

*List each team member and their responsibilities; provide contact information to include name, phone, fax, cell phone, e-mail, and mailing address. Team members and their responsibilities may include the following:*

- **Contracting Officer**  
For landholding Agency with Contracting Officers (CO), the CO is the lead, and develops Solicitation for Offer (SFO), and modifies, executes, and enforces the Lease, notwithstanding any other provisions of law.
- **Realty Specialist**  
Lease Administrator to include, but not limited to, preparing obligation document(s); negotiating on behalf of the government with the Lessor, processing invoices, etc. as approved by the Contracting Officer.
- **Project Manager**  
Responsible for representing the Agency in development of technical requirements to include, but not limited to, design and construction as it relates to the Program of Requirements and design documents. Project Manager (PM) will communicate with the Lessor representatives on technical requirements that are within scope, cost Not to Exceed (NTE), schedule and policy. Technical requirements that are outside of the scope, cost, schedule or policy must be approved by the Contracting Officer.
- **Occupant/End User Representative(s)**  
*(Usually Executive Officer or their designee.)*  
Responsible for commitment of rents throughout the term of the lease and funding all lump sum Government expenses related to the lease, informal communications and overall program requirements.

## **Exhibit II.A.2 Charter-Leased Facilities**

- **Physical Security**  
Responsible for developing security requirements and incorporating them into the POR/SFO. Direct leases will require Security Officer lease concurrence prior to lease execution. Security requirements are per the ISC recommendations and should be identified in Section 9 of the Solicitation for Offer (SFO). Section 9 of the SFO is a template of security requirements requiring the Security Specialist to further define existing or build-to-lease requirements. Lessor will be responsible for coordinating schedule activities with Government vendors.
- **IT/Telecommunications**  
Responsible for developing data/telephone requirements as stated in the SFO, POR or attachment of standards. Lessor will be responsible for coordinating schedule activities with Government vendors.
- **Environmental Health and Safety (EHS) Specialist**  
Responsible for reviewing compliance with regulations and OPDIV requirements relating to EHS aspects of facility designs and facilities offered by lessors. The documentation may include, but is not limited to, design drawings; specifications; sampling and analysis data; reports from environmental audits, site assessments and surveys; air and other indoor environmental monitoring data; descriptions of safety and accessibility features; waste management plans; data on water and energy use relating to sustainability; reports from environmental audits, site assessments and surveys; and offers submitted by lessors.
- **Sustainability/Green Building Specialist**  
*(Preferably LEED™/Green Globes certified.)*  
Responsible for coordinating sustainability issues.
- **Procurement Specialist**  
Responsible for coordinating the purchase of services, materials and equipment in support of the project, i.e., fixtures, furnishings, equipment, moving services, etc.
- **Construction Quality Manager (COM)**  
Per contract, is responsible for assisting the PM or COTR in the quality control of the technical requirements to include, but not limited to, design, construction, cost estimating and post construction/occupancy services specified in the CQM Scope of Work (SOW).
- **Lessor**  
Responsible for the performance of the Lease and any subsequent Supplemental Lease Agreements (SLA).
- **Lessor General Contractor(s)**  
As per the SFO, the Lessor is responsible for the performance of construction in accordance with the Lease.
- **Lessor Architect-Engineer**



## **Exhibit II.A.2 Charter-Leased Facilities**

As per the SFO, the Lessor is responsible for the design meeting all requirements under the SFO and local, state and federal codes.

### **Communication Plan:**

*The IPT shall develop a communication plan addressing lines and methods of communications for information, approvals, changes, etc.*

- **Formal** is defined as any written agreement or notification that may result in a contractual modification or any changes to scope, budget and schedule. The IPT must review and concur with such modifications and changes. All contractual requirements that affect the POR, schedule, process and cost must have been reviewed by and have signature approval of the Contracting Officer and Lessor.
- **Informal** is defined as the everyday communication and dissemination of information that normally occurs via telephone or email. This should not result in any changes to scope, budget, schedule or process.

### **Disputes:**

*The IPT shall develop a process for handling disputes within the IPT.*

### **Risk Management Plan:**

*The IPT shall identify internal and external factors that require contingency planning or risk analysis and planning, and consider mitigation measures. Examples may include:*

- **Schedule**  
The IPT shall develop a project schedule and identify potential impacts to timely completion of the project. The construction schedule is made part of the Lease and will be updated as required and forwarded to appropriate parties.
- **Budget Estimate**  
The IPT shall develop a process to track project budget and expenditures.
- **Construction Services**  
The method for delivering the space shall be defined. The IPT shall develop specific requirements and timelines for the Lessor to minimize change orders, delay of the project and cost overruns.
- **Customer Management/Care issues**  
Through its communications plan the IPT shall identify and assess how to deal with day-to-day management of the project to ensure involvement of all stakeholders.

### **Closeout:**

The IPT will perform a walkthrough of the substantially completed space and prepare a punch list for the Lessor. The Contracting Officer is responsible for acceptance of substantial completion and will consult with Project Manager and include a punch list with the sign off.

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**Exhibit II.B.1**  
**Sustainable Buildings Checklist for Projects**

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## Exhibit II.B.1 Sustainable Buildings Checklist for Projects Part 1 – Project Planning

*Instructions for use: Part 1 of the checklist shall be completed for each construction, improvements, repair, maintenance, and housing project, as defined in Exhibit I.B.3, Applicable Building Projects, at project planning and included with the initial submission of the Facility Project Approval Agreement (FPAA). Construction projects include new buildings, additions and build-to-lease. The columns titled “Where is it documented?” and “Will the requirement be met?” shall be edited to reflect specific project. Not Applicable (NA) is only relevant to major renovation projects and may be used when project does not impact the specific criteria. For example, commissioning would be required only if systems renovations are part of the project. Each No or NA response requires a written explanation.*

Project Title	Will Project Be Certified?	Rating System <sup>1</sup>	Level of Certification
<i>(Same title as reflected on FPAA)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> LEED™ <input type="checkbox"/> Green Globes™	

Mandated Requirements	Requirement Definition	Will the requirement be met?	Where is it documented?	How will requirement be met?
<b>I. Employ Integrated Design Principles</b>				
<b>Integrated Project Team (IPT)</b>	Meets Appendix E <sup>2</sup> definition; same requirement as for leased properties.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<i>Project charter</i>	<i>Description of core group</i>
Comment:				
<b>Performance Goals</b>	Establishes goals in accordance with MOU <sup>3</sup> definition (e.g., energy, water, etc.).	<input type="checkbox"/> Yes <input type="checkbox"/> No	<i>FPAA</i>	<i>IPT list of goals</i>
Comment:				
<b>Life Cycle Cost Analysis (LCCA)</b>	Performance goals include LCCA meeting MOU definition.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<i>FPAA, LEED™ and/or Green Globes checklist, LCCA</i>	<i>Summary statement of findings</i>
Comment:				
<b>Commissioning</b>	Identify commissioning practices in accordance with MOU definition.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	<i>Commissioning plan</i>	<i>Strategy summary (who, what, when)</i>
Comment:				

<sup>1</sup> LEED™/MOU Mapping Guide [www.wbdg.org/pdfs/mou\\_leed\\_guide.pdf](http://www.wbdg.org/pdfs/mou_leed_guide.pdf) ; Green Globes™/MOU Mapping Guide – [www.thegbi.org/assets/pdfs/MappingTheEnvironmentalExecutiveObjectiveAndGreenGlobesV1.pdf](http://www.thegbi.org/assets/pdfs/MappingTheEnvironmentalExecutiveObjectiveAndGreenGlobesV1.pdf)

<sup>2</sup> Department of Health and Human Services Sustainable Buildings Implementation Plan, Appendix E: Integrated Project Team Definition & Charter

<sup>3</sup> Department of Health and Human Services Sustainable Buildings Implementation Plan, Appendix A: Memorandum of Understanding; Whole Building Design Guide, EO 13423 Technical guidance for Implementing the Five Guiding Principle for Federal Leadership in High Performance and Sustainable Design – [www.wbdg.org/sustainableEO/](http://www.wbdg.org/sustainableEO/)

**Exhibit II.B.1**  
**Sustainable Buildings Checklist for Projects**  
**Part 1 – Project Planning**

<b>II. Optimize Energy Performance</b>				
<b>Energy Efficiency</b>	Establish whole building energy performance targets in accordance with: <ul style="list-style-type: none"> <li>• MOU definition</li> <li>• EPAAct 2005<sup>4</sup></li> <li>• Executive Order 13423<sup>5</sup></li> <li>• EISA 2007</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	<i>FPAA, LEED™ and/or Green Globes checklist</i>	<i>IPT list of energy goals</i>
Comment:				
<b>Overall Energy Efficiency</b>	Establish overall energy efficiency targets consistent with the OPDIV's plan to meet energy efficiency requirements of E.O. 13423 and EISA 2007.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	<i>FPAA, LEED™ and/or Green Globes checklist</i>	<i>IPT list of energy goals</i>
Comment:				
<b>Measurement and Verification</b>	All utilities shall be metered and a plan for verification is completed consistent with the MOU, EPAAct 2005, E.O. 13423, and EISA 2007	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	<i>LEED™ and/or Green Globes checklist</i>	<i>List of utilities metered, summary of plan for verification</i>
Comment:				

<sup>4</sup> <http://www.energy.gov/about/EPAAct.htm>

<sup>5</sup> <http://www.whitehouse.gov/news/releases/2007/01/20070124-2.html> “Strengthening Federal Environmental Energy and Transportation Management”

**Exhibit II.B.1**  
**Sustainable Buildings Checklist for Projects**  
**Part 1 – Project Planning**

<b>III. Protect and Conserve Water</b>				
<b>Indoor Water</b>	Establish indoor water conservation targets consistent with MOU guidance.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	<i>FPAA, LEED™ and/or Green Globes checklist</i>	<i>IPT list of water conservation targets</i>
Comment:				
<b>Outdoor Water</b>	Establish outdoor water conservation targets consistent with MOU guidance, EPAct 2005, and EISA 2007.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	<i>FPAA, LEED™ and/or Green Globes checklist</i>	
Comment:				
<b>Overall Water Conservation</b>	Establish overall water consumption targets consistent with the OPDIV's plan to meet water conservation requirements of Executive Order 13423.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	<i>FPAA, LEED™ and/or Green Globes checklist</i>	<i>IPT list of water conservation targets</i>
Comment:				

**Exhibit II.B.1**  
**Sustainable Buildings Checklist for Projects**  
**Part 1 – Project Planning**

<b>IV. Enhance Indoor Environmental Quality</b>				
<b>Ventilation &amp; Thermal Comfort</b>	Performance targets are consistent with MOU requirements and EPAAct 2005.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	<i>LEED™ and/or Green Globes checklist</i>	<i>Summary statement, i.e., standard design guide requirement</i>
Comment:				
<b>Moisture Control</b>	Establish moisture control strategy in accordance with MOU definition.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	<i>LEED™ and/or Green Globes checklist</i>	<i>Summary of strategy</i>
Comment:				
<b>Daylighting</b>	Performance targets are consistent with MOU and EPAAct 2005 requirements.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	<i>LEED™ and/or Green Globes checklist</i>	<i>Summary statement, i.e., standard design guide requirement</i>
Comment:				
<b>Low-emitting Materials</b>	Establish targets and select certification systems for use of low-emitting materials and products in accordance with MOU definition.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	<i>Standard design guides, project specific requirements, FPAA, LEED™ and/or Green Globes checklist</i>	<i>IPT list of low-emitting materials targets including specific certification system(s)</i>
Comment:				
<b>Protect Indoor Air Quality during Construction</b>	Performance targets are consistent with MOU requirements.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<i>Standard design guidelines for project specific requirements as reflected in FPAA, Contractor's Health and Safety Plan, Green Globes and/or LEED™ checklist</i>	<i>IPT verifies standard protective measures are adequate and/or any unusual requirements, i.e., occupancy, asbestos, etc.</i>
Comment:				



**Exhibit II.B.1**  
**Sustainable Buildings Checklist for Projects**  
**Part 1 – Project Planning**

<b>V. Reduce Environmental Impact of Materials</b>				
<b>Recycled Content</b>	Establish targets for use of products with recycled content that meet or exceed the minimum requirements in accordance with the MOU definition.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	<i>Standard design guides, FPAA, LEED™ and/or Green Globes checklist</i>	<i>IPT list of targets such as percent of materials/products with recycled content</i>
Comment:				
<b>Biobased Content</b>	Establish targets for use of products with biobased content in accordance with the MOU definition.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	<i>Standard design guides, FPAA, LEED™ and/or Green Globes checklist</i>	<i>IPT list of targets based on availability for the specific project</i>
Comment:				
<b>Construction Waste</b>	Performance targets are consistent with MOU requirements.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<i>Standard design guides, FPAA, LEED™ and/or Green Globes checklist</i>	<i>IPT list of construction waste targets</i>
Comment:				
<b>Ozone Depleting Compounds</b>	Insure no ozone depleting compounds are used during or after construction or operations of facilities	<input type="checkbox"/> Yes <input type="checkbox"/> No	<i>Standard design guides, LEED™ and/or Green Globes checklist</i>	<i>IPT verifies and documents – Review MSDS to insure no use of ozone depleting compounds</i>
Comment:				

**Exhibit II.B.1**  
**Sustainable Buildings Checklist for Projects**  
**Part 1 – Project Planning**

<b>VI. Conformance with Local Environmental Requirements</b>				
<b>National Environmental Policy Act (NEPA)</b>	Project complies with NEPA requirements and implements mitigation measures	<input type="checkbox"/> Yes <input type="checkbox"/> No	<i>NEPA and project design documents</i>	<i>IPT ensures compliance with process specified in OPDIV's NEPA Implementation Guidance Document</i>
Comment:				
<b>Other Environmental Regulations</b>	Project is reviewed for applicable Federal, state and local environmental regulations.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<i>POR, PJD, PDS, FPAA</i>	<i>IPT reviews applicable regulations with environmental compliance official and ensures required permits and licenses are obtained</i>
Comment:				
<b>Environmental Baseline Survey</b>	Project site and affected facilities have been assessed for contamination and other environmental risks.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	<i>Environmental Baseline Survey Report</i>	<i>IPT ensures completion of an environmental baseline survey</i>
Comment:				
<b>Environmental Management System</b>	Project meets specific goals and targets, management controls and reporting requirements established by the facility-level EMS	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	<i>EMS Environmental Management Plans and audit reports</i>	<i>IPT reviews applicable EMS Environmental Management Plans and ensures implementation of management controls and reporting requirements</i>
Comment:				
<b>Asset Management Planning</b>	Project is coordinated with Real Property Asset Management Plan (RAMP)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	<i>FPAA, Real Property Asset Management Plan and Design Documents</i>	<i>IPT reviews RAMP requirements and ensures design compliance</i>
Comment:				

## Exhibit II.B.1 Sustainable Buildings Checklist for Projects Part 2 – Project Completion

*Instructions for use: Part 2 of the checklist shall be completed for each construction, improvements, repair, maintenance and housing project, as defined in Exhibit I.B.3, Applicable Buildings Projects, at project completion and after commissioning when the building is functionally operational. Construction projects include new buildings, additions and build-to-lease. The columns titled “Where is it documented?” and “How was requirement met?” shall be edited to reflect specific project. Not Applicable (NA) is only relevant to major renovation projects and may be used when project does not impact the specific criteria. For example, commissioning would be required only if systems renovations are part of the project. Each No or NA response and each target not met requires a written explanation.*

<b>Project Title</b> (Same title as reflected on FPAA)	<b>Is Project Certified?</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<b>Rating System<sup>1</sup></b> <input type="checkbox"/> LEED™ <input type="checkbox"/> Green Globes™	<b>Level of Certification</b>
---	--	---	-------------------------------

<b>Mandated Requirements</b>	<b>Requirement Definition</b>	<b>Is the requirement met?</b>	<b>Where is it documented?</b>	<b>How was requirement met?</b>
<b>I. Employ Integrated Design Principles</b>				
<b>Integrated Project Team (IPT)</b>	Meets Appendix E <sup>2</sup> definition; same requirement as for leased properties.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<i>Project charter</i>	<i>Description of core group</i>
Comment:				
<b>Performance Goals</b>	Establishes goals in accordance with MOU <sup>3</sup> definition (e.g., energy, water, etc.).	<input type="checkbox"/> Yes <input type="checkbox"/> No	<i>FPAA</i>	<i>IPT list of goals</i>
Comment:				
<b>Life Cycle Cost Analysis (LCCA)</b>	Performance goals include LCCA meeting MOU definition.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<i>FPAA, LEED™ and/or Green Globes checklist, LCCA</i>	<i>Summary statement of findings</i>
Comment:				
<b>Commissioning</b>	Identify commissioning practices in accordance with MOU definition.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	<i>Commissioning plan</i>	<i>Strategy summary (who, what, when)</i>
Comment:				

<sup>1</sup> LEED™/MOU Mapping Guide [www.wbdg.org/pdfs/mou\\_leed\\_guide.pdf](http://www.wbdg.org/pdfs/mou_leed_guide.pdf) ; Green Globes™/MOU Mapping Guide – [www.thegeb.org/assets/pdfs/MappingTheEnvironmentalExecutiveObjectiveAndGreenGlobesVI.pdf](http://www.thegeb.org/assets/pdfs/MappingTheEnvironmentalExecutiveObjectiveAndGreenGlobesVI.pdf)

<sup>2</sup> Department of Health and Human Services Sustainable Buildings Implementation Plan, Appendix E: Integrated Project Team Definition & Charter

<sup>3</sup> Department of Health and Human Services Sustainable Buildings Implementation Plan, Appendix A: Memorandum of Understanding; Whole Building Design Guide, EO 13423 Technical guidance for Implementing the Five Guiding Principle for Federal Leadership in High Performance and Sustainable Design – [www.wbdg.org/sustainableEO/](http://www.wbdg.org/sustainableEO/)

**Exhibit II.B.1**  
**Sustainable Buildings Checklist for Projects**  
**Part 2 – Project Completion**

<b>II. Optimize Energy Performance</b>				
<b>Energy Efficiency</b>	Establish whole building energy performance targets in accordance with: <ul style="list-style-type: none"> <li>• MOU definition</li> <li>• EPOA 2005<sup>4</sup></li> <li>• Executive Order 13423<sup>5</sup></li> <li>• EISA 2007</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	<i>FPAA, LEED™ and/or Green Globes checklist</i>	<i>IPT list of energy goals</i>
Comment:				
<b>Overall Energy Efficiency</b>	Establish overall energy efficiency targets consistent with the OPDIV's plan to meet energy efficiency requirements of Executive Order 13423 and EISA 2007.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	<i>FPAA, LEED™ and/or Green Globes checklist</i>	<i>IPT list of energy goals</i>
Comment:				
<b>Measurement and Verification</b>	All utilities shall be metered and a plan for verification is completed consistent with the MOU, EPOA 2005 and EISA 2007.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	<i>LEED™ and/or Green Globes checklist</i>	<i>List of utilities metered, summary of plan for verification</i>
Comment:				

<sup>4</sup> <http://www.energy.gov/about/EPOA.htm>

<sup>5</sup> <http://www.whitehouse.gov/news/releases/2007/01/20070124-2.html> “Strengthening Federal Environmental Energy and Transportation Management”

**Exhibit II.B.1**  
**Sustainable Buildings Checklist for Projects**  
**Part 2 – Project Completion**

<b>III. Protect and Conserve Water</b>				
<b>Indoor Water</b>	Establish indoor water conservation targets consistent with MOU guidance, EPAct 2005 and EISA 2007.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	<i>FPAA, LEED™ and/or Green Globes checklist</i>	<i>IPT list of water conservation targets</i>
Comment:				
<b>Outdoor Water</b>	Establish outdoor water conservation targets consistent with MOU guidance, EPAct 2005 and EISA 2007.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	<i>FPAA, LEED™ and/or Green Globes checklist</i>	<i>IPT list of water conservation targets</i>
Comment:				
<b>Overall Water Conservation</b>	Establish overall water consumption targets consistent with the OPDIV's plan to meet water conservation requirements of Executive Order 13423.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	<i>FPAA, LEED™ and/or Green Globes checklist</i>	<i>IPT list of water conservation targets</i>
Comment:				

**Exhibit II.B.1**  
**Sustainable Buildings Checklist for Projects**  
**Part 2 – Project Completion**

<b>IV. Enhance Indoor Environmental Quality</b>				
<b>Ventilation &amp; Thermal Comfort</b>	Performance targets are consistent with MOU requirements and EPAAct 2005.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	<i>LEED™ and/or Green Globes checklist</i>	<i>Summary statement, i.e., standard design guide requirement</i>
Comment:				
<b>Moisture Control</b>	Establish moisture control strategy in accordance with MOU definition.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	<i>LEED™ and/or Green Globes checklist</i>	<i>Summary of strategy</i>
Comment:				
<b>Daylighting</b>	Performance targets are consistent with MOU and EPAAct 2005 requirements.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	<i>LEED™ and/or Green Globes checklist</i>	<i>Summary statement, i.e., standard design guide requirement</i>
Comment:				
<b>Low-emitting Materials</b>	Establish targets and select certification systems for use of low-emitting materials and products in accordance with MOU definition.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	<i>Standard design guides, project specific requirements, FPAA, LEED™ and/or Green Globes checklist</i>	<i>IPT list of low-emitting materials targets including specific certification system(s)</i>
Comment:				
<b>Protect Indoor Air Quality during Construction</b>	Performance targets are consistent with MOU requirements.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<i>Standard design guidelines for project specific requirements as reflected in FPAA, Contractor's Health and Safety Plan, Green Globes and/or LEED™ checklist</i>	<i>IPT verifies standard protective measures are adequate and/or any unusual requirements, i.e., occupancy, asbestos, etc.</i>
Comment:				

**Exhibit II.B.1**  
**Sustainable Buildings Checklist for Projects**  
**Part 2 – Project Completion**

<b>V. Reduce Environmental Impact of Materials</b>				
<b>Recycled Content</b>	Establish targets for use of products with recycled content that meet or exceed the minimum requirements in accordance with the MOU definition.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	<i>Standard design guides, FPAA, LEED™ and/or Green Globes checklist</i>	<i>IPT list of targets such as percent of materials/products with recycled content</i>
Comment:				
<b>Biobased Content</b>	Establish targets for use of products with biobased content in accordance with the MOU definition.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	<i>Standard design guides, FPAA, LEED™ and/or Green Globes checklist</i>	<i>IPT list of targets based on availability for the specific project</i>
Comment:				
<b>Construction Waste</b>	Performance targets are consistent with MOU requirements.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<i>Standard design guides, FPAA, LEED™ and/or Green Globes checklist</i>	<i>IPT list of construction waste targets</i>
Comment:				
<b>Ozone Depleting Compounds</b>	Insure no ozone depleting compounds are used during or after construction or operations of facilities	<input type="checkbox"/> Yes <input type="checkbox"/> No	<i>Standard design guides, LEED™ and/or Green Globes checklist</i>	<i>IPT verifies and documents – Review MSDS to insure no use of ozone depleting compounds</i>
Comment:				

**Exhibit II.B.1**  
**Sustainable Buildings Checklist for Projects**  
**Part 2 – Project Completion**

<b>VI. Conformance with Local Environmental Requirements</b>				
<b>National Environmental Policy Act (NEPA)</b>	Project complies with NEPA requirements and implements mitigation measures	<input type="checkbox"/> Yes <input type="checkbox"/> No	<i>NEPA and project design documents</i>	<i>IPT ensures compliance with process specified in OPDIV's NEPA Implementation Guidance Document</i>
Comment:				
<b>Other Environmental Regulations</b>	Project is reviewed for applicable Federal, state and local environmental regulations.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<i>POR, PJD, PDS, FPAA</i>	<i>IPT reviews applicable regulations with environmental compliance official and ensures required permits and licenses are obtained</i>
Comment:				
<b>Environmental Baseline Survey</b>	Project site and affected facilities have been assessed for contamination and other environmental risks.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	<i>Environmental Baseline Survey Report</i>	<i>IPT ensures completion of an environmental baseline survey</i>
Comment:				
<b>Environmental Management System</b>	Project meets specific goals and targets, management controls and reporting requirements established by the facility-level EMS	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	<i>EMS Environmental Management Plans and audit reports</i>	<i>IPT reviews applicable EMS Environmental Management Plans and ensures implementation of management controls and reporting requirements</i>
Comment:				
<b>Asset Management Planning</b>	Project is coordinated with Real Property Asset Management Plan (RAMP)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	<i>FPAA, Real Property Asset Management Plan and Design Documents</i>	<i>IPT reviews RAMP requirements and ensures design compliance</i>
Comment:				



**Exhibit II.B.2**  
**Sustainable Buildings Checklist for Lease Actions**

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## Exhibit II.B.2 Sustainable Buildings Checklist for Lease Actions

<b>OPDIV</b>	<b>Type of Lease Action</b> <input type="checkbox"/> Continued Occupancy <input type="checkbox"/> Expansion <input type="checkbox"/> New Requirement <input type="checkbox"/> Replacement	<b>Size (USF)</b>	<b>ARIS File ID:</b> <b>GSA Number:</b>
<b>Is Leased Space Certified?*</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<b>Rating System</b> <input type="checkbox"/> LEED™ <input type="checkbox"/> GreenGlobes™	<b>Certification Level/Type:</b>	<b>Registration Number:</b>
<b>Location Address</b>			

\*Note: If the Leased Space has achieved a certification that meets the requirements of a multi-attribute green building standard developed by an ANSI-accredited organization do not complete the rest of the form. Fill out the certification information above and return the document to OFMP.

<b>Mandated Requirements</b>	
<b>I. Employ Integrated Design Principles</b>	
<b>Integrated Project Team (IPT)</b> Initiate and maintain an integrated project team in all stages of a project's planning and delivery.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Comment:	
<b>Commissioning</b> Employ commissioning practices tailored to the size and complexity of the building and its system components	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Comment:	
<b>II. Optimize Energy Performance</b>	
<b>Energy Efficiency</b> 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® rating for the building.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Comments:	
<b>Measurement and Verification</b> Building has building level utility meters to track and continuously optimize performance.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Comments:	
<b>III. Protect and Conserve Water</b>	
<b>Indoor Water</b> Employ strategies that in aggregate use a minimum of 20 percent less potable water than the indoor water use baseline calculated for the building.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Comments:	
<b>Outdoor Water</b> 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).	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Comments:	
<b>Process Water</b> When potable water is used to improve a building's energy efficiency, deploy life-cycle cost effective water conservation measures.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Comments:	
<b>Water Efficient Products</b> Use EPA's WaterSense Program-labeled products or other water conserving products.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Comments:	

## Exhibit II.B.2 Sustainable Buildings Checklist for Lease Actions

<b>IV. Enhance Indoor Environmental Quality</b>	
<b>Ventilation &amp; Thermal Comfort</b> Meet ASHRAE standards for thermal and ventilation conditions, including continuous humidity control for indoor environmental and air quality for the building.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Comments:	
<b>Moisture Control</b> Establish and implement a moisture control strategy for controlling moisture flows and condensation to prevent building damage and mold contamination.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Comments:	
<b>Daylighting</b> Achieve a minimum of daylight factor of 2 percent in 75 percent of all space occupied for critical visual tasks or have automatic dimming controls or accessible manual lighting controls, and appropriate glare control.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Comments:	
<b>Low-emitting Materials</b> Use materials and products in building operations with low pollutant emissions, including adhesives, sealants, paints, carpet systems, and furnishings.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Comments:	
<b>Protect Indoor Air Quality</b> Building has undergone a flush-out to minimize exposure to contaminants from new building materials installed before lease occupation. Smoking is prohibited within the building and within 25 feet of all building main entrances and building ventilation intakes during building occupancy.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Comments:	
<b>V. Reduce Environmental Impact of Materials</b>	
<b>Recycled Content</b> Use products meeting or exceeding EPA's recycled content recommendations.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Comments:	
<b>Biobased Content</b> For USDA-designated products, use products meeting or exceeding USDA's biobased content recommendations.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Comments:	
<b>Environmental Preferred Products</b> Use products, such as low-emitting materials or products containing no toxic metals, that have a lesser or reduced effect on human health and the environment when compared with competing products or services that serve the same purpose.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Comments:	
<b>Waste and Materials Management</b> Provide reuse and recycling services for the building occupants, where markets or on-site recycling exist.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Comments:	
<b>Ozone Depleting Compounds</b> Eliminate the use of ozone depleting compounds where alternative environmentally preferable products are available.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Comments:	
<b>VI. Conformance with local Environmental Requirements</b>	
<b>National Environmental Policy Act (NEPA)</b> Assess the building and site for contamination and any other potential environmental risks.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Comments:	

## **Exhibit II.B.2 Sustainable Buildings Checklist for Lease Actions Instructions**

Exhibit II.B.2 is for the collection and recording of sustainable actions achieved on leased properties. The checklist is not intended to be used during the solicitation process but to record the sustainable features of a building **after** occupancy. The tool is designed to measure the Department's achievement in meeting the *Guiding Principles* as described in Executive Order 13423<sup>1</sup> and the Energy Independence and Security Act of 2007 (EISA)<sup>2</sup>. The six building attributes that are identified for reporting compliance are:

- Employ Integrated Design Principles
- Optimize Energy Performance
- Protect and Conserve Water
- Enhance Indoor Environmental Quality
- Reduce Environmental Impact of Materials
- Conformance with Local Environmental Requirements

Leases that have received a third party certification at any point can claim compliance with the *Guiding Principles*. Compliance can be demonstrated by achieving the certification that meets the requirements of a multi-attribute green building standard developed by an ANSI-accredited organization.

### ***Applicability***

Exhibit II.B.2 is required for any lease action over 5,000 usable square feet (USF) that is **not** a build-to-suit lease. (Build-to-suit leases are treated as new construction.) In cases where a Supplemental Lease Agreement (SLA) acquires expansion space and the newly acquired expansion space exceeds 5000 USF, a checklist must be submitted for the newly acquired space only. In cases where a SLA obtains expansion space on an existing lease but the expansion is not greater than 5,000 USF, a checklist does not need to be submitted even if the total square footage exceeds 5,000 USF. Exercising a lease option for space over 5,000 USF requires the submission of the checklist.

The checklist is required to be completed no later than 60 days after lease award. The first step in completing the checklist is to determine if the leased space has obtained a certification. If the leased asset has received third party (i.e., LEED™ or GreenGlobes™) certification, the first section of the checklist is completed and submitted to OFMP, and no other action is required. If the property is not certified, the entire checklist must be completed.

On leased properties that are Federally-owned buildings, building data and assistance may be obtainable from GSA. On privately held properties difficulties may inhibit the collection of extensive data. In these cases where the collection of the building data cannot be obtained from the lessor or GSA and the OPDIV does not have the expertise to evaluate the sustainable measures on a building, a Letter of Non-Conformance, Exhibit II.B.3., must be submitted in lieu

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<sup>1</sup> EO 13423 located at <http://www.wbdg.org/ccb/FED/FMEO/eo13423.pdf>

<sup>2</sup> EISA 2007 located at [http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=110\\_cong\\_bills&docid=f:h6enr.txt.pdf](http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=110_cong_bills&docid=f:h6enr.txt.pdf)

## **Exhibit II.B.2 Sustainable Buildings Checklist for Lease Actions Instructions**

of the Exhibit II.B.2 checklist. The letter will detail the reasons for not submitting the Exhibit II.B.2 checklist.

In May and November of each year, OPDIVs will submit completed Exhibit II.B.2 checklists for every new lease action for the previous six months. OFMP will send out a data call in May and November of each year requesting that the OPDIVs submit all completed Exhibit II.B.2 checklists, and/or Letters of Non-Conformance where applicable.

### ***Instructions***

#### **Property Information** section:

- Indicate the OPDIV
- Indicate the type of lease action, Continued Occupancy, Expansion, New Requirement or Replacement.
- Indicate the USF of the newly acquired space only. Reference applicability on page 1 for clarification.
- The last box on line requests the ARIS file ID and the GSA number for the leased space.
- On the next row, indicate if the leased space has been certified. The leased space could be part of a certified building or it could be certified as a stand alone space. Check the box that identifies the rating system used, and indicate the level of certification and type. In the case of LEED™, the type may be EB (Existing Building), Commercial Interiors (CI), New Construction (NC) or Core and Shell (CS). In the Green Globes™ rating system, the levels are 1 through 4. Indicate the registration number from the selected certification system.
- Enter the address of the lease in the last row.

#### **Mandated Requirements** section:

Use the comment box to show the reason for the “yes”, “no” or “not applicable” answer. The comment box can be used to illustrate accomplishments that contribute to the achievement of the metric but may not meet it completely. Make the responses as simple and direct as possible. It is realized that achieving 100% of the *Guiding Principles* for an existing building is difficult; however, it is important to record any possible achievements for each metric in the comment box.

Metrics that indicate a “No” or “NA” answer do not necessarily disqualify a building from meeting the *Guiding Principles*. Buildings that do not meet individual guiding principles may request a waiver from achieving those individual metrics within the *Guiding Principles*. Waiver requests shall be considered on a case-by-case basis for individual lease actions. A waiver is only applicable in cases where the building is unable to meet individual metrics.

The waiver letter must detail the reasons for not achieving the metrics. An example for a “No” would be a mission requirement that would prohibit the building from achieving daylighting

## **Exhibit II.B.2**

### **Sustainable Buildings Checklist for Lease Actions**

#### **Instructions**

requirements due to required windowless laboratory spaces. An example for the Outdoor Water metric receiving a “NA” would be for a building or space that has no exterior watering opportunities.

The DAS of OFMP/ASAM must approve waivers and any other exceptions to the provisions of this policy as required by E.O. 13423.

A waiver is not applicable to a leased asset that fails to complete the Sustainability Checklist. Lease actions that fail to complete the Sustainability Checklist must submit the Letter of Non-conformance to OFMP within 60 days of the lease award.

#### **I. Employ Integrated Design Principles**

##### *Integrated Project Team*

- Identify whether a project team was established in the award or construction of the leased facility.

##### *Commissioning*

- Identify whether the building components have been commissioned or retro-commissioned by a designated commissioning agent.

#### **II. Optimize Energy Performance**

##### *Energy Efficiency*

- Identify whether the building has earned an ENERGY STAR<sup>®3</sup> rating, or if the building’s energy performance has had a 30 percent reduction per the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc., (ASHRAE) and the Illuminating Engineering Society of North America (IESNA) Standard 90.1-2007, *Energy Standard for Buildings Except Low-Rise Residential*.
- If the leased property is laboratory space, Labs21 Laboratory Modeling Guidelines<sup>4</sup> can be used.
- Identify whether the building meets at least 30% of the hot water demand through the installation of solar hot water heaters, per the Energy Independence and Security Act (EISA) Section 523.
- Under Executive Order 13423, implementation of renewable energy generation projects is encouraged. Identify whether the facility has onsite renewable energy systems.
- Does the facility use Energy Star<sup>®</sup> and FEMP5 designated energy efficient products where available?

##### *Measurement and Verification*

- Per the Energy Policy Act of 2005 (EPA) Section 103, installation of building level utility meters are required to track and continuously optimize performance. Identify what utility meters are used for the building, including meters for natural gas and steam
- Has actual performance data been compared to the design target after one year of occupancy?

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<sup>3</sup> <http://www.energystar.gov/>

<sup>4</sup> <http://www.labs21century.gov/>

<sup>5</sup> <http://www.eere.energy.gov/femp/>

## **Exhibit II.B.2**

### **Sustainable Buildings Checklist for Lease Actions**

#### **Instructions**

- Indicate whether the building is currently without meters and if the leased space has separate meters.

### **III. Protect and Conserve Water**

#### *Indoor Water*

- Does the building 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 EPA Act 1992, Uniform Plumbing Codes 2006, and the International Plumbing Codes 2006 fixture performance requirements? Note the installation of water meters, which is encouraged to allow for the management of water use during occupancy.

#### *Outdoor Water*

- Are water-efficient landscape and irrigation strategies used, including water reuse and recycling, that reduce outdoor potable water consumption by a minimum of 50 percent over that consumed by conventional means (such as plant species and plant densities)?
- Does the building have water meters that measure outdoor water use?

#### *Process Water*

- Does the building deploy life-cycle cost effective water conservation measures when potable water is used to improve the building's energy efficiency, according to the Energy Policy Act of 2005, Section 109?

#### *Water-Efficient Products*

- Does the building employ the use of EPA's WaterSense Program<sup>6</sup>-labeled products, FEMP designated, or other water conserving products?
- If the building has employed an Irrigation Contractor, is the company certified through EPA's WaterSense Program?

### **IV. Enhance Indoor Environmental Quality**

#### *Ventilation and Thermal Comfort*

- Does the building meet ASHRAE Standard 55-2004, Thermal Environmental Conditions for Human Occupancy, including continuous humidity control within established ranges per climate zone? Does it meet ASHRAE Standard 62.1-2007, Ventilation for Acceptable Indoor Air Quality?

#### *Moisture Control*

- Does the building have an established and implemented moisture control strategy for controlling moisture flows and condensation to prevent building damage and mold contamination?

#### *Day lighting*

- Does the building provide automatic dimming controls or accessible manual lighting controls, and have appropriate glare control?

#### *Low-Emitting Materials*

- Does the building employ a strategy to obtain materials and products with low pollutant emissions, including adhesives, sealants, paints, carpet systems, and furnishings?

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<sup>6</sup> <http://www.epa.gov/owm/water-efficiency/>



## **Exhibit II.B.2**

### **Sustainable Buildings Checklist for Lease Actions**

#### **Instructions**

##### *Protect Indoor Air Quality*

- Does the building follow the recommended approach of the Sheet Metal and Air Conditioning Contractor's National Association Indoor Air Quality Guidelines for Occupied Buildings under Construction, 1995?
- Will the building be air flushed prior to occupancy?
- Are there regulations in place for the interior and exterior of the building that prohibit or restrict smoking?

#### **V. Reduce Environmental Impact of Materials**

##### *Recycled Content*

- Does the building use EPA-designated products that meet or exceed EPA's recycled content recommendations?
- Are EPA-designated products purchased for construction, operation, maintenance of or use in the building?

##### *Biobased Content*

- Is the use of USDA-designated products included in all solicitations for construction, operation, maintenance of or use in the building?

##### *Environmentally Preferred Products*

- Does the building employ the use of products, such as low-emitting materials or products containing no toxic metals, that have a lesser or reduced effect on human health and the environment over competing products or services that serve the same purpose but are not as environmentally friendly?

##### *Waste and Materials Management*

- Does the building employ a waste, salvage, or recycling program for the collection and disposal of used materials?

##### *Ozone Depleting Compounds*

- Does the building employ a strategy to limit or eliminate the use of ozone depleting compounds?

#### **VI. Conformance with Local Environmental Requirements**

##### *National Environmental Policy Act (NEPA)*

- Does the facility conform to Federal, state and local environmental regulations in regard to contamination and other environmental risks?

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**Exhibit II.B.3**  
**Letter of Non-conformance**

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**Exhibit II.B.3**  
**Letter of Non-conformance**

Date

TO:           Howard D. Kelsey  
              Deputy Assistant Secretary  
              Office for Facilities Management and Policy (OFMP)

FROM:        [Name], Facility Director  
              [OPDIV]

SUBJECT:     Statement of Non-Conformance for the Completion of Exhibit II.B.2, Sustainable  
              Buildings Checklist for Lease Actions

**Lease Description** Describe the lease transaction and building particulars.

Include the building location, size and type of lease action.

**Exhibit II.B.2 Completion** The Letter of Non-Conformance is submitted in lieu of the Sustainable Buildings Checklist.

Describe the effort of the OPDIV in attempting to have the checklist completed.

Detail how the OPDIV supplied the checklist and to whom.

**Reason for Non-Conformance** Describe the reason the Sustainable Buildings Checklist was not completed and submitted.

Discuss if GSA was requested to provide assistance on a Federally-owned building but did not respond to the OPDIV request.

Detail the response from the Lessor if they were asked to support the collection of the data and would not without a required fee for completing or providing information for the checklist.

Discuss if the OPDIV did not attempt to complete the checklist due to their lack of expertise to evaluate the sustainable measures on a building.

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**Exhibit II.C.1**  
**Existing Building Assessment Tool**

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## Exhibit II.C.1 Existing Building Assessment Tool

Building name:
Location:
Date of Assessment:
Prepared by:
Square Footage (specify gsf or usf):
Mission Dependency: <input type="checkbox"/> Mission Critical <input type="checkbox"/> Mission Dependent <input type="checkbox"/> Not Mission Dependent
Commissioning/Recommissioning: <input type="checkbox"/> Completed - date: _____ <input type="checkbox"/> Not completed <input type="checkbox"/> Not Applicable
Assessment Report attached? <input type="checkbox"/> Yes <input type="checkbox"/> No <i>The Assessment Report should include a comprehensive list of the building's strengths, weaknesses and deficiencies; a prioritized list of deficiencies that can be addressed by minor alterations or repairs (considering payback over the life cycle); and a status summary indicating whether a major renovation or replacement of the facility (and estimated time frame) is recommended by the assessment team.</i>

Building Attribute	Attribute Definition	Building Condition Scoring Criteria						Score
		10	20	35	50	65	80	
<b>A. Energy Performance</b>	<p><b>Energy Efficiency</b> Establish a whole building performance target that takes into account the intended use, occupancy, operations, and other energy demands. Establish a baseline building performance rating per the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc., (ASHRAE) and the Illuminating Engineering Society of North America (IESNA) Standard 90.1-2007, Energy Standard for Buildings Except Low-Rise Residential Buildings. Reduce Energy Usage Intensity (EUI) by 20% below 2003 baseline, or receive a score of 75 or</p>	<p>Establish an energy usage baseline using historic data (2003 EUI) OR Establish an energy usage baseline using ASHRAE/IESNA 90.1-2007 OR Evaluate using Energy Star Portfolio Manager</p>	<p>An Energy Conservation Plan has been developed</p>	<p>Reduction in EUI of &gt; 5%</p>	<p>Reduction in EUI of &gt; 10%</p>	<p>Reduction in EUI of &gt; 15% OR Achieved a score of 69 or higher in ESPM or equivalent Labs21 Benchmarking Tool score for laboratory buildings.</p>	<p>Reduction in EUI of &gt; 20%, OR Achieved a score of 75 or higher in ESPM or equivalent Labs21 Benchmarking Tool score for laboratory buildings.</p>	

**Exhibit II.C.1**  
**Existing Building Assessment Tool**

Building Attribute	Attribute Definition	Building Condition Scoring Criteria						Score
		5	10	15	25	30	40	
	higher in Energy Star Portfolio Manager (ESPM).							
		<b>5</b>	<b>10</b>	<b>15</b>	<b>25</b>	<b>30</b>	<b>40</b>	
	<b>Measurement &amp; Verification</b>	Building level metering installed for electricity, and where required by OPDIV energy plan advanced metering	Electrical meter performance data collected, compiled and used to evaluate Energy Projects	Building level metering installed for utilities defined in EO 13423, EPAAct 2005 and EISA 2007, and where required by OPDIV energy plan advanced metering	All utility meter performance data collected compiled and used to evaluate Energy Projects.	Data entered in Energy Star Portfolio Manager	Data entered in High Performance Buildings Database	
		<b>0</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>25</b>	<b>30</b>	
	<b>Renewable Energy ( Bonus)</b>	No renewable energy purchased (consumed) & no on site generation.	Less than 3% of Renewable Energy (thermal, mechanical or electrical) is purchased for use in the facility.	3% or more of Renewable Energy (thermal, mechanical or electrical) is purchased for use in the facility	3% or more electricity consumed is from renewable sources and 1.5 % is from new sources (online after Jan 1, 1999)	Implemented cost effective on site renewable energy generation projects.	3% or more electricity consumed is from renewable sources and 1.5 % is from new sources (online after Jan 1, 1999) and Implemented cost effective on site renewable energy generation projects.	
		<b>5</b>	<b>10</b>	<b>20</b>	<b>30</b>	<b>40</b>	<b>Score</b>	
<b>B. Protect &amp; Conserve Water</b>	<b>Indoor Water</b> Effectiveness of indoor water conservation. The water baseline, for buildings with plumbing fixtures installed in 1994 or later, is 120% of the Uniform Plumbing Codes 2006 or the International Plumbing Codes of 32006 fixture performance requirements. The water baseline for plumbing fixtures older than 1994	FY2007 water use intensity (WUI) established along with a water management plan. Procedures in place for following the indoor best management practices as developed by FEMP <sup>1</sup>	Building level water meter installed or estimated annual water use baseline developed for the building.	Employs strategies that in aggregate use a minimum of 10% less potable water than the indoor water use baseline	Employs strategies that in aggregate use a minimum of 15% less potable water than the indoor water use baseline	Employs strategies that in aggregate use a minimum of 20% less potable water than the indoor water use OR 20% reduction in measured potable water use compared to building use in 2003 or a year thereafter with water quality data.		

## Exhibit II.C.1 Existing Building Assessment Tool

Building Attribute	Attribute Definition	Building Condition Scoring Criteria					
	is 160% of the Uniform Plumbing Codes of 2006 or the International Plumbing Codes 2006 fixture performance requirements.						
		5	10	20	30	40	
	<b>Outdoor Water</b> Effectiveness of outdoor water conservation	FY2007 water use intensity (WUI) established along with a water management plan. Procedures in place for following the outdoor best management practices as developed by FEMP <sup>1</sup>	Uses water efficient landscape and irrigation strategies, including water reuse and recycling, to reduce outdoor potable water consumption by a minimum of 20% over that consumed by conventional means (plant species and plant densities) OR Reduces outdoor potable water consumption by a minimum of 20% compared to measured water use in 2003 or a year thereafter with quality water data	Uses water efficient landscape and irrigation strategies, including water reuse and recycling, to reduce outdoor potable water consumption by a minimum of 30% over that consumed by conventional means (plant species and plant densities) OR Reduces outdoor potable water consumption by a minimum of 30% compared to measured water use in 2003 or a year thereafter with quality water data	Uses water efficient landscape and irrigation strategies, including water reuse and recycling, to reduce outdoor potable water consumption by a minimum of 40% over that consumed by conventional means (plant species and plant densities) OR Reduces outdoor potable water consumption by a minimum of 40% compared to measured water use in 2003 or a year thereafter with quality water data	Uses water efficient landscape and irrigation strategies, including water reuse and recycling, to reduce outdoor potable water consumption by a minimum of 50% over that consumed by conventional means (plant species and plant densities), OR Reduces outdoor potable water consumption by a minimum of 50% compared to measured water use in 2003 or a year thereafter with quality water data, OR No use of potable irrigation water	
						20	
	<b>Process Water</b> Effectiveness of Process water conservation, where applicable					Cost effective conservation measures are in place to reuse or reclaim water used in increasing energy efficiency, such as cooling towers, boilers, etc.	

**Exhibit II.C.1  
Existing Building Assessment Tool**

Building Attribute	Attribute Definition	Building Condition Scoring Criteria					
						<b>20</b>	
	Maintain/restore site hydrology ( Bonus)					Where redevelopment affects site hydrology, maintain or restore the hydrology of the site with regard to temperature, rate, volume, and duration of flow using site planning, design, construction, and maintenance strategies. (EISA Section 438)	
		<b>0</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>Score</b>
<b>C. Enhance Indoor Environmental Quality</b>	<b>Thermal Comfort</b> Effectiveness of measures to enhance indoor environmental quality for thermal comfort	Building does not meet current ASHRAE Standard 55-2004 Thermal Environmental Conditions for human Occupancy. Complaints from occupants regarding thermal comfort levels are daily.	Building does not meet current ASHRAE Standard 55-2004 Thermal Environmental Conditions for human Occupancy. Complaints from occupants regarding thermal comfort levels are weekly.	Building does not meet current ASHRAE Standard 55-2004 Thermal Environmental Conditions for human Occupancy. Complaints from occupants regarding thermal comfort levels are monthly.	Building does not meet current ASHRAE Standard 55-2004 Thermal Environmental Conditions for human Occupancy. Complaints from occupants regarding thermal comfort levels are rare.	Occupancy survey performed, or thermal comfort parameters have been measured, and meet current ASHRAE Standard 55-2004 Thermal Environmental Conditions for Human Occupancy.	
		<b>0</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	
	<b>Ventilation</b> Effectiveness of measures to enhance indoor environmental quality for ventilation	Building does not meet current ASHRAE Standard 62.1-2007 Ventilation for Acceptable Indoor Air Quality. Verification of design ventilation rates (testing &	Building does not meet current ASHRAE Standard 62.1-2007 Ventilation for Acceptable Indoor Air Quality. Verification of design ventilation rates (testing &	Building does not meet current ASHRAE Standard 62.1-2007 Ventilation for Acceptable Indoor Air Quality. Verification of design ventilation rates (testing &	Building does not meet current ASHRAE Standard 62.1-2007 Ventilation for Acceptable Indoor Air Quality. Verification of design ventilation rates (testing & balancing) performed within the last 5 years. O&M procedures in place for checking air supply and exhaust systems. Occupant complaints are rare.	Verification of design ventilation rates performed through recommissioning or retrocommissioning, and meets current ASHRAE Standard 62.1-2007 Ventilation for Acceptable Indoor Air Quality established ranges per climate	

## Exhibit II.C.1 Existing Building Assessment Tool

Building Attribute	Attribute Definition	Building Condition Scoring Criteria					
		balancing) not performed.	balancing) not performed. O&M procedures in place for checking air supply and exhaust systems.	balancing) not performed. O&M procedures in place for checking air supply and exhaust systems. Occupant complaints are rare.		zone.	
		<b>0</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	
	<b>Moisture Control</b> Effectiveness of measures implemented for controlling moisture flows and condensation to prevent building damage and mold contamination	Severe moisture and or condensation damage and evidence of mold in the building. No policy in place for monitoring moisture occurrences. No strategy in place for controlling moisture flows and condensation.	Recurring moisture and or condensation problems in various areas in the building. Some evidence of mold in the building. No policy in place for monitoring moisture occurrences. No strategy in place for controlling moisture flows and condensation.	Recurring moisture and or condensation problems in various areas in the building. No evidence of mold in the building. No policy in place for monitoring moisture occurrences. No strategy in place for controlling moisture flows and condensation.	Minor moisture and or condensation occurrences. No policy in place for monitoring moisture occurrences. No strategy in place for controlling moisture flows and condensation.	Established and implemented moisture control strategy for controlling moisture flows and condensation to prevent building damage and mold contamination. All necessary repairs have been completed to remove prior contamination.	
		<b>0</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	
	<b>Daylighting or Lighting Controls</b> Effectiveness of measures implemented to control lighting or daylighting.	No measures have been implemented.	Accessible lighting controls (e.g., accessible manual lighting controls, glare control and automatic dimming controls) are provided for 10% of regularly occupied building space, OR	Accessible lighting controls (e.g., accessible manual lighting controls, glare control and automatic dimming controls) are provided for 30% of regularly occupied building space, OR	Accessible lighting controls (e.g., accessible manual lighting controls, glare control and automatic dimming controls) are provided for 40% of regularly occupied building space, OR 40% of spaces have a minimum daylight factor of 2%.	Accessible lighting controls (e.g., accessible manual lighting controls, glare control and automatic dimming controls) are provided for 50% of regularly occupied building space and occupancy sensors and/or light sensors for appropriate spaces such as bathrooms, conference rooms, etc.	

## Exhibit II.C.1 Existing Building Assessment Tool

Building Attribute	Attribute Definition	Building Condition Scoring Criteria					
		0	5	10	15	20	
			10% of spaces have a minimum daylight factor of 2%.	30% of spaces have a minimum daylight factor of 2%.		OR 50% of spaces occupied for critical visual tasks have a minimum daylight factor of 2%.	
		<b>0</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	
	<b>Low Emitting Materials</b> Effectiveness of measures implemented for the procurement of low emitting materials for maintenance, cleaning and pest management, including adhesives, sealants, paints, carpet systems, furnishings, cleaning products, and pest management products.	No procurement policy in place regarding the use of low emitting materials for maintenance, cleaning or pest management	Procurement policy in place for use of low emitting materials for maintenance, cleaning, or pest management, but not all.	Procurement policy in place regarding use of low emitting materials for maintenance, cleaning, and pest management.	Procurement policy in place and implemented for use of low emitting materials for maintenance, cleaning, or pest management, but not all.	Procurement policy in place and implemented for use of low emitting materials for maintenance, cleaning, and pest management. Prohibit smoking within building and within 25 feet of all building entrances, operable windows and building ventilation intakes.	
		<b>0</b>	<b>5</b>	<b>8</b>	<b>12</b>	<b>15</b>	<b>Score</b>
<b>D. Environmental Impact of Materials</b>	<b>Recycled Content</b> For EPA-designated materials used in operation and maintenance of the building, and new furnishings, use products that meet or exceed EPA's recycled content recommendations	No EPA designated materials used in the building meet recycled content recommendations.	Less than half of the EPA designated materials meet or exceed recycled content recommendations.	Half of the EPA designated materials meet or exceed recycled content recommendations.	More than half of the EPA designated materials meet or exceed recycled content recommendations.	All EPA designated materials meet or exceed recycled content recommendations, or no EPA designated materials are used in the building.	
		<b>0</b>	<b>5</b>	<b>8</b>	<b>12</b>	<b>15</b>	
	For materials used in operation and maintenance of the building and furnishings that are not EPA designated materials, the recycled content is such that the sum of post-consumer recycled content plus one-half of the pre-consumer content constitutes at least 10%	No non-designated materials used in the building have recycled content.	Recycled content of non-designated materials used is less than 5% based on total values of materials used in the building.	Recycled content of non-designated materials used is about 5% based on total values of materials used in the building.	Recycled content of non-designated materials used is 5- 10% based on total values of materials used in the building.	Recycled content of non-designated materials meets or exceeds 10% based on total values of materials used in the building.	

**Exhibit II.C.1**  
**Existing Building Assessment Tool**

Building Attribute	Attribute Definition	Building Condition Scoring Criteria					
	(based on cost) of the total value of the materials used in the building.						
		<b>0</b>	<b>2</b>	<b>4</b>	<b>8</b>	<b>10</b>	
	<b>BioBased Content</b> For USDA-designated materials used in operation and maintenance of the building and new furnishings, use products meeting or exceeding USDA's biobased content recommendations.	No USDA-designated materials meet biobased content recommendations.	Designated materials have some biobased content but less than 50% of recommended amount.	Biobased content of designated materials is 50% of recommended amount.	Designated materials have biobased content greater than 50% of recommended amount.	All USDA-designated materials used in the building meet or exceed biobased content recommendations, or no designated materials will be used in the building	
		<b>0</b>	<b>2</b>	<b>4</b>	<b>8</b>	<b>10</b>	
	For other materials used in operation and maintenance of the building and new furnishings, use biobased products made from rapidly renewable resources and certified sustainable wood products.	No biobased products made from rapidly renewable resources or certified sustainable wood products are used.	Some non-designated biobased products made from rapidly renewable resources or certified sustainable wood products are used but renewable or certified products will be less than 50%.	About 50% of the non-designated biobased products used are made from rapidly renewable resources or certified sustainable wood.	More than 50% of the non-designated biobased products used in the building are made from rapidly renewable resources or certified sustainable wood.	For non-designated materials used in the building, all biobased products are made from rapidly renewable resources and certified sustainable wood products, or no materials used in the building can be made from biobased products.	
		<b>0</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	
	<b>Construction Waste</b> Identify local recycling and salvage operations that process construction waste from building operation and maintenance, minor repairs and renovations and discarded furnishings. Recycle or salvage at least 50	No attempt to identify local recycling and salvage operations that process building related waste have been identified, or building records contain no	Local recycling and salvage operations have been identified that can process some of the building related waste but less than 50% of the total amount. Less than 25 % of	Local recycling and salvage operations have been identified that can process 50% of the total amount of the building related waste. 25 % of the wastes for which	Local recycling and salvage operations have been identified that can process more than 50% of the total amount of the building related waste. 26-49 % of the wastes for which markets or on-site recycling opportunities exist are recycled or salvaged.	Local recycling and salvage operations have been identified that can process building related wastes. At least 50 % of the wastes for which markets or on-site recycling opportunities exist are recycled or salvaged.	

## Exhibit II.C.1 Existing Building Assessment Tool

Building Attribute	Attribute Definition	Building Condition Scoring Criteria						
	percent of construction, demolition and land clearing waste, excluding soil, from building operation and maintenance; minor repairs and renovations; and discarded furnishings where markets or on-site recycling opportunities exist.	documentation of attempts to identify such operations or demonstration of non-availability. Opportunities exist yet no wastes are recycled or salvaged.	the wastes for which markets or on-site recycling opportunities exist are recycled or salvaged.	markets or on-site recycling opportunities exist are recycled or salvaged.				
		<b>0</b>	<b>5</b>	<b>15</b>	<b>20</b>		<b>30</b>	<b>Score</b>
	<b>Ozone Depleting Compounds</b> Eliminate the use of ozone depleting compounds in the building 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.	No ozone depleting compounds (ODC) used in the building have been eliminated or replaced with alternatives, where alternative environmentally preferable products are available for these compounds. There is no inventory of ODC containing equipment in building.	Less than 50% of the ozone depleting compounds used in the building have been eliminated or replaced with alternatives where environmentally preferable products are available for these compounds. An inventory of ODC containing equipment has not been completed.	About 50% of the ozone depleting compounds used in the building have been eliminated or replaced with alternatives where environmentally preferable products are available for these compounds. An inventory of ODC containing equipment has not been completed.	More than 50% of the ozone depleting compounds used in the building have been eliminated or replaced with alternatives where environmentally preferable products are available for these compounds. An inventory of ODC containing equipment has been completed.		All use of ozone depleting compounds in the building have been eliminated or replaced with alternatives where alternative environmentally preferable products are available.	
		<b>5</b>	<b>10</b>	<b>20</b>	<b>30</b>	<b>40</b>	<b>50</b>	<b>Score</b>
<b>E. Economics</b>	<b>Cost</b> Current and avoidable potential costs associated with ownership and use of buildings	Cost to incorporate the Guiding Principles is greater than 11% of Present Replacement Value (PRV)	Cost to incorporate the Guiding Principles is 7% to 11% of PRV	Cost to incorporate the Guiding Principles is 3% to 7% of PRV	Cost to incorporate the Guiding Principles is 1% to 3% of PRV	Cost to incorporate the Guiding Principles is 0.5% to 1% of PRV	Cost to incorporate the Guiding Principles is less than 0.5% of PRV	



## Exhibit II.C.1 Existing Building Assessment Tool

Building Attribute	Attribute Definition	Building Condition Scoring Criteria						Score
		5	10	20	30	40	50	
	<b>Payback</b> Potential payback for improvements over the remaining life cycle or lease	Payback period is greater than the remaining useful life of the building, or 10 years based on Life Cycle Cost (LCC) of the improvements	Payback period is 7 to 10 yrs based on LCC of the improvements	Payback period is 5 to 7 yrs based on LCC of the improvements	Payback period is 3 to 5 yrs based on LCC of the improvements	Payback period is 1 to 3 yrs based on LCC of the improvements	Payback period is less than 1 yr based on LCC of the improvements	
		<b>0</b>	<b>10</b>	<b>30</b>	<b>40</b>	<b>50</b>	<b>Score</b>	
<b>F. Conformance with Local Environmental Requirements</b>	<b>Environmental Regulations</b> Facility/Building is in compliance with all applicable federal, state and local environmental regulations (e.g., compliance with fuel storage tanks system, air emissions such as boilers and emergency generators, illicit discharges to storm and/or sanitary sewer, NPDES and Sanitary Discharge permits)	Facility/building management has NOT established procedures for an environmental compliance program through the facility/organization's EMS as required by Executive Order 13423	Facility/building management has established an environmental compliance program through the facility/organization's EMS that includes (a) procedures to identify and account for applicable legal and other requirements, (b) protocols to periodically evaluate compliance with those applicable legal, and (c) a system for implementing corrective action	Facility/building management met criteria in Column B AND has conducted evaluations of compliance with applicable legal and other requirements. The facility/organization has not completed the evaluations for all of the facility/organization, or has not initiated corrective actions.	Facility/building management criteria in Column B and C AND has completed evaluations of compliance with applicable legal and other requirements for the entire facility/building. Corrective actions have been initiated or have been scheduled (as appropriate considering technical and budgetary constraints).	Facility/Building is in full compliance with all applicable federal, state and local environmental regulations		
		<b>0</b>	<b>15</b>	<b>30</b>	<b>40</b>	<b>50</b>	<b>Score</b>	
	<b>Environmental Management System (EMS)</b> Executive Order (EO) 13148 required all Federal Agencies to	Facility/building management has not established requirements/procedures to address applicable	Facility/building management has established requirements/procedures to address applicable sustainable practices as required by Executive Order 13423 through the facility/organization's EMS, including procedures for setting	Facility/building management has met all the criteria in Column B, AND has incorporated at least one of the applicable sustainable practices through the EMS, AND the facility/organization has established an	Facility/building management has met all the criteria in Column B, AND has incorporated at least one of the applicable sustainable practices through the EMS, AND the facility/organization has established an	Facility/building management has met all the criteria in Column B and C AND Facility/organization has verified		

**Exhibit II.C.1  
Existing Building Assessment Tool**

Building Attribute	Attribute Definition	Building Condition Scoring Criteria				

<sup>1</sup> www1.eere.energy.gov/femp/water\_fedrequire.html

<sup>2</sup> 1992 Energy Policy Act fixture performance requirements: showerheads: 2.5 gallons per minute at 80 psi; urinals: 1 gallon per flush; faucets: 2.2 gallons per minute at 60 psi; toilets: 1.6 gallons per flush

Building Attribute	Building Condition Scoring Criteria	
	Achieved Score	Maximum Score
<b>GUIDING PRINCIPLES</b>		
<b>A. Energy Performance</b>		
<b>Energy Efficiency</b>		<b>80</b>
<b>Measurement &amp; Verification</b>		<b>40</b>
<b>B. Protect &amp; Conserve Water</b>		
<b>Indoor Water</b>		<b>40</b>
<b>Outdoor Water</b>		<b>40</b>
<b>Process Water</b>		<b>20</b>
<b>C. Enhance Indoor Environmental Quality</b>		
<b>Thermal Comfort</b>		<b>20</b>
<b>Ventilation</b>		<b>20</b>
<b>Moisture Control</b>		<b>20</b>
<b>Daylighting or Lighting Controls</b>		<b>20</b>

**Exhibit II.C.1  
Existing Building Assessment Tool**

Building Attribute	Building Condition Scoring Criteria	
<b>Low Emitting Materials</b>		<b>20</b>
<b>D. Environmental Impact of Materials</b>		
<b>Recycled Content</b>		<b>30</b>
<b>BioBased Content</b>		<b>20</b>
<b>Construction Waste</b>		<b>20</b>
<b>Ozone Depleting Compounds</b>		<b>30</b>
<b>GUIDING PRINCIPLES SCORE</b>		<b>420</b>

<b>Non-Guiding Principles</b>		
<b>Economics</b>		
<b>Cost</b>		<b>50</b>
<b>Payback</b>		<b>50</b>
<b>Conformance with local Environmental Requirements</b>		
<b>Environmental Regulations</b>		<b>50</b>
<b>Environmental Management Systems (EMS)</b>		<b>50</b>
<b>Bonus Categories</b>		
<b>Renewable Energy</b>		<b>30</b>
<b>Maintain/Restore Hydrology</b>		<b>20</b>
<b>TOTAL NON-GUIDING PRINCIPLES AND BONUS SCORE</b>		<b>250</b>
<b>Total Score</b>		<b>670</b>

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## **Exhibit II.C.1 Existing Building Assessment Tool Instructions**

The following instructions are designed to help in the collection and recording of sustainable actions achieved on an applicable capital asset. The tool is designed to collect and measure the Department's achievement in meeting the *Guiding Principles* as described in Executive Order 13423 and the Energy Independence and Security Act of 2007 (EISA). There are four (4) building attributes that are evaluated and rated under this evaluation and prioritization matrix which follows the *Guiding Principles* and can score up to 420 points. Additional points can be achieved through non-Guiding Principle and bonus achievements that can add up to 250 points. The total score achieved will form the Sustainability Index (SI). The maximum SI is a rating of 670 points:

### Guiding Principle Achievements (Minimum requirements)

- A. Energy Performance (120 points)
- B. Protect and Conserve Water (100 points)
- C. Enhance Indoor Air Quality (100 points)
- D. Environmental Impact of Materials (100 points)

### Non-Guiding Principle Achievements

- E. Economics (100 points)
- F. Conformance with Local Environmental Requirements (100 Points)

### Bonus

- Renewable Energy (30 points)
- Maintain/Restore Hydrology (20 points)

The SI will be one of the elements along with Mission Dependency and Facility Conditions Index used to support decision making.

- General Information
  - A building is exempt from having to complete this tool if the building receives a third party green building certification from an ANSI-accredited standards developer and the contract for design was awarded prior to October 1, 2008. The building is considered meeting the intent of the *Guiding Principles* (100%).
  - EISA section 432, paragraph 3(A) requires a comprehensive energy and water evaluation be completed every 4 years. Currently building condition assessments are required on buildings every five years. It is suggested that to save money and effort that the building assessment and energy and water evaluations be completed concurrently on a four year cycle.

**Exhibit II.C.1**  
**Existing Building Assessment Tool**  
**Instructions**

- The highest priority buildings in the existing buildings inventory are those owned assets 5,000 gross square or more with the exception of housing. See Appendix L and Appendix D of the Sustainable Buildings Implementation Plan (SBIP) December 31, 2008 for asset types and definitions of applicable buildings.
  - In reporting to OMB, all owned and direct leased buildings in the Federal Real Property Profile (FRPP) are considered in the Department's existing building inventory.
  - All projects as defined in the SBIP with design awards after October 1, 2008 must incorporate the Guiding Principles 100%.
  - Highlight each achievement and record the score on Appendix H. An asset must achieve full compliance with the *Guiding Principles* to score building as meeting in FRPP. An existing building can achieve a top score of 670 by achieving a 100% score for Non-Guiding Principle achievements.
  - The scores under the Building Condition Scoring Criteria are cumulative. The achieved score of 20 includes that accomplished under the 10 and the score of 30 includes that achieved under the 20 and 10. The high score achieved under the criteria will have achieved every part within the scoring criteria.
- Asset Information on EB Assessment Tool
    - Include the asset information as recorded in ARIS.
  - **Energy Performance (120 points)**
    - Energy Efficiency
      - Established an energy usage baseline using historical data (2003 EUI)
      - Established an energy usage baseline using ASHRAE.IESNA 90.1-2007
      - Evaluated the buildings energy use with the Energy Star Portfolio Manager (ESPM) located at:  
[http://www.energystar.gov/index.cfm?c=eligibility.bus\\_portfoliomanager\\_eligibility](http://www.energystar.gov/index.cfm?c=eligibility.bus_portfoliomanager_eligibility)
      - An Energy Conservation Plan (ECP) shall consist of an estimate of the future energy performance of the building and a specific description of the energy saving projects or practices that will reduce the Energy Usage Intensity (EUI). The evaluation of each project shall use life cycle costing. The ECP shall include a schedule listing the projects and an estimated time of completion to meet the reduction of EUI goals.
    - Measurement and Verification
      - *E.O. 13423, sec. 2(a)* Metering. To the maximum extent practicable, agencies shall install metering devices that measure consumption of potable water, electricity, and thermal energy in Federal buildings and other facilities and grounds. Data collected shall be incorporated into Federal tracking systems and be made available to Federal facility managers. Agencies should consider inclusion of metering requirements in all ESPCs and UESCs, as appropriate.
      - EISA Section 434(b), Metering, amends Section 543(e)(1) of NECPA (42 U.S.C. 8253(e)(1)) by inserting after the second sentence the following: "Not later than October 1, 2016, each agency shall provide for equivalent metering

## **Exhibit II.C.1**

### **Existing Building Assessment Tool**

#### **Instructions**

of natural gas and steam, in accordance with guidelines established by the Secretary under paragraph (2)."

- The High Performance Buildings Database website is:  
<http://www.eere.energy.gov/buildings/database/>
- Renewable Energy
  - A 30 point bonus is achievable with the installation of an on site renewable energy project and entering a renewable energy purchase contract. Applicable systems would include solar, wind, geothermal, low-impact hydro, biomass and bio-gas strategies.
- **Protect and Conserve Water (100 points)**
  - Verify the installation of water conserving measures for indoor and outdoor systems.
  - Verify a water management plan and FEMP best management practices for water conservation are in place.
  - Verify installation of water meters or estimate annual building water use baseline.
  - Verify use of water efficient landscape or use of recycled water for irrigation.
  - Verify if cost effective measures are in place for process water for equipment, cooling towers, boilers, etc.
  - Where site redevelopment such as a paving project occurs, a 20 point bonus is achievable when the project maintains or restores the pre-development hydrology of the site with regard to temperature, rate, volume, and duration of flow using site planning, design, construction, and maintenance strategies. (EISA Section 438)
- **Enhance Indoor Environmental Quality (100 points)**
  - The measurement of ventilation, thermal comfort, moisture control, lighting (controlled and natural) and low emitting materials.
  - Verify thermal comfort and indoor air quality for building occupants.
  - Verify building design ventilation rates and building system performance.
  - Verify the building has an established and implemented moisture control strategy.
  - Assess if location of manual light, glare and dimming controls are accessible to building occupants or calculate percentage of space having a minimum natural daylight factor of 2%.
  - Verify a procurement policy has been developed and implemented for use of low emitting materials for maintenance, cleaning, and pest management.
- **Environmental Impact of Materials (100 points)**
  - Confirm policies are in place to ensure use of these materials/products when cost and performance expectations can be met.
  - Record the effort in meeting recycled content, biobased content, construction waste, and ozone depleting compounds for both existing building renovations and operations and maintenance activities.

**Exhibit II.C.1**  
**Existing Building Assessment Tool**  
**Instructions**

- **Economics (100 points)**
  - Record the cost and payback in achieving and meeting the *Guiding Principles* as a measure of a facility Replacement Value and Life Cycle Cost.
  
- **Conformance with Local Environmental Requirements: (100 points)**
  - **Environmental Regulations (50 points):**
    - To achieve the highest score, a facility/building manager must demonstrate that there are no violations of environmental regulations. This can only be done if building/facility has documented procedures in place to identify and account for applicable environmental requirements.
    - It is expected that this will require that facility managers, environmental managers (including Environmental Management Systems managers for appropriate facilities that have an official EMS) and supervisors to coordinate and develop the plans and procedures to address conformance. This aspect is required regardless of whether the facility has an EMS or not.
    - Points will be awarded under this attribute progressively from (0 points) for non-compliant or lacking procedures and evaluations protocols; to, full compliance with applicable federal, state and local environmental regulations (50 points).
    - Examples of potential violation include:
      - lack of controls on to prevent exceedence of discharge limits or
      - failure to meet discharge limits from a process or batch discharge such as cage wash systems or cleaning of pipes,
      - potable water cross connections,
      - cross connections with sanitary or stormdrain systems,
      - exceedance of air emission from regulated sources such as emergency generators, boilers, fume hoods or ,
      - improper storage of hazardous chemicals,
      - non-compliance with fuel storage tank (above ground and underground) provisions,
      - failure to maintain proper operating logs for regulated equipments and mechanical systems
  - **Environmental Management System (EMS) (50 points)**
    - Executive Order (EO) 13148 required all Federal Agencies to determine ‘appropriate’ facilities for implementing EMS. EO 13423 requires that EMSs serve as the primary mechanism for achieving compliance with all aspects of the order.
    - Not all facilities are required to have an EMS and if this is the case, then the full 50 Points will be scored for this attribute.



**Exhibit II.C.1**  
**Existing Building Assessment Tool**  
**Instructions**

- In the case where an EMS is required (HHS declared appropriate facility), points will be awarded on a progressive basis from 0 points to a maximum of 50.

To achieve favorable ratings in this area, it is expected that the facility/building management will have met with the Environmental Management System (EMS) manager and implemented requirements/procedures to address applicable sustainable practices as required by Executive Order 13423 through the facility/organization's EMS, including procedures for setting objectives and targets as appropriate, monitoring, training, and management review.

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**Exhibit III.A.1**  
**O & M Checklist**

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# Exhibit III.A.1 O & M Checklist

## Introduction/Instructions

The purpose of this checklist is to provide facility managers and operations and maintenance personnel with a simple survey tool to determine the extent of the use of sustainable practices in their facility. This checklist does not take the place of the HHS Sustainable Buildings Implementation Plan (SBIP), but it can be used as a “first cut” to see if the facility has implemented enough sustainable practices to warrant further consideration. The checklist is organized by the guiding principles. A score of 50% or more (yes answers) in each of the five guiding principle categories might warrant a more in depth evaluation to see if the facility meets the intent of the MOU. This comprehensive evaluation should follow the guidelines set forth in Appendix H of the SBIP. If the intent of the MOU is met, the building can be included in the Federal Sustainable Buildings Database.

### 1. **Employ Integrated Design Principles**

#### 1.1 **Integrated Design**

A. The facility HVAC system has been designed so that maintenance and inspection is easy to accomplish, including adequate space to maintain, repair and replace equipment in mechanical rooms and interstitial spaces. This includes providing access doors in ceilings or walls to reach air handling units, filter banks, fan-coil units, terminal boxes, and controllers or sensors that require regular maintenance and calibration?

Yes                       No                       N/A

B. Does the facility contain adequately sized and properly designed storage facilities in the building, such as a separately exhausted central chemical supply area near the loading dock, janitor's closets on each floor, dedicated recycling storage areas and handling and transport mechanisms?

Yes                       No                       N/A

C. Are there permanent walk-off grilles or mats at all entrances to eliminate tracked-in dirt. Use landscaping or railings to keep people on the pavement near the building entrances?

Yes                       No                       N/A

D. Does the building contain durable, low-maintenance, soil-resistant, low-emitting building materials, equipment and furnishings. In heavily trafficked areas are carpet tiles used instead of broadloom so that small stained sections can be replaced and recycled to avoid using strong carpet cleaners.

Yes                       No                       N/A

## **Exhibit III.A.1 O & M Checklist**

### **1.2 Commissioning**

A. Does the facility have a comprehensive, preventive maintenance program to keep all building systems functioning as designed?

Yes                       No                       N/A

B. Has the facility had the HVAC systems, electrical systems (emergency power, switchgear and lighting) and controls performance tested in the last year?

Yes                       No                       N/A

C. Has the facility had an air and water balance in the last 5 years?

Yes                       No                       N/A

D. Have any of the facilities personnel received training on sustainable principles?

Yes                       No                       N/A

E. Have any of the facilities personnel received operational facilities training specific to your facility?

Yes                       No                       N/A

F. Does the building staff have drawings and O & M Manuals?

Yes                       No                       N/A

G. Is there a feedback mechanism to inform the facility manager of conditions and deviations of the facility design intent?

Yes                       No                       N/A

### **2. Optimize Energy Performance**

#### **2.1 Controls**

A. Does the facility use schedule, occupancy or photocell sensors to control lighting and plug loads?

Yes                       No                       N/A

## **Exhibit III.A.1 O & M Checklist**

B. Are timers or other type controls used to turn on/off building equipment?

Yes                       No                       N/A

C. Are lights, computers, and equipment manually turned off when not in use (if the equipment is not equipped with automatic controls)?

Yes                       No                       N/A

D. Are power-down features enabled on office equipment?

Yes                       No                       N/A

E. If the existing lighting is more than 15 years old have the fixtures been updated with newer technology (T-12 lamps and magnetic ballasts upgraded to T-8 lamps and electronic ballasts)?

Yes                       No                       N/A

E. If the existing heating and cooling equipment is more than 20 years old has it been updated with newer technology (condensing boilers, non-CFC cooling equipment, high efficiency electric motors and variable speed drives where applicable)?

Yes                       No                       N/A

### **2.2 Measurement and Verification**

A. Is Electricity metered?

Yes                       No                       N/A

B. Is steam, natural gas or other utilities (excluding water) metered?

Yes                       No                       N/A

C. Has the facility been entered into the EPA's Energy Star benchmarking tool?

Yes                       No                       N/A

**Exhibit III.A.1  
O & M Checklist**

**2.3 Energy Auditing**

A. Has an energy audit been conducted in the last 4 years?

Yes                       No                       N/A

**2.4 Renewable Energy**

A. Is there any on-site renewable energy generated (solar, geothermal, biomass, hydro, ocean, etc...)?

Yes                       No                       N/A

B. Does the facility purchase any energy from renewable sources?

Yes                       No                       N/A

**3. Protect and Conserve Water**

**3.1 Indoor Water**

A. Are systems regularly inspected for leaks and are leaks repaired in a timely manner?

Yes                       No                       N/A

B. Does the facility contain low flow fixtures (fixtures that meet EPA Act 1992)?

Yes                       No                       N/A

C. Is the water metered?

Yes                       No                       N/A

**3.2 Outdoor Water**

A. Is there an outside sprinkler system for watering plants (if N/A skip to 3.3)?

Yes                       No                       N/A

B. Is the landscaping accomplished with native or indigenous plants to minimize watering requirements?

Yes                       No                       N/A



**Exhibit III.A.1  
O & M Checklist**

**3.3 Discharge/Storm Water**

A. Facility discharge water meets EPA regulations.

Yes                       No                       N/A

B. If equipped with a cooling tower, is the make-up metered?

Yes                       No                       N/A

**4. Enhance Indoor Environmental Quality**

**4.1 Ventilation and Thermal Comfort**

A. Does the facility have a comprehensive, preventive maintenance program (and records) to keep all building systems functioning as designed (note: this is the same as 1.2A)?

Yes                       No                       N/A

B. Is the facility equipped to continuously monitor equipment performance (ie. is it equipped with direct digital controls – if N/A, skip C)?

Yes                       No                       N/A

C. Do the direct digital controls provide early detection of defects or failures in equipment through use of service alarms?

Yes                       No                       N/A

D. Can you minimize equipment failures by using preventive maintenance, standby equipment, etc... so that the failed component can be isolated and repaired without interrupting system performance?

Yes                       No                       N/A

E. Does the facilities staff use internal and external test systems to locate faults and fix problems (such as vibration analysis, infrared cameras, oil analysis, etc...)?

Yes                       No                       N/A

## Exhibit III.A.1 O & M Checklist

F. Does the O&M staff check to see that pressure differentials are in fact maintained, to avoid the undesirable flow of contaminants from restrooms, kitchens, parking garages, laboratories, operating rooms etc...?

Yes                       No                       N/A

G. Outside air dampers all work as designed.

Yes                       No                       N/A

H. Indoor temperature and humidity conditions are easily maintained between 70 and 78 degrees F and between 20 and 60% RH year round.

Yes                       No                       N/A

I. Air handling equipment is equipped or modified to be equipped with an economizer cycle.

Yes                       No                       N/A

### 4.2 Moisture Control

A. Dry surfaces promptly. Water-damaged, porous building materials or furnishings, if not dried and cleaned within 24 hours may have to be replaced.

Yes                       No                       N/A

B. Appropriate conditions and procedures are taken to prevent moisture condensation.

Yes                       No                       N/A

C. A water tight building envelope is maintained (including the roof)

Yes                       No                       N/A

### 4.3 Day-lighting

A. Are there any areas in the facility with skylights or clear stories?

Yes                       No                       N/A

**Exhibit III.A.1  
O & M Checklist**

**4.4 Low-Emitting Materials**

A. Does the facility use integrated pest management methods (non-pesticide methods) of pest control as part of the overall building maintenance program?

Yes                       No                       N/A

B. Does the facility staff shut down ventilation system(s) and remove occupants until pesticide applications are completed and perform applications during non-working hours to the maximum extent practicable?

Yes                       No                       N/A

C. Are carpets steam cleaned (instead of using chemical cleaners)?

Yes                       No                       N/A

D. Are precautions taken to prevent excess moisture or cleaning residue accumulation during cleaning operations?

Yes                       No                       N/A

E. When appropriate are "certified" environmental cleaning products used?

Yes                       No                       N/A

F. The facilities staff has developed safe handling, disposal, and storage practices including procedures for spill control.

Yes                       No                       N/A

G. Have maintenance practices been established to minimize exposure to hazardous materials by substituting less hazardous materials?

Yes                       No                       N/A

H. Are cleaners used that biodegrade rapidly?

Yes                       No                       N/A

I. Products are purchased that are concentrated, using less packaging,

Yes                       No                       N/A

**Exhibit III.A.1  
O & M Checklist**

J. Non-toxic pest control methods are used for indoor spaces and plants.

Yes                       No                       N/A

K. A structured preventative maintenance program is in place to insure air ducts are clean and free of microorganisms.

Yes                       No                       N/A

L. Low emission paint is used for maintaining surfaces?

Yes                       No                       N/A

**5.0 Reduce Environmental Impact of Materials**

**5.1 Recycled Content**

A. Does the facility have a comprehensive recycling program with source separation and occupant incentives?

Yes                       No                       N/A

B. Does the facility use on-site composting of organic materials?

Yes                       No                       N/A

C. Use landscaping products with recycled content?

Yes                       No                       N/A

D. Recycled paper products are purchased for the office, bathrooms and cafeteria.

Yes                       No                       N/A

**5.2 Bio-based Content**

A. The facility staff uses bio-based products are used that meet or exceed the USDA's bio-based content recommendations.

Yes                       No                       N/A

## Exhibit III.A.1 O & M Checklist

### 5.3 Construction Waste – N/A

### 5.4 Ozone Depleting Compounds

A. Does the facility have HVAC or fire protection equipment that use CFCs (if N/A, skip this section)?

Yes                       No                       N/A

B. The facility has replaced all CFCs in the cooling equipment with environmentally friendly refrigerants.

Yes                       No                       N/A

C. The facility has replaced all Halon-based fire suppression equipment with environmentally friendly fire suppression agents.

Yes                       No                       N/A

### 5.5 Hazardous Materials

A. The facility has a comprehensive Asbestos program.

Yes                       No                       N/A

B. The facility has a comprehensive Mercury program.

Yes                       No                       N/A

C. The facility has a comprehensive PCB program.

Yes                       No                       N/A

D. The facility has a comprehensive Lead program.

Yes                       No                       N/A

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**Exhibit III.B.1**  
**Diagram of HHS EMS Structure**

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**Exhibit III.B.1  
Diagram of HHS EMS Structure**



# HHS Environmental Management Systems (EMSs) Structure

## Higher-Tier EMS



*Planned*

*Existing*

### Multi-Site Organizational EMS

*Headquarters & Non-Landholding OPDIVs*

ACF	CMS	PSC
AHRQ	HQ	SAMHSA
AoA	HRSA	Regional Offices

### Facility EMS's (18)

*Landholding OPDIVs*

CDC (10)	IHS (2)
FDA (2)	NIH (4)

## Upcoming Highlights

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<p><b>HHS (Go Green)</b> Headquarters pilot (2009) Non-landholding OPDIVs (2012)</p>	<p><b>IHS (CHEMS; 18 by 2013)</b> Seven in 2009 Seven in 2010 Four in 2011 <b>NIH</b> Bayview campus (2010)</p>
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**Exhibit III.B.2**  
**HHS Facilities Currently Implementing EMS**

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**Exhibit III.B.2  
HHS Facilities Currently Implementing EMS**

OPDIV	Facility	Location		
		City	State	Zip
CDC	Roybal	Atlanta	GA	30333
CDC	Chamblee	Atlanta	GA	30341
CDC	Lawrenceville	Lawrenceville	GA	30245
CDC	Anchorage	Anchorage	AK	99508
CDC	Spokane	Spokane	WA	99207
CDC	Fort Collins	Fort Collins	CO	80522
CDC	Taft & Hamilton Bldgs	Cincinnati	OH	45226
CDC	Pittsburgh	Pittsburgh	PA	15236
CDC	Morgantown	Morgantown	WV	26505
CDC	San Juan	San Juan	PR	00920
FDA	White Oak Campus	Silver Spring	MD	20993
FDA	Jefferson Labs	Jefferson	AR	72079
IHS	Hastings Indian Med Cen	Tahlequah	OK	74464
IHS	San Xavier Health Cen	Tucson	AZ	85746
NIH	NIH Montgomery County*	Bethesda	MD	20892
NIH	NI Env Health Services	Research Triangle	NC	27709
NIH	Rocky Mountain Labs	Hamilton	MT	59840
NIH	NIH Facilities at FT Detrick	Frederick	MD	21702
NIH	Bayview Campus	Baltimore	MD	21224
* Includes NIH Animal Center in Poolesville, Md and NIH Lease Facilities in Rockville, Md				

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**Exhibit IV.A.1**  
**Current Status of Implementation within Landholding OPDIV'S**

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**Exhibit IV.A.1**  
**Current Status of Implementation within Landholding OPDIV'S**

<b>I. Employ Integrated Design Principles</b>	
<b>Integrated Design.</b> <i>Use a collaborative, integrated planning and design process that:</i>	
<i>Initiates and maintains an integrated project team in all stages of a project's planning and delivery</i>	
<b>Health and Human Services (HHS)</b>	Each OPDIV shall establish an integrated project team (IPT) approach that ensures a project sustainability strategy is incorporated consistent with the policy.
<b>Centers for Disease Control &amp; Prevention/ ATSDR (CDC)</b>	<p>CDC establishes a core integrated project team (IPT) for each project, consistent with HHS policy. IPT members are selected by their expertise as it relates to the scope and size of the project. CDC assesses if internal or external resources are available and needed to support the IPT fully. CDC considers contracts with expertise in green building qualifications for planning, design, construction, commissioning and operations.</p> <p>The current CDC design and construction guidelines require:</p> <ul style="list-style-type: none"> <li>• Establishment of aggressive energy and water conservation goals early in the project planning stage</li> <li>• Establishment of a core team and extended energy technology core team with specific leadership and line of responsibility that set goals of technologies to be used from the planning stage through design, construction and life cycle of the facility</li> <li>• Utilization of energy consultants to supplement engineering staff on energy intensive projects</li> <li>• Commissioning of all new buildings and major renovations.</li> </ul> <p>A LEED Accredited Professional serves on all IPT teams on all phases of the project.</p> <p>CDC has LEED Accredited personnel on staff.</p>
<b>Food and Drug Administration (FDA)</b>	The FDA establishes a core integrated project team at the project's initiation and through project completion. The integrated project team consists of an integrated multidisciplinary design team (A/E of Record) with a certified LEED professional. The team is headed by an FDA project officer (engineer with specific project experience), customer relations manager, operations and maintenance personnel, environmental and occupational safety and health professionals, and in-house energy reviewer for energy intensive projects. The team establishes sustainable goals for the project. The FDA utilizes the NIH Design Requirements Manual (DRM) which will state that all the 'Guiding Principles' shall be considered and/or incorporated into all design contracts.
<b>Indian Health Service (IHS)</b>	The IHS establishes an Integrated Project Team (IPT) at the beginning of project planning. The team consists of Program representatives, Facility management, Tribal, Finance, Head Quarters Facility Planning staff, Environmental specialist staff, Project Management staff, and A/E project management staff. The DES has a LEED Accredited

**Exhibit IV.A.1**  
**Current Status of Implementation within Landholding OPDIV'S**

	<p>Professional to serve on IPT team during the pre-project planning phase. The 2007 IHS A/E Design Guide requires, when a designer is employed, that A/E participate on the IPT. The IPT will conduct a Concept Phase Sustainable Design Charrette.</p> <p>Additional meetings will be conducted throughout the design process to evaluate the status and revise goals as necessary.</p>
<p><b>National Institutes of Health (NIH)</b></p>	<p>Reviews by the NIH EMS focus groups revealed that the process for design and construction did not foster attaining sustainability objectives due to its organizational structure and the lack of Integrated Project Teams (IPTs) with sustainable design expertise at the project planning phase.</p> <p>To address this problem NIH has acquired 2 government employees who are LEED Accredited Professionals (AP). The Department of Environmental Protection (DEP) has 2 additional full time APs as contractors. These professionals serve on the IPTs during the pre-project planning phase, and assist Project Officers in meeting sustainability requirements until the project IPTs are established.</p> <p>The DEP reviews all FPAA sustainability checklists for compliance with commitments to have a charter and a full IPT in place prior to commencement of design and construction.</p> <p>Requirements to follow all Guiding Principles, including Integrated Design Principles have been included in the new NIH Design Requirements Manual.</p>
<p><i>Establishes performance goals for siting, energy, water, materials, and indoor environmental quality along with other comprehensive design goals; and, ensures incorporation of these goals throughout the design and lifecycle of the building.</i></p>	
<p><b>Health and Human Services (HHS)</b></p>	<p>The IPT shall establish and monitor performance goals consistent with the sustainability strategy for the project and document in the FPAA.</p>
<p><b>Centers for Disease Control &amp; Prevention/ ATSDR (CDC)</b></p>	<p>The CDC has incorporated the sustainability MOU performance goals into the current design and construction guidelines and measures performance by using the U.S Green Building Council's Leadership in Energy and Environmental Design (LEED) or the Green Building Initiative's Green Globes rating systems.</p> <p>Performance targets are also evaluated using <a href="http://www.eere.energy.gov/femp">www.eere.energy.gov/femp</a> Building Life-Cycle Costing Program (BLCC 5.3-06), Target Base Energy Budget, GREENGUARD <a href="http://www.greenguard.org">http://www.greenguard.org</a> low emission products for interior spaces, and industry Best Management Practices</p> <p>For projects meeting HHS approval thresholds the IPT will:</p> <ul style="list-style-type: none"> <li>• Establish and monitor performance goals consistent with the sustainability strategy for the project and</li> </ul>

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	<p>document in the FPAA with the HHS Sustainability Checklist.</p> <ul style="list-style-type: none"> <li>• Establish goals at pre-project planning and identify specific technologies to be considered</li> <li>• Determine the level of appropriate certification under LEED™</li> <li>• Coordinate and incorporate EMS plans</li> </ul> <p>For projects under the HHS approval thresholds, CDC utilizes a Project Evaluation Ranking Tool (PERT) to coordinate a project's impact on/with environmental, energy, sustainable, and EMS programs as well as the Agency's asset management plan. PERTs are scored by a CDC Asset Management Team (AMT).</p>
<p><b>Food and Drug Administration (FDA)</b></p>	<p>The FDA has completed Sustainability Assessments on 100% of its owned assets 5000 SF or more for the 'State of their Sustainability, using Appendix H as the measurement and verification tool. Total assessed square footage is equal to 1,741,998 square feet. The assessments will aid in the process of developing sustainable design criteria that take into consideration environmental stewardship, social responsibility, a quality work environment, and conservation. The FDA will incorporate the Energy Policy MOU into our proposed design guidelines and verify measure of performance by either Leadership in Energy and Environmental Design (LEED) or Green Globe certification and life cycle cost analysis.</p> <p>The IPT will be given a copy of the results from the sustainability assessments of their specific asset, which will allow them to establish performance goals consistent with HHS sustainable policies and requirements and will be documented in the FPAA when applicable.</p>
<p><b>Indian Health Service (IHS)</b></p>	<p>The A/E Guide includes sustainable design guidance in the areas identified through implementation of LEED and/or Green Globes. The IPT shall establish performance goals including sustainable site, optimize energy performance, protection and conservation of water, environmental impact of materials, enhance Indoor Environmental Quality, renewable energy and sustainable certification. The IPT may establish additional performance goals specific to each project. The performance goals shall consider all phases of the buildings life cycle. Additional meetings are required throughout the project to ensure that the goals are implemented.</p>
<p><b>National Institutes of Health (NIH)</b></p>	<p>The Guiding Principles, as interpreted by HHS and applied to specific building types in use at the NIH are used to establish the required performance goals for all construction projects requiring completion of an FPAA. Requirements for establishing and meeting these goals are included in the new NIH Design Requirements Manual (DRM).</p> <p>FPAA sustainability checklists for all new projects are reviewed by the DEP for compliance with NIH-wide goals and targets before submission to HHS for approval.</p> <p>An assessment study was completed to develop baseline energy and water intensity data for NIH laboratory and office buildings for use in setting project specific goals.</p>

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<i>Considers all stages of the building's lifecycle, including deconstruction.</i>	
<b>Health and Human Services (HHS)</b>	The performance goals shall include Life Cycle Cost Analysis (LCCA).
<b>Centers for Disease Control &amp; Prevention/ ATSDR (CDC)</b>	CDC performance goals include the IPT and Project team performing appropriate Life Cycle Cost Analysis (LCCA) for systems identified by the teams.
<b>Food and Drug Administration (FDA)</b>	FDA's design guidelines require the Integrated Project Team (IPT) to use building life-cycle analysis on all projects. The IPT shall list sustainable design features where applicable, for all new and major renovations projects, comparing additional first cost against payback period regardless of how long or short the payback period may be, with a goal of designing sustainable projects with no additional first cost expenditures. The IPT shall consider conducting "trade-off" exercise, e.g., taking advantage of southern exposures, improving the energy efficiencies of the windows and walls and spending more on daylighting, thus reducing heating and cooling at the building's perimeter and reduce the allowance for lighting fixtures, HVAC systems, etc. Protocols for decommissioning (i.e., facility assessments, remediation of contaminants, and waste minimization during decommissioning and deconstruction activities) are currently in place and being implemented. Formal protocol for recycling of construction debris during decommissioning and deconstruction will be established. The Sustainability Assessments being conducted by the FDA will determine the degree of sustainable design and/or renovation requirements.
<b>Indian Health Service (IHS)</b>	Life cycle cost analysis is performed during planning and also during the schematic design phase. Costs are evaluated and considered including all stages of the buildings lifecycle. Demolition of an existing facility that is replaced by a new facility is planned using principles of sustainability.
<b>National Institutes of Health (NIH)</b>	<p>The proposed NIH policies, design criteria and Environmental Management Plans relating to facility sustainability are inherently focused on lifecycle performance. The current NIH Design Requirements Manual (DRM) requires the A/E to perform a computerized energy analysis (Building Energy Simulation) and a Life Cycle Costs analysis (LCCA). For LCCA, programs such as NIST BLCC or approved, professionally recognized and proven programs shall be used. For Building Energy Simulation, a professionally recognized and proven program such as the latest version of Energy Plus, DOE-2, Blast, or other Federal Energy Analysis tool shall be used. Alternative energy and greenhouse gas emission will be assessed using the NIST's BEES.</p> <p>Protocols and contracts for facility assessment, remediation of contaminants, recycling of construction debris and waste minimization during decommissioning and deconstruction (end of cycle) activities are currently in place and operational. Procedures from NIH's protocols a now part of the new AIHA/ANSI standard on Laboratory Decommissioning.</p>

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	<p>FPAA sustainability checklists for all new projects are reviewed by the DEP for commitments to follow required life cycle assessment methodology.</p> <p>The requirement for the A/E to perform energy analysis and LCCA will be inserted into the “Comments” section of the sustainability checklist.</p>
<p><b>Commissioning;</b> <i>Employ total building commissioning practices tailored to the size and complexity of the building and its system components in order to verify performance of building components and systems and help ensure that design requirements are met. This should include an experienced 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.</i></p>	
<p><b>Health and Human Services (HHS)</b></p>	<p>Each OPDIV shall develop, implement and maintain a commissioning procedure for all new and renovated facilities that meet or exceed the Capital Investment Review Board threshold (\$10M).</p>
<p><b>Centers for Disease Control &amp; Prevention/ ATSDR (CDC)</b></p>	<p>The current CDC design and construction guidelines require commissioning for all new capital construction projects. Scope of commissioning to be determined by the project team on renovation and alteration projects. Capital construction projects are to comply with the minimum commissioning requirements of LEED EA Prerequisite 1 for Fundamental Building Systems Commissioning. Laboratory projects and other projects involving systems critical to continual operations are to comply with LEED EA Credit 3 Enhanced Commissioning requirements.</p> <p>Commissioning of systems includes:</p> <ul style="list-style-type: none"> <li>• Heating, cooling, ventilation and exhaust systems</li> <li>• Laboratory Equipment tied to HVAC system performance</li> <li>• Electrical Systems including lighting, switchgear, UPS, PDS, generators</li> <li>• Building automation controls, security systems</li> <li>• Fire and Life safety systems</li> <li>• Consider Building Envelope</li> </ul> <p>Fundamental Commissioning process includes:</p> <ul style="list-style-type: none"> <li>• Installation verification</li> <li>• Operational performance test</li> <li>• Functional performance test</li> <li>• TAB verification</li> <li>• Re-testing as needed</li> <li>• Commissioning reports</li> </ul>

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	<ul style="list-style-type: none"> <li>• Training</li> </ul> <p>Enhanced commissioning includes:</p> <ul style="list-style-type: none"> <li>• Post occupancy performance testing</li> <li>• Development of a systems manual</li> <li>• O&amp;M Personnel training verification</li> </ul>
<p><b>Food and Drug Administration (FDA)</b></p>	<p>The FDA design guidelines will require the commissioning of all new buildings re-commissioning of substantial renovations/additions in order to verify that design criteria are met. Commissioning will be performed by a true third party commissioning agent, under contract and supervision of the government. Per HHS sustainable requirements, FDA facilities will be re-commissioned every three years and/or during major renovations. The A/E shall provide commissioning requirements during design, based on information generated from the sustainability assessments. This action is later used to develop the commissioning plan. The third party commissioning agent shall inspect/confirm equipment installation, performance goals and requirements, by operational performance test, functional performance testing and re-testing as required, ultimately providing the government with a commissioning report. Based on the results of the sustainable assessments of each constructed asset,, commissioning/re-commissioning requirements will be developed.</p>
<p><b>Indian Health Service (IHS)</b></p>	<p>In the 2007 IHS A/E Design Guide Commissioning requirements are outlined. The requirements comply with LEED EA prerequisite 1 and LEED EA Credit 3:</p> <ol style="list-style-type: none"> <li>1. The A/E is responsible for developing the requirements for the building systems commissioning plan during design, and documenting all requirements to be completed by contractor who specialized in commissioning and is not the building construction contractor to ensure that building systems function in compliance with criteria set forth in the Project Contract Documents. The Commissioning Plan combines all system narratives, basis of design, assumptions and calculations for all systems into a single manual. When assembled with required as-built drawings and O&amp;M manuals, this will provide an operating guide for the facility.</li> <li>2. The Building System Commissioning Plan shall be outlined in the 65% construction document phase of the design as a submission separate volume.</li> <li>3. In the final Construction Documents, the A/E shall provide a Division 17 Construction Specification dedicated to Building Systems Commissioning, which will address the various building systems to be commissioned. The document shall define “The Commissioning Team” which includes a Qualified Commissioning Specialist.</li> <li>4. Health Care Facility systems includes Chilled water system (chiller, pump &amp; coils control valves), Heating Hot water system (Boiler, pumps &amp; coils control valve), HVAC system (AHUs, VAV box, Ventilation, DDC &amp; duct work), Fire protection &amp; Fire Alarm system, Electrical distribution system and other systems (such as O2, NO, &amp; dental vacuum)</li> </ol>
<p><b>National Institutes of Health (NIH)</b></p>	<p>NIH commissioning requirements for laboratories and vivaria are currently being revised and updated for release in a new publication. Commissioning requirements have been integrated into the updated Design Requirements manual</p>

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	<p>(DRM).</p> <p>Specifications implementing this guiding principle were incorporated into the NIH Office Fit-Out Guidelines approved in December 2007. These include requirements for commissioning or re-commissioning following projects that add to, disturb or interface with any base building HVAC system or components (including VAV boxes and ductwork), electrical systems, lighting systems, building automation, and/or temperature control. Commissioning will use practices tailored to the size and complexity of the fit-out project.</p> <p>Facility condition assessments for existing buildings will be modified to include documentation of the scope and date of commissioning and recommendations for re-commissioning. Policies, plans and procedures, and contract resources for the sustainability re-commissioning of existing buildings are now under development.</p> <p>Environmental Management Plans for CY 2009 will include development of sustainability assessments and re-commissioning procedures for existing buildings.</p>
<p><b>II. Optimize Energy Performance</b></p>	
<p><b>Energy Efficiency.</b> <i>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 cost budget by 30 percent compared to the baseline building performance rating per the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc., (ASHRAE) and the Illuminating Engineering Society of North America (IESNA) Standard 90.1-2007, Energy Standard for Buildings Except Low-Rise Residential Buildings. For major renovations, reduce the energy cost budget by 20 percent below pre-renovations 2003 baseline. Laboratory spaces may use the Labs21 laboratory Modeling Guidelines. Use Energy Star and FEMP designated Energy Efficient products, where available.</i></p>	
<p><b>Health and Human Services (HHS)</b></p>	<p>Each OPDIV shall develop guidelines to incorporate performance targets consistent with the MOU, EPAAct 2005, EO 13423 and EISA 2007. Innovation in design is encouraged. Exceptions to the performance target shall be defined on a case-by-case basis.</p> <p>Per EO 13423 improve energy efficiency and reduce greenhouse gas emissions through reduction of energy intensity by 3% annually through the end of FY 2015 or 30% by the end of FY 2015, relative to the baseline of energy use in FY 2003.</p> <p>Ensure renewable electricity consumption meets EPAAct2005 goals of No Less Than:</p> <ul style="list-style-type: none"> <li>o 3% in FY 2007-2009</li> </ul>

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	<ul style="list-style-type: none"> <li>○ 5% in FY 2010-2012</li> <li>○ 7.5% in FY 2013 and thereafter</li> </ul> <p>In addition, EO 13423 requires the implementation of renewable energy generation projects on agency property for agency use, when life cycle cost effective and that at least half of renewable energy comes from new (after 1/1/1999) renewable sources. EISA 2007 Sec 523 requires that 30% of the hot water demand through the installation of solar water heaters, when life cycle effective.</p> <p>Per EAct 2005 purchase Energy Star and FEMP recommended products where cost effective or meets agency functional requirements. This includes premium efficient products such as electric motors, air conditioning, and refrigeration equipment procurements.</p> <p>To address the EISA Section 434 Compliance, under the Guiding Principles <i>Optimize Energy Performance</i> include a description of your internal process for projects below the ASAM thresholds “to ensure that major replacements of installed equipment (such as heating and cooling systems), or renovation or expansion of existing space, employ the most energy efficient designs, systems, equipment, and controls that are life-cycle cost effective.” This may be reflected in your design guidelines or standard specifications; or it may be through an internal checklist for incorporation of energy or other sustainable elements.</p> <p><u>Progress and implementation plan shall be reported in Annual Energy Report.</u></p>
<p><b>Centers for Disease Control &amp; Prevention/ ATSDR (CDC)</b></p>	<p>The current CDC design and construction guidelines require compliance with the MOU, EAct 2005, EO 13423, and EISA 2007.</p> <p>CDC’s guidelines also include the following requirements:</p> <ul style="list-style-type: none"> <li>• Evaluate all energy conservation measures and energy recovery schemes on a life cycle cost basis.</li> <li>• Design and specify energy efficient systems and energy recovery for the HVAC systems. Energy recovery for lab exhaust air is not permitted.</li> <li>• Heat wheels and other enthalpy recovery devices are preferred recovery schemes. All energy recovery schemes, including sensible-only schemes may be acceptable.</li> <li>• Develop the Base Energy Budget from the Building Program, Conceptual Design, or other specific instructions. The budget represents a minimum level of efficiency to be achieved in the final design.</li> <li>• Incorporate in the final design those design alternatives and energy conservation options identified by the design team that: are found to have returns on investment acceptable to CDC; that optimize the building design within the project budget limitations; and achieve the required energy savings targets.</li> <li>• Evaluate and incorporate cost effective renewable energy technologies.</li> <li>• Require Energy Star certified products.</li> </ul>



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	<ul style="list-style-type: none"> <li>• Consider more efficient glazing and shading alternatives.</li> <li>• Consider increased energy efficiency through architecture, equipment, equipment operations, pipe and duct insulation thickness, and similar components and methodologies.</li> <li>• Consider increased use of variable frequency drives, run around loops, economizers, heat recovery systems, and similar alternatives.</li> </ul> <p>The CDC has developed an energy use baseline. The Annual Energy Report updates CDC's progress.</p> <p>For projects under the HHS approval thresholds, CDC utilizes a Project Evaluation Ranking Tool (PERT) to coordinate a project's impact on/with environmental, energy, sustainable, and EMS programs as well as the Agency's asset management plan. PERTs are scored by a CDC Asset Management Team (AMT).  The CDC posts work site energy saving, awareness information on the CDC intranet.</p>
<p><b>Food and Drug Administration (FDA)</b></p>	<p>The FDA has completed the sustainability assessment of 100% of its owned asset 5000 SF or more utilizing Appendix H, 'HHS Existing Building Evaluation and Priority Matrix. A total of 1,741,998 SF was assessed. To ensure that FDA assets, at or below the ASAM thresholds incorporate the guiding principles, FDA has established IDIQ design and construction contracts that requires all projects, regardless of cost, to incorporate GP's to the maximum extent possible. Included in the IDIQ contracts are references and links to EO 13423, EISA and EPAAct2005. To confirm that these requirements are incorporated in all of FDA projects regardless threshold, FDA has established design and construction SOP's that require all projects to be reviewed by Sustainable Building and Energy managers, who will utilize sustainability checklist to ensure that energy conservation measures have been incorporated to the maximum extent feasible. FDA currently administering two (2) 'Utility Energy Service Contracts (UESC's), and another Energy Savings performance contract in progress. The UESC contracts will install individual utility meters at each of the applicable facilities where UESC contracts are being instituted. Preliminary and Detailed Energy Audits have been conducted at several FDA facilities by an energy service provider. The service provider will provide a detailed analysis of the existing building components (infrastructure, mechanical, electrical and plumbing), thus providing a 'whole building performance' evaluation/audit, which in turn will establish existing baseline conditions and targets. The evaluation/audit will provide existing component operations, equipment and component efficiency and energy demands. Ultimately providing designs to earn the Energy Star (trade mark) targets. Upon completion of the detailed audits, the service provider will list recommended actions in the form of 'proposed energy conservation measures' (ECM's). These measures may include integrated HVAC design, energy recovery devices, and improved equipment efficiency. These measures will be used to reduce the overall energy intensity by 30% through the end of FY 2015, relative to the baseline of energy use in FY 2003.</p> <p><i>New Facilities:</i> All FDA projects will be evaluated using the HHS sustainable buildings checklist for new facilities. For FDA new facilities, all design and construction elements, where applicable shall comply with the Energy Policy</p>

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	<p>Act of 2005. These elements shall include a review of all technologies, including, but not limited to heat recovery devices, i.e., heat wheels and other enthalpy devices. The A/E shall establish a whole building performance target for the intended use of the proposed facility as compared with a similar building and use. The A/E is to utilize the most energy efficient equipment available and/or application to reduce overall energy intensity by 30% through the end of FY 2015, relative to the baseline of energy use in FY 2003. Design facility utilizing LEED and/or Green Globe requirements.</p>
<p><b>Indian Health Service (IHS)</b></p>	<p>EPAct 2005 is referenced within the current IHS A/E Design Guide. They include detailed guidance for compliance with EPAct 2005 requirements compared to the ASHRAE 90.1-2004 as base of energy guideline referenced in the current IHS A/E Design Guide. The A/E will provide energy modeling showing their design is meet the requirements of energy reduction goal per EO13423 and EPAct 2005</p> <p>The A/E Design Guide also establishes energy efficiencies for staff quarters in accordance with IECC. Each design is required to earn an Energy Star Rating of 75 or greater.</p> <p>The A/E Design Guide also establishes standards for the major replacement of installed equipment (such as heating and cooling systems), in renovation projects and the expansion of existing space. The standard directs the designer to employ the most energy efficient designs, systems, equipment, and controls that are life cycle cost effective. This standard applies to all projects whether they are approved at the HHS or the OPDIV level.</p>
<p><b>National Institutes of Health (NIH)</b></p>	<p>The energy cost reduction requirements have been incorporated into the updated Design Requirements Manual (DRM). The DRM states “HVAC systems shall be reliable, redundant and operate without interruption while being efficient to operate, both in terms of energy consumption and from a maintenance perspective. Federal energy conservation standards shall be achieved. These and other DRM requirements ensure that major replacements of installed equipment (such as heating and cooling systems), or renovation or expansion of existing space, employ the most energy efficient designs, systems, equipment, and controls that are life-cycle cost effective.</p> <p>An assessment tool has been developed to assess the baseline energy use intensity for NIH laboratory and office buildings. The data provided from a pilot test of the tool will be used as baselines to set project specific goals for each specific building type.</p> <p>The kBtu/gsf for 2008 for all NIH facilities was 335.9 compared to the 2003 Baseline of 470.4 kBtu/gsf. On this OpDiv-wide basis, NIH has reduced energy intensity 28.6% toward the 2015 goal of 30%. The corrected Btu/sq.ft in 2008 was 335,881 vs. 347,594 Btu/sq.ft in 2007, and the percent change from FY 2007 to FY 2008 based on the numbers above is a decrease of 3.37%. The above data are documented in the 2008 NIH Energy Report</p>

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<p><b>Measurement and Verification.</b> <i>In accordance with DOE guidelines issued under section 103 of the Energy Policy Act of 2005 (EPAAct), install building level utility meters in new major construction and renovation projects 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®. Enter data and lessons learned from sustainable buildings into the High Performance Buildings Database.</i></p>	
<p><b>Health and Human Services (HHS)</b></p>	<p>Each OPDIV shall install metering consistent with the MOU, EPAAct 2005 and EISA 2007. HHS Metering Policy, Compliance Document, and Implementation Plan completed and distributed to OPDIVs. Verification shall be made of actual performance data with energy design target to ensure that it meets or exceeds the design target or that actual energy use is within 10% of the design energy budget for all other building types. For other building and space types, use an equivalent benchmarking tool such as the Labs21 benchmarking tool for laboratory buildings.</p>
<p><b>Centers for Disease Control &amp; Prevention/ ATSDR (CDC)</b></p>	<p>The current CDC design and construction guidelines require compliance with the MOU, EPAAct 2005 and EISA. The CDC guidelines also include the following requirements:</p> <ul style="list-style-type: none"> <li>• Meter all building utility services, including but not limited to, electrical, natural gas, chilled water, steam, and potable water.</li> <li>• Consider enhanced commissioning of systems once the facility has been occupied, for verification and comparison of system performance with design goals and parameters.</li> <li>• Compare actual performance data from the first year of operation with the energy design target, using either Energy Star Portfolio Manager for appropriate space types or Labs21 for laboratory facilities.</li> </ul>
<p><b>Food and Drug Administration (FDA)</b></p>	<p>Current UESC contracts that are either in place or will be in-place in the coming months include requirements to install utility metering consistent with MOU and EPAAct 2005 requirements. The FDA/NIH guideline shall include instruction to install building level utility meters, including gas and steam, consistent with EISA 2007, in new major construction and renovation projects to track and continuously optimize performance in accordance with DOE guidelines issued under section 103 of EPAAct05. This will be addressed in FDA's metering plan, which is under development. The metering plan shall emphasize keys to effective use of metering, such as a combination use of meters with automated data collection devices. All projects utilizing the UESC and ESPC contracting methods will incorporate advanced metering. Until all FDA facilities are equipped with utility meters, the FDA will use 'Appendix "H"' requirements to establish baseline data.</p>
<p><b>Indian Health Service (IHS)</b></p>	<p>IHS issued a Metering Implementation Plan in July 2006 establishing milestones for achieving the EPAAct 2005 advanced metering requirements. The IHS Metering Plan requires that installations and sites must be metered and how cost impacts should be budgeted.</p>

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	The IHS Metering Plan also outlines responsibilities within IHS for the accomplishment of specific milestone tasks towards full compliance with EAct 2005. The Metering Plan includes electric and other energy/utilities (Water, Gas, etc.).
<b>National Institutes of Health (NIH)</b>	<p>Building level utility metering has been installed in all buildings on the NIH campus. Off-campus facilities are under contract to install building level utility metering.</p> <p>A process for EPA Energy Star Benchmarking all existing buildings was not investigated or established. Because most buildings at NIH are laboratories and other special use buildings, the EPA Energy Star Benchmarking tool, which is designed for simpler, more conventional building types, may not be an accurate measure of performance for these buildings.</p> <p>Alternate baseline energy use intensity data was collected using the assessment tool described above and is now available for NIH laboratory and office buildings. This data was derived from one year of meter readings.</p>
<b>III. Protect and Conserve Water</b>	
<b>Indoor Water.</b> <i>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, Uniform Plumbing Codes 2006, and the International Plumbing Codes 2006 fixture performance requirements.</i>	
<b>Health and Human Services (HHS)</b>	<p>Each OPDIV shall develop guidelines to incorporate performance targets consistent with the MOU, EAct 2005, EISA 2007 and EO 13423.</p> <p>Beginning in FY 2008, per EO 13423 reduce water consumption intensity, relative to the baseline of the agency's water consumption in FY 2007, through life-cycle cost-effective measures by 2 percent annually through the end of FY 2015 or 16 percent by the end of FY 2015.</p> <p>Innovation in design is encouraged through the use of harvested rainwater, treated waste water and other water conserving measures. The installation of water meters is encouraged. Exceptions to the performance target shall be defined on a case-by-case basis.</p>
<b>Centers for Disease Control &amp; Prevention/ ATSDR (CDC)</b>	<p>The current CDC design and construction guidelines require compliance with the MOU, EAct 2005 and EO 13423. The current CDC guidelines also include:</p> <ul style="list-style-type: none"> <li>• Conduct distribution system audits, leak detection and repair.</li> <li>• Post water awareness information to encourage conservation from building occupants.</li> </ul>

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	<ul style="list-style-type: none"> <li>• Use low flow faucets with aerators or flow restrictors. Use low flow shower heads, toilets and urinals.</li> <li>• Re-circulate process cooling water.</li> <li>• Install an automatic boiler/steam blow down system based on water quality to better manage the treatment of boiler make-up water.</li> <li>• Capture air handling unit condensate water for irrigation or cooling tower makeup water.</li> </ul> <p>The CDC posts work site water saving, awareness information on the CDC intranet.  The CDC has developed water use baseline, water use reduction plan and incorporated BMPs.</p>
<p><b>Food and Drug Administration (FDA)</b></p>	<p>The FDA shall include in its design guidelines the strategy to install fixtures (low flow faucet aerators, no water urinals, toilets, ultra low flow shower heads, etc.) that minimize potable water use to reduce the water consumption intensity to meet the E.O. 13423 requirements. The FDA guidelines shall include the requirement to use Energy Star and/or FEMP designated fixtures. Extent of watering conservation measures will be determined by the results of the sustainability assessments as a result of comparing the existing conditions against the guiding principles as stated in 'Appendix H'. The current sustainability assessment underway at the FDA will determine the necessary indoor water conservation measures to be installed and adopted into the FDA's design requirements manual.</p>
<p><b>Indian Health Service (IHS)</b></p>	<p>The IHS has draft guidelines, which includes the provisions of the Energy Policy Act of 1992. The 2007 IHS A/E Design Guide requires designs to earn LEED credit WE 3.1.</p>
<p><b>National Institutes of Health (NIH)</b></p>	<p>General requirements to follow all Guiding Principles, including conservation and protection of water have been placed in the updated NIH Design Requirements Manual.</p> <p>The DEP has developed specific guidance for Project Officers in a NIH Guidance Manual to be published on our EMS website.</p> <p>An assessment tool was developed to assess the baseline water use intensity for NIH laboratory and office buildings. The data provided from a pilot test of the tool will be used to set project specific water use reduction goals for each building.</p> <p>For all NIH facilities the water intensity per square foot was reduced from 66.4 to 65.7, which is a reduction of 1.0%, slightly behind the 2% annual goal</p>

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<p><b>Outdoor Water.</b> <i>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.</i></p>	
<p><b>Health and Human Services (HHS)</b></p>	<p>Each OPDIV shall develop guidelines to incorporate performance targets consistent with the MOU, EPAAct 2005, EISA 2007 and EO 13423.</p> <p>Beginning in FY 2008, per EO 13423 reduce water consumption intensity, relative to the baseline of the agency's water consumption in FY 2007, through life-cycle cost-effective measures by 2 percent annually through the end of FY 2015 or 16 percent by the end of FY 2015.</p> <p>Innovation in design is encouraged. Per EISA 2007 Section 438, maintain or restore the predevelopment hydrology of the site to the maximum extent technically feasible, Exceptions to the performance target shall be defined on a case-by-case basis.</p> <p>When potable water is used to improve a building's energy efficiency, deploy lifecycle cost effective water conservation measures.</p> <p>Specify EPA's WaterSense-labeled products or other water conserving products, where available. Choose irrigation contractors who are certified through a WaterSense labeled program.</p>
<p><b>Centers for Disease Control &amp; Prevention/ ATSDR (CDC)</b></p>	<p>The current CDC guidelines require compliance with the MOU, EPAAct 2005, EO 13423 and EISA.</p> <p>The current CDC guidelines also include:</p> <ul style="list-style-type: none"> <li>• Use low maintenance plant material, climate appropriate and drought resistant.</li> <li>• Use of potable water for irrigation is prohibited. Provide collection and storage of rainwater and non laboratory building grey water for irrigation if required.</li> <li>• Collect and store cooling condensate for cooling tower make-up or irrigation</li> </ul> <p>CDC has incorporated EISA 2007 requirements to the design and construction standards for inclusion of the following: "where feasible maintain or restore the predevelopment hydrology of the site with regard to temperature, rate, volume, and duration of flow."</p> <p>The CDC posts work site water saving awareness information on the CDC intranet.  The CDC has developed water use baseline, water use reduction plan and incorporated BMPs.</p>

**Exhibit IV.A.1**  
**Current Status of Implementation within Landholding OPDIV'S**

<b>Food and Drug Administration (FDA)</b>	The FDA guidelines shall include provisions to use low maintenance plant species (native turf and wildflowers). Analyze the use of rain water collection systems for use in lawn irrigation systems. FDA is currently considering the feasibility of a gray water use system at its Jefferson Laboratories Complex. Sustainability Assessments ongoing at FDA facilities will determine the current state of outdoor water and determine the necessary guidelines to incorporate performance targets consistent with the MOU, E pact 2005 and EO 13423.
<b>Indian Health Service (IHS)</b>	The IHS has a policy to use native plants and no outside irrigation. The 2007 IHS A/E design Guide requires designs to earn LEED credit WE 1.1 and where practicable, WE 1.2.
<b>National Institutes of Health (NIH)</b>	This guiding principle is largely met by NIH current strategies for installation and maintenance of landscaping, control of grading and runoff from construction sites and increasing use of other low impact development practices. Except in small courtyard areas and healing gardens no permanent irrigation systems are used, and 50 percent of these were eliminated in 2007. Implementation of the NIH Urban Forest Conservation Plan is increasing no-mow and forest duff covered areas, planting of native plants that do not require irrigation and installation of storm water buffers. NIH compliance with rigorous state storm water and sediment erosion control permit requirements assures reduction of water runoff and pollution. A gray water reuse system has been installed at the NIH Animal Center in Poolesville to reduce domestic water use.

**IV. Enhance Indoor Environmental Quality**

**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 62.1-2007, Ventilation for Acceptable Indoor Air Quality.*

<b>Health and Human Services (HHS)</b>	Each OPDIV shall develop guidelines to incorporate performance targets consistent with the MOU and E Pact 2005. Innovation in design is encouraged. Exceptions to the performance target shall be defined on a case-by-case basis.
<b>Centers for Disease Control &amp; Prevention/ ATSDR (CDC)</b>	<p>The current CDC guidelines include the ASHRAE Standard 55-2004 and 62.1-2004 for all occupied spaces. The guidelines for laboratory spaces, vivariums, and computer rooms are more stringent.</p> <p>The current guidelines also include:</p> <ul style="list-style-type: none"> <li>• Maintain standard ventilation rates per ASHRAE standards and applicable codes. Above this minimum, including air-economizer systems, modulate outside air quantities (ventilation) by comparing levels of indoor versus outdoor contamination. For specific spaces where occupancy rates are variable (e.g. auditoriums and conference rooms) demand controlled ventilation is desired on a zone basis. CO2 concentrations are a recognized indicator of occupancy levels, but other contaminants such as CO, VOCs, NOX, smoke, etc should also be used to control the outside air flow rates. Self calibrated systems are preferred.</li> </ul>

**Exhibit IV.A.1**  
**Current Status of Implementation within Landholding OPDIV'S**

	<ul style="list-style-type: none"> <li>• Evaluate all systems and air distribution devices for ventilation effectiveness.</li> <li>• Laboratories and vivariums shall be ventilated with 100% outside air.</li> <li>• Design ventilation ducts and shafts for 100% outside-air to the air handlers (this is also required by the outside-air economizer control requirement).</li> </ul> <p>Exhaust flow rates from restrooms, locker rooms, janitor closets, fitness centers, and similar spaces shall correspond to minimum 10 air changes per hour.</p>
<p><b>Food and Drug Administration (FDA)</b></p>	<p>The FDA guideline shall include the ASHRAE Standard 55-2004 and 62.1-2004 for all occupied spaces. Laboratory requirements vary according to use, but are more stringent, and require 100% outside air. All ventilation rates shall meet and/or exceed ASHRAE minimum standards. Check air flow rates to eliminate cross contamination where required. External devices (e.g., chemical fume hood exhaust stacks, gas vents, etc.) that produce fumes or other toxic chemicals shall meet and/or exceed minimum distances to reduce the potential for re-entrainment via fresh air intakes. Ventilation and thermal comfort will be verified by Appendix “H” requirements that are a major part of current sustainability assessments being conducted at FDA facilities. Current Sustainability assessments will determine the compliance of existing buildings with the guiding principles and aid in the development of new policies.</p>
<p><b>Indian Health Service (IHS)</b></p>	<p>The 2007 IHS A/E Design Guide explicitly references ASHRAE 55-2004 and ASHRAE 62.1-2004. We will consider ASHRAE HVAC Design Manual for Hospitals and Clinics (2003) and ASHRAE 170 Ventilation of Health Care Facilities.) IHS complies with AIA Guidelines ventilation requirements for health care environments. The 2007 IHS A/E Design Guide requires LEED EQ 7.1 credit and implementing a moisture control strategy.</p>
<p><b>National Institutes of Health (NIH)</b></p>	<p>General requirements to follow all Guiding Principles, including ventilation and thermal comfort, have been placed in the updated NIH Design Requirements Manual.</p> <p>Specifications implementing this Guiding Principle have been incorporated into the NIH Office Fit-Out Guidelines approved in December 2007. These include requirements of all HVAC to meet the current ASHRAE Standard 55-2004, Thermal Environmental Conditions for Human Occupancy use and ASHRAE 62.1-2007, Ventilation of Acceptable Indoor Air Quality.</p> <p>The DEP is providing specific guidance on meeting this requirement in a NIH Guidance Manual to be published on our EMS website.</p> <p>A pilot project to evaluate criteria and methods for assessing the compliance of existing buildings with this requirement was completed in December 2007.</p>



**Exhibit IV.A.1**  
**Current Status of Implementation within Landholding OPDIV'S**

<b>Moisture Control.</b> <i>Establish and implement a moisture control strategy for controlling moisture flows and condensation to prevent building damage, minimize mold contamination and reduce health risks related to moisture.</i>	
<b>Health and Human Services (HHS)</b>	Each OPDIV shall develop guidelines to incorporate a moisture control strategy in each project that considers design, construction, operations and maintenance.
<b>Centers for Disease Control &amp; Prevention/ ATSDR (CDC)</b>	The current CDC design and construction guidelines include: <ul style="list-style-type: none"> <li>• Prior to installation of any carpet, carpet tile, wood, vinyl, rubber or other flooring materials, the moisture emission rate from a substrate concrete slab shall be no greater than 3.0 pounds per 100 square feet per 24 hours.</li> <li>• Provide strategies for controlling moisture during construction and operation of the building.</li> </ul> Consider including exterior envelope as part of the building commissioning.
<b>Food and Drug Administration (FDA)</b>	The FDA shall include in its guidelines, the establishment and implementation of a moisture control strategy for controlling moisture flows and condensation to prevent building damage and mold contamination. Moisture control measures shall include both interior and exterior measures, i.e. proper insulation, proper rain water drainage away from building wall and proper installation of vapor and moisture barriers where applicable. The FDA requirement shall also require proper handling and storage of materials to prevent mold contamination of materials prior to their installation. FDA will consider and formalize strategies for controlling moisture during the operation of buildings. Ongoing Sustainability Assessments at FDA facilities will determine existing moisture control strategies and aid in developing requirements as established in the guiding principles.
<b>Indian Health Service (IHS)</b>	Moisture control design practices are implemented in IHS projects based upon the geographic location and local climate conditions.
<b>National Institutes of Health (NIH)</b>	NIH has established and implemented a moisture control, mold prevention and remediation policy meeting the requirements of this principle.  General requirements to follow all Guiding Principles, including following a moisture control strategy, have been placed in the updated NIH Design Requirements Manual.  The DEP is providing specific guidance on meeting this requirement in a NIH Guidance Manual to be published on our EMS website.  A pilot project to evaluate criteria and methods for assessing the compliance of existing buildings with this requirement was completed in December 2007.

**Exhibit IV.A.1**  
**Current Status of Implementation within Landholding OPDIV'S**

<p><b>Daylighting.</b> <i>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.</i></p>	
<p><b>Health and Human Services (HHS)</b></p>	<p>Each OPDIV shall develop guidelines to incorporate performance targets consistent with the MOU, EAct 2005 and EISA 2007. Innovation in design is encouraged. Exceptions to the performance target shall be defined on a case-by-case basis.</p>
<p><b>Centers for Disease Control &amp; Prevention/ ATSDR (CDC)</b></p>	<p>The current CDC design and construction guidelines have been updated to include the following: Maximize the amount of daylight to the maximum personnel possible, but at least achieve a minimum daylight factor of 2 percent in 75% of all space occupied for critical visual tasks and provide automatic dimming controls or accessible manual lighting controls and appropriate glare control, where this does not interfere with the intended use/program of the space.</p>
<p><b>Food and Drug Administration (FDA)</b></p>	<p>The FDA shall include in its guideline the requirement to meet and/or exceed minimum HHS daylighting requirements of 2 percent in 75 percent of all occupied space for visual task. The requirement shall also include manual dimming controls. Where daylighting is not achievable, but minimum daylighting requirements are met, the use of full spectrum bulbs should be considered. Based on the results of the ongoing sustainable assessments at FDA facilities, existing daylighting conditions will be documented and additional requirements established to reach the MOU and Eact 2005.</p>
<p><b>Indian Health Service (IHS)</b></p>	<p>The 2007 IHS A/E Design Guide requires LEED EQ 8.1 option 1 or 2.</p>
<p><b>National Institutes of Health (NIH)</b></p>	<p>General requirements to follow all Guiding Principles, including daylighting, have been placed in the updated NIH Design Requirements Manual.</p> <p>NIH has initiated a research project focused on health impacts of artificial lighting systems, and proposed research and development of programmable LED lighting systems to mimic the natural diurnal color spectrum of daylight. Such systems could allow the potential health benefits of day lighting to be brought to interiors of existing buildings. Additional benefits would include reduced energy use and heat production and elimination of mercury used in fluorescent lights.</p> <p>The DEP is providing specific guidance on meeting this requirement in a NIH Guidance Manual to be published on our EMS website.</p>

**Exhibit IV.A.1**  
**Current Status of Implementation within Landholding OPDIV'S**

<b>Low-Emitting Materials.</b> <i>Specify materials and products with low pollutant emissions, including composite wood products, adhesives, sealants, interior paints and finishes, carpet systems, and furnishings.</i>	
<b>Health and Human Services (HHS)</b>	Each OPDIV shall develop guidelines and/or standard specifications to incorporate low emitting materials and products.
<b>Centers for Disease Control &amp; Prevention/ ATSDR (CDC)</b>	The current CDC design and construction guidelines include: <ul style="list-style-type: none"> <li>• Use products certified as, or meeting the same criteria as, GREENGUARD indoor Air Quality Certified low emission products, for flooring, ceiling systems, paints, coatings, insulation, adhesives, wall coverings, and furnishings</li> </ul>
<b>Food and Drug Administration (FDA)</b>	The FDA guideline and contract specifications shall require materials and products that are low pollutant emissions, including adhesives, sealants, paints, carpet systems and furnishings. Carpet systems must meet or exceed the carpet and rug institute Green Label Indoor quality test program. Composite woods must not contain urea-formaldehyde resins. Paints and coatings must meet VOC and Chemical limits of Green seal requirements. Specify also, that products when available meet GreenGuard indoor air quality certified low emission products. Adhesives shall meet or exceed minimum VOC limits of the South Coast Air Quality Management District Rule # 1168. Specifications implementing the guiding principles will be incorporated into the FDA design requirements manual.
<b>Indian Health Service (IHS)</b>	The 2007 IHS A/E Design Guide requires meeting LEED EQ 4.1, EQ 4.2, EQ 4.3, and specifying furnishing with low pollutant emissions
<b>National Institutes of Health (NIH)</b>	<p>General requirements to follow all Guiding Principles, including use of low emitting materials, have been placed in the updated NIH Design Requirements Manual.</p> <p>Specifications implementing this Guiding Principle have been incorporated into the NIH Office Fit-Out Guidelines approved in December 2007. Examples include requirements for carpets, paints and adhesives with low VOC content; carpets meeting Green Label certification; and avoiding use of vinyl wall coverings.</p> <p>The DEP is providing specific guidance on meeting this requirement in a NIH Guidance Manual to be published on our EMS website.</p> <p>Mercury emissions are a potentially important indoor air contaminant in biomedical facilities. To address this NIH has implemented a comprehensive mercury reduction policy and program to eliminate all unnecessary uses of mercury in its facilities; encourage use of safer alternatives in biomedical research; increase general awareness of mercury hazards; and prevent mercury spills and pollution.</p>

**Exhibit IV.A.1**  
**Current Status of Implementation within Landholding OPDIV'S**

	<p>NIH facilities are currently replacing all fluorescent light tubes with green tip fluorescent lights which generally contain 40% less mercury than standard fluorescent lights.</p> <p>A pilot project to evaluate criteria and methods for assessing the compliance of existing buildings with this requirement was completed in December 2007.</p>
<p><b>Protect Indoor Air Quality during Construction.</b> <i>Follow the recommended approach of the Sheet Metal and Air Conditioning Contractor's National Association Indoor Air Quality Guidelines for Occupied Buildings under Construction, 2007. 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.</i></p>	
<p><b>Health and Human Services (HHS)</b></p>	<p>Each OPDIV shall follow OSHA and SMACNA guidelines to ensure indoor air quality during construction. As a minimum each OPDIV shall follow the MOU requirements for flush-out.</p> <p>Implement a policy and post signage indicating that smoking is prohibited within the building and within 25 feet of all building entrances, operable windows, and building ventilation intakes during building occupancy.</p>
<p><b>Centers for Disease Control &amp; Prevention/ ATSDR (CDC)</b></p>	<p>The current CDC design and construction guidelines follow OSHA and SMACNA guidelines and include:</p> <ul style="list-style-type: none"> <li>• Comply with LEED Indoor Environmental Quality Credit EQ 3.1 Construction IAQ Management Plan and EQ 3.2 Construction IAQ Management Plan.</li> <li>• Comply with pre-occupancy flush-out</li> </ul> <p>CDC also performs pre-occupancy air quality testing.</p>
<p><b>Food and Drug Administration (FDA)</b></p>	<p>The FDA guidelines and construction contract shall include the requirement of meeting and/or exceeding SMACNA IAQ guidelines for buildings under construction and the proper handling and protection of site materials from moisture. This requirement eliminates the possibility of mold contamination prior to the installation of the material. The requirement shall also require the flush-out of the building until air quality meets or exceed all applicable EPA and OSHA standards, guidelines, etc. Requirement shall provide adequate air flow through building under construction without moving pollutants through work areas. Exterior equipment producing pollutants and/or fumes shall not be located in close proximity of any existing building intake. Dust barriers shall be provided when and where applicable as to isolate specific work areas. Block interior exhaust or isolate existing system components that could cause contamination to day to day operations.</p>

**Exhibit IV.A.1**  
**Current Status of Implementation within Landholding OPDIV'S**

<b>Indian Health Service (IHS)</b>	OSHA Guidelines cited in all contracts. The 2007 IHS A/E Design Guide requires meeting LEED EQ 3.1 and EQ 3.2
<b>National Institutes of Health (NIH)</b>	<p>General requirements to follow all Guiding Principles, including protection of indoor air quality during construction, have been placed in the updated NIH Design Requirements Manual.</p> <p>The DEP is providing specific guidance on meeting this requirement in a NIH Guidance Manual to be published on our EMS website.</p>
<p><b>Recycled Content.</b> <i>For EPA-designated products, use products meeting or exceeding EPA's recycled content recommendations. For other products, specify materials with recycled content when practicable. If EPA designated products meet performance requirements and are available at a reasonable cost, a preference for purchasing them shall be included in all solicitations relevant to construction, operation, maintenance of or use in the building.</i></p>	
<b>Health and Human Services (HHS)</b>	<p>Each OPDIV shall develop guidelines and/or standard specifications to incorporate recycled content materials.</p> <p>EPA's recycled content product designations and recycled content recommendations are available on EPA's Comprehensive Procurement Guideline web site at <a href="http://www.epa.gov/cpg">www.epa.gov/cpg</a></p>
<b>Centers for Disease Control &amp; Prevention/ ATSDR (CDC)</b>	<p>The current CDC design and construction guidelines include:</p> <ul style="list-style-type: none"> <li>• When available, meet or exceed the recycled content of the EPA designated products. For other products, use materials with recycled content such that the sum of post consumer recycled content constitute at least 10% of the total value of the materials of the project. CDC is committed to maximizing the use of recycled and recycled-content materials specified in the construction of Federal building projects.</li> <li>• Where possible, specify building products that are manufactured regionally within a radius of 500 miles. For capital projects, 20% of the building materials should be manufactured regionally within a radius of 500 miles when possible. Of these regionally manufactured materials, consider specifying a minimum of 50% that are extracted, harvested, or recovered within 500 miles.</li> </ul> <p>The CDC has recycling programs in place for building O&amp;M and durable goods.</p>
<b>Food and Drug Administration (FDA)</b>	The FDA guideline shall require the A/E to specify recycled-content products as designated by the EPA, meeting and/or exceeding the EPA's recycled content recommendation. Ongoing sustainability assessments will determine existing conditions and aid in establishing specifications consistent with the guiding principles.

**Exhibit IV.A.1**  
**Current Status of Implementation within Landholding OPDIV'S**

<b>Indian Health Service (IHS)</b>	The 2007 IHS A/E Design Guide requires specifying products that meet or exceed EPA recycled content recommendations and that the design earns LEED MR 4.1.
<b>National Institutes of Health (NIH)</b>	<p>General requirements to follow all Guiding Principles, including use of recycled content materials, have been placed in the updated NIH Design Requirements Manual.</p> <p>Specifications implementing this Guiding Principle have been incorporated into the NIH Office Fit-Out Guidelines approved in December 2007. These include a general preference for items with recycled material content, renewable materials and those sourced locally. Specific requirements for minimum recycled content levels in specific building materials were established for gypsum board (75-100%), framing components (50-100%), hollow metal doors and frames (15-50%), carpeting (25-100%), and furnishings (maximum content available).</p> <p>The DEP is providing specific guidance on meeting this requirement in a NIH Guidance Manual to be published on our EMS website.</p>
<p><b>Biobased Content.</b> <i>For USDA-designated products, use products meeting or exceeding USDA's biobased content recommendations. For other products, use biobased products made from rapidly renewable resources and certified sustainable wood products.</i></p>	
<b>Health and Human Services (HHS)</b>	<p>Each OPDIV shall develop guidelines and/or standard specifications to incorporate bio-based content materials.</p> <p>If these designated products meet performance requirements and are available at a reasonable cost, a preference for purchasing then shall be included in all solicitations relevant to construction, operation, maintenance of or use in the building.</p> <p>USDA's biobased product designations and biobased content recommendations are available on USDA's BioPreferred web site at <a href="http://www.usda.gov/biopreferred">www.usda.gov/biopreferred</a></p> <p>Use products that have a lesser or reduced effect on human health and the environment over their lifecycle when compared with competing products or services that serve the same purpose.</p>
<b>Centers for Disease Control &amp; Prevention/ ATSDR (CDC)</b>	The current CDC design and construction guidelines include: use USDA designated biobased products or products made from rapidly renewable resources and sustainable wood products, when available and cost effective.

**Exhibit IV.A.1**  
**Current Status of Implementation within Landholding OPDIV'S**

<b>Food and Drug Administration (FDA)</b>	The FDA guideline will require that 5% of the products used meet or exceed USDA's bio-based content recommendations. When using wood, 50% of wood-based materials shall be certified by the Forest Stewardship Council guidelines. Require the use of bio-based products made from rapidly renewable resources and certified sustainable wood products. Ongoing sustainability assessments will determine existing conditions and aid in establishing specifications consistent with the guiding principles.
<b>Indian Health Service (IHS)</b>	The 2007 IHS A/E Design Guide requires designs to earn LEED MR 6 and MR 7.
<b>National Institutes of Health (NIH)</b>	<p>General requirements to follow all Guiding Principles, including use of low emitting materials, have been placed in the updated NIH Design Requirements Manual.</p> <p>Specifications implementing this Guiding Principle have been incorporated into the NIH Office Fit-Out Guidelines approved in December 2007. These include a preference to be given to wood doors with cores composed of agrifiber and/or Certified Wood (as certified by the Forest Stewardship council) and those that contain no urea formaldehyde.</p>
<p><b>Waste and Materials Management.</b> <i>Incorporate adequate space, equipment, and transport accommodations for recycling in the building design. 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 of the non-hazardous construction, demolition and land clearing waste, excluding soil, where markets or on-site recycling opportunities exist. Provide salvage, reuse and recycling services for waste generated from major renovations, where markets or onsite recycling opportunities exist.</i></p>	
<b>Health and Human Services (HHS)</b>	Each OPDIV shall develop guidelines to incorporate a construction waste strategy in each project that meets the minimum 50% construction waste reduction (by either weight or volume)
<b>Centers for Disease Control &amp; Prevention/ ATSDR (CDC)</b>	The current CDC design and construction guidelines require recycling or salvaging at least 50% of construction and renovation waste where feasible
<b>Food and Drug Administration (FDA)</b>	The FDA guideline shall require that 50% of the construction waste (by weight) be diverted from landfill via recycling or re-use, excluding soil. Ongoing sustainability assessments will determine existing conditions and aid in establishing specifications consistent with the guiding principles.
<b>Indian Health Service (IHS)</b>	The 2007 IHS A/E Design Guide requires designs to earn LEED MR 2.1 where services are available.

## Exhibit IV.A.1

### Current Status of Implementation within Landholding OPDIV'S

<p><b>National Institutes of Health (NIH)</b></p>	<p>Current NIH procedures meet the requirements of this guiding principle. A comprehensive contract with pre-designated outlets for all major construction waste streams is now in place for the main NIH Campus in Bethesda. NIH provides dumpsters for construction debris, which is then transported to an off-site recycling center. This program has far exceeded the minimum 50% goal of the Guiding Principles.</p> <p>NIH Controlled Material Specifications require recycling of debris from all construction projects. Procedures to track the amount and percentage of wastes recycled from each project have been developed and implemented.</p>
<p><b>Ozone Depleting Compounds.</b> <i>Eliminate the use of ozone depleting compounds 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.</i></p> <p><a href="http://www.epa.gov/air/oaqps/peg_caa/pegcaain.html">http://www.epa.gov/air/oaqps/peg_caa/pegcaain.html</a></p>	
<p><b>Health and Human Services (HHS)</b></p>	<p>Each OPDIV shall develop guidelines and/or standard specifications to eliminate the use of ozone depleting compounds.</p>
<p><b>Centers for Disease Control &amp; Prevention/ ATSDR (CDC)</b></p>	<p>The current CDC design and construction guidelines include:</p> <ul style="list-style-type: none"> <li>• The use of products and systems (such as paint, adhesives, sealers, sealants, floor tile, equipment, etc.) containing chlorinated fluorocarbons (CFCs) is prohibited on all projects.</li> <li>• For capital construction projects it is preferred to install base building level HVAC, refrigeration equipment and fire suppression systems that do not contain hydro chlorofluorocarbons, HCFCs or Halon. Carefully consider the trade-offs between various CFC and Halon substitutes.</li> </ul> <p>For renovation or alteration projects check HVAC, refrigerant equipment and fire suppression systems before beginning design work. Replace any CFC systems. It is preferred to install HVAC, refrigeration equipment and fire suppression systems that do not contain HCFCs or Halon. Carefully consider the trade-offs between the various CFC and Halon substitutes.</p>
<p><b>Food and Drug Administration (FDA)</b></p>	<p>The FDA guidelines shall require zero usage of CFC's refrigerants in HVAC and refrigeration systems and the elimination of use of ozone depleting compounds during and after construction, consistent with the Montreal Protocol and/or Title VI of the Clean Air Act Amendment of 1990. Ongoing sustainability assessments will determine existing conditions and aid in establishing specifications consistent with the guiding principles. Ongoing sustainability assessments will determine existing conditions and aid in establishing specifications consistent with the guiding principles.</p>



**Exhibit IV.A.1**  
**Current Status of Implementation within Landholding OPDIV'S**

<p><b>Indian Health Service (IHS)</b></p>	<p>The current guidelines include:          No new buildings will use refrigerants containing CFC. Based on the LEED sustainable guide the installation of HVAC, refrigeration equipment and fire suppression systems that <b>contain HCFCs or Halon are prohibited.</b> The 2007 IHS A/E Design Guide requires designs to earn LEED EA 4.</p>
<p><b>National Institutes of Health (NIH)</b></p>	<p>General requirements to follow all Guiding Principles, including prohibitions on the use of ozone depleting compounds, have been placed in the updated NIH Design Requirements Manual.</p> <p>The DEP is providing specific guidance on meeting this requirement in a NIH Guidance Manual to be published on our EMS website.</p> <p>The NIH has initiated a project to eliminate its inventory of Class I ozone depleting substances currently in storage as back-up refrigerants for use in chillers. The substances will be recycled or disposed of in accordance with all applicable regulations.</p>

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**Exhibit IV.B.1**  
**HHS Sustainable Buildings Progress Report**

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**Exhibit IV.B.1  
HHS Sustainable Buildings Progress Report**

<b>I. Existing Sustainable Buildings Inventory</b>										
<b>Total Buildings</b>		<b>Square Feet</b>	<b># Assessed</b>	<b>% # Assessed</b>	<b>Square Feet Assessed</b>	<b>% SF Assessed</b>	<b>Total # in Compliance</b>	<b>% # in Compliance</b>	<b>SF in Compliance</b>	<b>% SF in Compliance</b>
<i>Owned</i>	2426 <sup>1</sup>	4,929,767	0	0	0	0	0	0	0	0
	406 <sup>2</sup>	25,633,314	54	13.30	2,998,045	11.70	4	0.99	951,611	3.71
<i>Direct Lease</i>	259 <sup>3</sup>	4,502,255	0	0	0	0	0	0	0	0
<i>Total</i>	3091	35,065,336	54	1.75	2,998,045	8.55	4	0.13	951,611	2.71

<b>II. New Projects</b>						
<b>Phase</b>	<b># of Projects</b>	<b>Total Square Feet</b>	<b># in Compliance</b>		<b>Total Square Feet in Compliance</b>	<b>% in Compliance</b>
			<b>By GP</b>	<b>By Certification</b>		
<i>Design</i>	6	1,080,223	2	3	901,223	83
<i>Construction</i>	0	0	0	0	0	0

<b>III. Lease Actions</b>							
<b># in Progress</b>		<b># Awarded</b>	<b>Square Feet Awarded</b>	<b># in Compliance</b>		<b>Total Square Feet in Compliance</b>	<b>% Awarded in Compliance</b>
				<b>By GP</b>	<b>By Certification</b>		
<i>GSA</i>	6	28	1,602,713	0	0	0	0
<i>Direct Lease</i>	4	129 <sup>4</sup>	762,656	0	0	0	0

<sup>1</sup> All owned buildings less than 5,000 sf excluding Land, Structures, and Disposed assets.

<sup>2</sup> Buildings 5,000 sf or more excluding Land, Structures, Housing including Barracks/Dormitories (HHS Capital Asset Threshold), and Disposed assets. The OPDIVs have registered 37 buildings with an ANSI accredited third party certification system for certification. The buildings account for 6,719,638 sf or 22% of the HHS owned building inventory square footage. The Lawton Indian Hospital was assessed for 99,426 sf of which 36,756 sf was classified as compliant due to LEED certification and 62,670 sf was assessed but not compliant.

<sup>3</sup> Only 5 (1.9%) of the 259 Direct Leases greater than 1 year in length were initiated after the issuance of E.O 13423 on 24 Jan 2007.

<sup>4</sup> 101 (79%) of the Direct Lease actions are 1 year Indian Health Service leases with the Tribes.

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## Exhibit IV.B.1 HHS Sustainability Progress Report Instructions

The following instructions are designed to help in the collection and recording of sustainable buildings actions achieved on a new asset. The tool is designed to collect and measure the Department's achievement in meeting the Guiding Principles as described in Executive Order 13423<sup>1</sup> and the Energy Independence and Security Act of 2007 (EISA)<sup>2</sup>. The report shall be a compilation of all projects incorporating sustainability design principles. Exhibit IV.B.1 identifies accomplishments for existing buildings, new projects and lease actions.

- General Information
  - Data shall be collected from Existing Building Assessments and Sustainability Checklists in May and November of each year. Sustainability Checklist accomplishments are recorded in ARIS as Data Element 25 Sustainability.
  - The project is entered only in its current phase, i.e., once a project moves into construction, do not report in design.
  - Unless there is a documented waiver for a specific element, all elements within a guiding principle must be met to receive credit for the guiding principle, and all the *Guiding Principles* must be met to achieve compliance.
  - Projects that award a design contract prior to October 1, 2008 and are to be third party certified can claim compliance with the *Guiding Principles*.
  - Leases that have received a third party certification at any point can claim compliance with the *Guiding Principles*.
  - Third party certification must meet the requirements of a multi-attribute green building standard developed by an ANSI-accredited organization.
  - An existing building that has been registered with an ANSI-accredited third party certification system prior to October 1, 2008 can claim compliance upon completion of the certification.

### I. Existing Sustainable Buildings Inventory

- In the Total Buildings column identify the OPDIV's total Owned assets and the Direct Leased assets. The owned assets are divided into two categories, the top are those less than 5,000 SF that exclude only Land, Structures, and Disposed assets as they are reported in FRPP and those that are greater than 5,000 SF that excludes Land, Structures, Housing including Barracks/Dormitories, and Disposed assets.
- The Applicable Square Feet column includes the total square footage for the assets.
- In the Facilities Assessed column include those buildings that have undergone a sustainability assessment. Include those buildings that have achieved a third party certification<sup>3</sup> prior to October 1, 2008.
- The percent assessed is the number assessed divided by total buildings of asset type.
- Enter the total square feet assessed for the identified buildings in the Square Feet (SF) Assessed column.

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<sup>1</sup> EO 13423 located at <http://www.wbdg.org/ccb/FED/FMEO/eo13423.pdf>

<sup>2</sup> EISA 2007 located at [http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=110\\_cong\\_bills&docid=f:h6enr.txt.pdf](http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=110_cong_bills&docid=f:h6enr.txt.pdf)

<sup>3</sup> Meet the requirements of a multi-attribute green building standard developed by an ANSI-accredited organization.

**Exhibit IV.B.1**  
**HHS Sustainability Progress Report**  
**Instructions**

- The percent SF assessed is the SF assessed divided by total SF of asset type.
- The Total # in Compliance include those buildings that meet the Guiding Principles or have achieved a third party certification as described in the General Information.
- The percent in compliance is the number in compliance divided by total buildings of asset type.
- Enter the total square feet in compliance for the identified buildings in the Square Feet in Compliance column.
- Calculate the % in compliance by dividing the total square feet in compliance by the asset type square feet.

II. New Projects

- Report all construction projects, improvement, repair and maintenance projects and build-to-suit leases for which planning and design have been initiated.
- Project Compliance shall be measured from Part 1 of the Sustainable Buildings Checklist. Once construction is complete, actual compliance is reported under Existing Sustainable Buildings Inventory.
- Identify the number of projects and phase in which that project is in.
- List the total square footage of those projects by phase.
- Enter the total number of new projects that meet the *Guiding Principles* and are compliant with the *Guiding Principles* in the GP column. Buildings that don't meet the *Guiding Principles* but awarded a design contract prior to October 1, 2008 and are to be third party certified can claim compliance with the *Guiding Principles*. Record these buildings under the certified column.
- The Total Square Feet in Compliance includes the total square footage of those projects that meet the GP's or meet the October 1, 2008 third party certification design date.
- Calculate the % in compliance by dividing the total square feet in compliance by the square feet of projects.

III. Lease Actions

- Report all new lease actions (new leases, renewals, and extensions) initiated after the issuance of E.O. 13423 on January 26, 2007.
- Enter the total number of leases that meet the *Guiding Principles* but may not be certified through a 3<sup>rd</sup> party certification under GP. Buildings that have received a 3<sup>rd</sup> party certification at any point qualify for achieving the *Guiding Principles*. Enter these leased buildings under the certified column.
- The Total Square Feet in Compliance includes the total square footage of those projects that meet the GP's or have achieved a third party certification.
- Calculate the % in compliance by dividing the total square feet in compliance by the square feet awarded.



