



United States Department of
Health & Human Services

Federal Real Property Asset Management

Sustainable Buildings Plan



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Office for Facilities Management and Policy

Office of the Assistant Secretary for Administration

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Executive Summary

The HHS Sustainable Buildings Plan (SBP), which replaces the HHS Sustainable Buildings Implementation Plan (SBIP) of December 2008, is a collection of policy, procedures, guidance and tools designed to summarize and record the Department's program to incorporate sustainable measures into building assets. The SBP supplements the HHS Strategic Sustainability Performance Plan (SSPP), which is now the framework for the Department's overall sustainability program.

The SBP has been developed to reflect the requirements of Executive Order (EO) 13514 and to address gaps in the former SBIP that are identified in the SSPP. Revisions include:

- a definition of zero-net energy buildings and interim targets for increasing energy efficiency;
- a more detailed explanation of the waiver process for sustainability requirement non-conformance;
- an update of the baseline used to measure sustainability compliance;
- additional information on sustainable practices related to Operations & Maintenance and Environmental Management Systems have been incorporated in the HHS Facilities Program Manual;
- an increased emphasis on reusing existing assets to reduce environmental impact and disposal of unneeded assets;
- requirements for reducing industrial, landscaping and agricultural water use; and
- updated information on compliance with EPA stormwater guidance.

The SBP summarizes the status of current HHS compliance with the Guiding Principles in applicable building assets reported to the Federal Real Property Profile (FRPP). The FRPP report is the basis for the "Sustainable green buildings" score on the OMB Scorecard for Sustainability/Energy (Scorecard). While a "green" Scorecard rating is only possible on the basis of compliant buildings, a "Yellow" rating is possible on the basis of square feet. Compliance is also reported in the HHS Strategic Sustainability Performance Plan, required by EO 13514, which requires that 15 percent of applicable, existing Federal building assets (owned and directly leased) meet the Guiding Principles by FY2015, with continued progress towards 100 percent compliance for the complete building inventory.

HHS annually updates its baseline inventory of applicable building assets to reflect the latest upload to the FRPP. Planned goals are updated to reflect the revised baseline inventory; and progress in implementing sustainability into existing building assets is reported semi-annually. HHS traditionally exceeds its goals for achieving sustainability in building assets based on square footage. The biggest challenge in incorporating the *Guiding Principles* in the existing inventory is timely funding resources to fully incorporate all aspects of sustainability.

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Section I – Policy

A. Federal Leadership in High Performance and Sustainable Buildings (*Guiding Principles*)

Wherever the *Guiding Principles* are referred to throughout this policy, the meaning captures all current technical guidance, law and regulations issued subsequent to the original [Federal Leadership in High Performance and Sustainable Buildings Memorandum of Understanding](#) (MOU).

On January 24, 2006, the Department of Health and Human Services joined other federal agencies and authorities in signing the (MOU). The MOU established the following *Guiding Principles* for federal building design:

1. Employ Integrated Design Principles
2. Optimize Energy Performance
3. Protect and Conserve Water
4. Enhance Indoor Environmental Quality
5. Reduce Environmental Impact of Materials

B. Executive Orders

1. [Executive Order \(EO\) 13514](#) “Federal Leadership in Environmental, Energy, and Economic Performance”

EO 13514 issued October 5, 2009, incorporated and expanded on the requirements of [EO 13423](#), the Energy Independence and Security Act of 2007 ([EISA 2007](#)) and Energy Policy Act of 2005 (EPAct 2005), adding the new goals and targets for:

- (a) a comprehensive inventory of greenhouse gas emissions with agency-wide reductions of scope 1, 2 and 3 greenhouse gas emissions in absolute terms.
- (b) improving water use efficiency and management by:
 - (i) reducing potable water consumption intensity;
 - (ii) reducing agency industrial, landscaping, and agricultural water consumption;
 - (iii) identifying, promoting, and implementing water reuse strategies that reduce potable water consumption; and
 - (iv) implementing and achieving the objectives for stormwater management;
- (c) promoting pollution prevention and eliminate waste by:
 - (i) minimizing the generation of waste and pollutants through source reduction;
 - (ii) diverting at least 50 percent of non-hazardous solid waste,;
 - (iv) reducing printing paper use and acquiring uncoated printing and writing paper containing at least 30 percent postconsumer fiber;
 - (v) reducing and minimizing the quantity of toxic and hazardous chemicals and materials acquired, used, or disposed of;
 - (vi) increasing diversion of compostable and organic material from the waste stream;
 - (vii) implementing integrated pest management and other appropriate landscape management practices;
 - (viii) increasing agency use of acceptable alternative chemicals and processes;



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- (ix) decreasing agency use of chemicals where such decrease will assist the agency in achieving greenhouse gas emission reduction targets under this EO; and
- (x) reporting in accordance with the requirements of the Emergency Planning and Community Right-to-Know Act of 1986 (42 U.S.C. 11001 et seq.);
- (f) advancing regional and local integrated planning by:
 - (i) participating in regional transportation planning and recognizing existing community transportation infrastructure;
 - (ii) aligning Federal policies to increase the effectiveness of local planning for energy choices such as locally generated renewable energy;
 - (iii) ensuring that planning for new Federal facilities or new leases includes consideration of sites that are pedestrian friendly, near existing employment centers, and accessible to public transit, and emphasizes existing central cities and, in rural communities, existing or planned town centers;
 - (iv) identifying and analyzing impacts from energy usage and alternative energy sources in all Environmental Impact Statements and Environmental Assessments; and
 - (v) coordinating with regional programs for Federal, State, tribal, and local ecosystem, watershed, and environmental management;
- (g) implementing high performance sustainable Federal building design, construction, operation and management, maintenance, and deconstruction including:
 - (i) beginning in 2020, ensuring that all new Federal buildings that enter the planning process are designed to achieve zero-net-energy by 2030;
 - (ii) ensuring that all new construction, major renovation, or repair and alteration of Federal buildings comply with the *Guiding Principles*;
 - (iii) ensuring that at least 15 percent of the agency's existing buildings (above 5,000 gross square feet (GSF)) and building leases (above 5,000 GSF) meet the *Guiding Principles* by fiscal year 2015 and that the agency makes annual progress toward 100-percent conformance with the *Guiding Principles* for its building inventory;
 - (iv) pursuing cost-effective, innovative strategies to minimize consumption of energy, water, and materials;
 - (v) managing existing building systems to reduce the consumption of energy, water, and materials, and identifying alternatives to renovation that reduce existing assets' deferred maintenance costs;
 - (vi) when adding assets to the agency's real property inventory, identifying opportunities to consolidate and dispose of existing assets, optimize the performance of the agency's real property portfolio, and reduce associated environmental impacts; and
 - (vii) ensuring that rehabilitation of federally owned historic buildings utilizes best practices and technologies in retrofitting to promote long-term viability of the buildings;
- (h) advancing sustainable acquisition to ensure that 95 percent of new contract actions including task and delivery orders, are energy and water-efficient, biobased, environmentally preferable, non-ozone depleting, contain recycled content, are non-toxic or less toxic alternatives, where such products and services meet agency performance requirements;
 - (i) promoting electronics stewardship; and
 - (ii) implementing best management practices for energy-efficient management of servers and Federal data centers; and
- (j) sustaining environmental management, including by:
 - (i) continuing implementation of formal environmental management systems at all appropriate organizational levels; and



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- (ii) ensuring these formal systems are appropriately implemented and maintained to achieve the performance necessary to meet the goals of this order.

2. Executive Order 13423, “Strengthening Federal Environmental, Energy, and Transportation”

EO 13423 Requirements:

- (a) New construction and renovation. See EO 13514. Written justification must be provided to OFEE and OMB if an agency proposes not to comply. All business, developed per OMB A-11, Part 7, Section 300, shall incorporate the Guiding Principles to the greatest extent practicable.
- (b) Existing buildings. See EO 13514. This goal applies to the full building inventory as it exists in FY 2015, including any new buildings brought on line and excluding any unneeded buildings disposed of prior to 2015.
- (c) High performance building plans. See EO 13514.
- (d) High Performance Federal Buildings Database. See EO 13514.
- (e) Leased Facilities. To the greatest extent practicable, each agency shall include a preference for buildings that meet the goals of the *Guiding Principles*. Build-to-suit lease solicitations shall incorporate criteria in accordance with the *Guiding Principles*.
- (f) Technical Guidance. Technical Guidance can be found in the [Whole Building Design Guide](#).

C. 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, all HHS components with real property asset management authority shall incorporate sustainable and high-performance design principles, consistent with the *Guiding Principles* and current law and regulations, in the planning, acquisition, siting, design and construction, operations and maintenance, and decommissioning of all facilities.

1. Scope

The HHS policy for Sustainable and High Performance Buildings applies to 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 buildings that are both tribally owned and operated under the authorities of P.L. 93-638.

Exhibit I.B.1 captures the fiscal year-end HHS Summary of Owned and Leased Buildings. The baseline inventory for reporting has been defined as all buildings reported to the FRPP over 5,000 square feet. For HHS this means incorporation of the *Guiding Principles* is reported on all owned and direct leased buildings. The baseline inventory is updated annually and includes applicable building assets, excluding structures and land. Building assets that will be removed from the HHS inventory by the end of FY 2015 are identified as Not Applicable in the FRPP and are not included in the baseline inventory.

In order to meet compliance with the *Guiding Principles* and current law and regulations, the HHS component must verify that the building asset meets the sustainability requirements for new, existing or leased buildings as defined in the latest [High Performance and Sustainable Buildings](#)



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[Guidance](#) and other supporting technical guidance. Capturing sustainability of structure assets is optional; sustainability is not reported on land assets. The latest criteria for reporting the sustainability data element in the FRPP is captured in GSA's annual update of the [Guidance for Real Property Inventory Reporting](#).

HHS Sustainability Goals for both assessments of existing buildings and compliance with the *Guiding Principles*, through FY 2015, are captured in Exhibit I.B.2. The interim goals lead to the FY 2015 goal of incorporating the *Guiding Principles* into 15 percent of our existing building inventory based on square footage.

2. Policy

- a. All construction projects and major renovation projects shall incorporate the *Guiding Principles* into their 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, shall also 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.

Under the scope of this policy, HHS defines major renovation projects as improvement projects¹, which have a total project cost equal to or greater than \$10 million and/or impacting 40 percent or more of the overall floor area. All major renovation projects shall 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.

New housing projects with a total project cost equal to or greater than \$10 million, shall 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.

Every new federal building for which planning is initiated in 2020 or later shall be designed to achieve zero-net energy by 2030. A zero-net energy building is defined as “a building that is designed, constructed and operated to require a greatly reduced quantity of energy to operate, meet the balance of energy needs from sources of energy that do not produce greenhouse gases, and therefore result in no net emissions of greenhouse gases while being economically viable.”

All new federal buildings shall be designed to reduce fossil fuel-generated energy consumption by the following percentages as compared with fossil fuel-generated energy consumption by a similar building in fiscal year 2003 (as measured by Commercial Buildings Energy Consumption Survey or Residential Energy Consumption Survey data from the Energy Information Agency):

2010	55 percent reduction
2015	65 percent reduction
2020	80 percent reduction

¹ Improvement projects include renovations and alterations as defined in the HHS Facilities Program Manual, Volume I, Section 2-1 that do not add new program space.



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2025 90 percent reduction
2030 100 percent reduction

Site development and planning for construction projects, major renovations and new housing projects shall be in accordance with Technical Guidance on Implementing the Stormwater Runoff Requirements for Federal Projects under Section 438 of the Energy Independence and Security Act, EPA document number EPA 841-B-09-001, dated December 2009. This stormwater guidance document implements Section 438 of the Energy Independence and Security Act (EISA) of 2007 and EO 13514 Section 14. The document was developed in conjunction with other federal agencies and provides a step-by-step framework that will help federal agencies maintain pre-development site hydrology by retaining rainfall on-site through infiltration, evaporation/transpiration, and re-use to the same extent as occurred prior to development.

When adding capital assets to the real property inventory, OPDIVs shall conduct an alternatives analysis to identify opportunities to consolidate and dispose of existing assets, optimize the performance of the agency's real-property portfolio, and reduce associated environmental impacts.

- b. All existing buildings, whether owned and direct leases, shall be assessed for compliance with the Guiding Principles to ensure that HHS is moving towards 100 percent compliance. At least 15 percent of the applicable HHS building inventory, owned and direct leases over 5,000 gross square feet, must incorporate the sustainable buildings practices in the *Guiding Principles* by FY 2015. (See Section II.D for the process and tools for assessing existing facilities.)

All improvement, repair and maintenance projects in existing buildings not defined in paragraph a. above shall incorporate the *Guiding Principles* to the maximum extent feasible. Sustainable building practices shall be incorporated into existing housing as projects are developed. (See Section I.C for Sustainable Buildings Strategy for Housing.) Existing housing projects with a total project cost equal to or greater than \$10 million and/or impacting 60 percent or more of any individual unit shall also 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.

HHS components shall ensure that rehabilitation of federally owned historic buildings utilizes best practices and technologies to promote long-term viability. Rehabilitation work shall be in accordance with HHS Program Manual Volume I, Section 3-3. EO 13287 Preserve America and Section 110 of the National Historic Preservation Act (NHPA) also direct agencies to give some preference for locating in historic buildings and districts. This language is compatible with those directives and would be closely integrated with those policies in the Federal Management Regulations (FMR). In addition, HHS policy provides guidance on real property disposal (HHS Facilities Program Manual, Volume 2, Section 5-1), which includes adaptive reuse and the evaluation of disposal properties for HHS reuse. HHS integrates the *Guiding Principles* into historic properties where possible, provided the modifications meet the Secretary of Interior's Standards for the Treatment of Historic Properties (and Rehabilitation), 36 CFR 68 and 36 CFR 67 respectively.



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- c. All new lease actions² 5,000 useable square feet (usf) or more will incorporate the *Guiding Principles* 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*.

Under this policy, a build-to-suit lease is defined as a construction project and shall 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 the event that the lessor or GSA cannot confirm compliance with the *Guiding Principles*, a "Letter of Non-Conformance" must be submitted to OFMP within 60 days after lease award.

- d. All projects and lease actions shall take into consideration the guidance incorporated in the *Recommendations on the Sustainable Siting of Federal Facilities* prepared and issued April 5, 2010 by the Department of Transportation, Housing and Urban Development, the Environmental Protection Agency and the General Services Administration, in coordination with the Departments of Homeland Security, and Defense. These guidelines address sustainable location strategies for siting Federal facilities and apply to all activities that are subject to the provisions of EO 13514. They apply to agencies acquiring or developing owned or leased space directly, either for their own or another agency's use, as well as those agencies defining or requesting space needs that will be met by others. HHS will consider these recommendations when searching for new space as a result of changing mission requirements, planned expansion or contraction, expiring leases or improvements to current space. Each HHS component in evaluating new space requirements will first consider cost-effective alternatives to acquisition, such as consolidation, co-location or other alternative working arrangements. Consideration shall also be given to using these recommendations for exploring ways to make current locations more sustainable.
- e. Grants funded at \$1 million or more for construction of new facilities or modernization of existing facilities, whether under a grant for that purpose or as a permissible activity under another type of grant, should include to the maximum extent feasible sustainable design considerations, in accordance with Chapter 6.99.106, "Construction and Modernization," of the *Awarding Agency Grants Administration Manual* (AAGAM).
- f. In certain circumstances, a third party certification that meets the requirements of a multi-attribute green building standard or rating system developed by an ANSI-accredited organization, can qualify a building for compliance with the *Guiding Principles*. 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., a project is registered, 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*.

² 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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3. Request for Waiver

All applicable projects are required to comply with the *Guiding Principles*. If compliance with the *Guiding Principles* is not achievable due to specific mission requirements, a waiver request may be considered. Waiver requests shall be considered on a case-by-case basis for individual projects. Blanket exceptions to the policy will not be considered. Each waiver request at a minimum must include the following:

- a. identification of the specific sustainability requirements that will not be met;
- b. brief summary of the key drivers for accomplishing the project; and
- c. justification based on mission-driven requirements that prevent incorporation of the specific sustainability requirements.

Waiver requests shall be submitted to the Deputy Assistant Secretary, Office for Facilities Management and Policy, Office of the Assistant Secretary for Administration (OFMP/ASA) for consideration concurrent with the Facility Project Approval Agreement package.

4. Roles and Responsibilities

- a. Deputy Assistant Secretary, Office for Facilities Management and Policy (OFMP), Office of the Assistant Secretary for Administration. OFMP will serve as the principal point of contact for sustainable buildings and will:
 - i. Monitor compliance with this policy for all HHS buildings, whether owned, leased or otherwise managed.
 - ii. Review and approve waivers to the individual requirements of this policy.
 - iii. Prepare and submit HHS implementation and progress reports, as required, to OMB, GSA and CEQ
- b. HHS Components. Operating and Staff Divisions with real property authority will manage the planning, design, construction, operation, maintenance, and decommissioning of their buildings to ensure compliance with this policy, under the advice and guidance of their Chief Sustainability Officer (or designee), by:
 - i. Incorporating this policy and the *Guiding Principles* into policies, procedures and plans.
 - ii. Collecting and reporting compliance data for all HHS buildings, whether owned, leased or otherwise managed.
 - iii. Documenting sustainability on individual projects and leases through the Sustainable Buildings Checklists, and on existing inventory through Existing Building Assessment Tool or Energy Star Portfolio Manager.

C. HHS Sustainable Buildings Strategy for Housing

All housing projects shall incorporate the *Guiding Principles* and current law and regulations, to the maximum extent feasible, with the following modifications:

1. Housing shall be designed to achieve an energy consumption level at least 30 percent below the International Energy Conservation Code (IECC), 2004 Supplement Edition, January 2005 baseline. Lower reduction targets must be approved by OFMP. In such circumstances, energy



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consumption reduction levels shall be targeted at 5 percent intervals (i.e., 25, 20, or 15 percent, etc.) until the maximum feasible energy consumption level is achieved. Energy consumption levels may not exceed the IECC baseline. Energy consumption calculations shall include space heating and cooling, and domestic water heating.

2. In the event that compliance with the *Guiding Principles* is not feasible due to cost, operational feasibility, or available technology, a request for waiver must be submitted to OFMP for approval consistent with the requirements summarized in paragraph B.4 above.

D. Abbreviations and Acronyms

AAGAM	Awarding Agency Grants Administration Manual
ARIS	Automated Real Property Inventory System
CEQ	Council on Environmental Quality
EMS	Environmental Management Systems
EISA	Energy Independence and Security Act of 2007
FPAA	Facility Project Approval Agreement
GSA	General Services Administration
<i>Guiding Principles</i>	Means the <i>Guiding Principles</i> for federal building design as defined by the <u>Federal Leadership in High Performance and Sustainable Buildings Memorandum of Understanding</u> (as modified by subsequent laws, Interagency Sustainability Working Group (ISWG) instructions, and regulation)
HHS	Department of Health and Human Services
IDIQ	Indefinite delivery / indefinite quantity
IPT	Integrated Project Team
MOU	Memorandum of Understanding
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
AMP	HHS Real Property Asset Management Plan
SFO	Solicitation for Offers

Section II – Procedures

A. HHS Verification and Validation Process

To ensure the accuracy of reporting the following steps shall be followed to verify and validate compliance with the *Guiding Principles for High Performance and Sustainable Buildings*:

1. Verification of ARIS Data - Verification of the data in ARIS will be accomplished through the OFMP Real Property Data Summary provided to each HHS Component with real property asset management responsibility three times a year. The summary includes specific sustainable asset information that the HHS Component should use to verify sustainable building information in



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ARIS is consistent with their real property records. Reporting is required for all buildings, is optional for structures and shall not be provided for land. The Department's sustainability implementation progress is reported semi-annually to the Office of Management and Budget (OMB) through the Office of the Federal Environmental Executive (OFEE).

2. Independent Validation – Each HHS Component will provide completed Sustainable Buildings Checklist for Projects and Lease Actions to OFMP. HHS Components will retain documentation of existing building compliance. OFMP will periodically request and review the supporting documentation to verify compliance with sustainability requirements. Generally independent validation by OFMP will be done on those buildings that have not obtained third party certification or where only part of a building is certified.
3. Documentation Requirements:
 - a. New Buildings, Major Renovations and Build-to-Suit Leases – HHS Components must maintain documentation of compliance with each of the *Guiding Principles* on all applicable projects, including projects requiring third-party certification. Documentation may include as-built drawings, commissioning reports and Operations and Maintenance (O&M) reports, and LEED® or Green Globes™ checklists that include all applicable federal requirements.
 - b. Existing Buildings – HHS Components must assess all applicable, existing assets for compliance with each of the *Guiding Principles* and maintain documentation of compliance, or lack thereof. Existing buildings compliance may be documented using retro-commissioning and sustainability assessment reports and Operations and Maintenance (O&M) reports, and LEED® or Green Globes™ checklists that include all applicable federal requirements.

For non-compliant assets, HHS Components should use the required documentation in their project development process for repair or improvement work that will support attainment of the *Guiding Principles*. Consideration should also be given to optimizing performance of the OPDIV's real property portfolio by examining opportunities to decrease environmental impact through consolidation, reuse and disposal of existing assets prior to performing repairs and improvements or adding new assets. However, special consideration should be given to ensuring rehabilitation of Federally-owned historic buildings to promote long-term viability of the buildings.

- c. Leases – HHS Components must assess all applicable leased assets for compliance with each of the *Guiding Principles* and maintain documentation of compliance, or lack thereof. Leased assets with documented, third party certification are considered sustainable for reporting purposes. If an asset does not have third party certification, HHS Components should attempt to gather *Guiding Principles* documentation using the "Sustainable Buildings Checklist for Lease Actions," to the greatest extent possible.

B. Integrated Project Team Definition and Project Charter

In support of the *Guiding Principles*' requirement for an integrated design approach, each project shall have a cross-functional Integrated Project Team (IPT), based on specific project scope and size.



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Members should reflect the user community, project's stakeholders and should include knowledge of project management, budget, finance, sustainable buildings design and procurement. When appropriate, coordinate and collaborate with the OPDIV Chief Sustainability Officer to ensure overall program requirements are addressed. See OMB [Circular A-11, Part 7, Supplement to Part 7 – Capital Programming Guide](#) for guidance.

An IPT Charter shall be used to define the team's responsibilities, budget constraints, and the extent of authority and accountability for accomplishing project objectives. See Exhibit II.A.1 – Charter - HHS Owned Facilities and Exhibit II.A.2 – Charter - Leased Facilities for charter format. If a Project Definition Rating Index (PDRI) assessment is required, core team members must participate.

Integrated Project Team (IPT) Members:

1. For HHS-owned facilities, the IPT shall be led by the Program Manager, Project Manager, or Team Leader (the first signatory on the FPAA). Team members shall include the Contracting Officer, a Sustainability Coordinator or Green Building Specialist (preferably LEED® accredited), and a representative of the end user group. The IPT should also include representatives from Operations & Maintenance, Financial, Environmental, Health and Safety, Security, IT, and Facilities/Space Planning.
2. For direct-leased facilities, the IPT shall be led by the warranted Contracting Officer. Team members shall include the Project Officer, a Green Buildings Specialist (preferably LEED® accredited), and a representative of the end user group. The IPT should also include representatives from Operations & Maintenance, Financial, Environmental, Health and Safety, Security, IT, and Facilities/Space Planning.
3. For GSA leased or controlled space, the IPT shall be led by the GSA representative. An OPDIV/STAFFDIV-appointed Team Leader (Acquisitions/ Project Officer) shall provide liaison and coordination for the IPT. Team members shall include the Project Officer, a Green Buildings Specialist (preferably LEED® accredited), and a representative of the end user group. The IPT should also include representatives from Operations & Maintenance, Financial, Environmental, Health and Safety, Security, IT, and Facilities/Space Planning.

C. Sustainable Buildings Checklists

A Sustainable Buildings Checklist shall be completed on each project and lease action to record compliance with the *Guiding Principles*, as follows:

1. Exhibit II.B.1 - Sustainable Buildings Checklist for Projects must be submitted on all projects requiring a Facility Project Approval Agreement (FPAA). Part 1 – Project Planning is submitted with the initial FPAA submission documenting planned sustainable measures. Part 2 – Project Completion, is submitted with the final project report to record the actual sustainable measures achieved. At the HHS Component's discretion, the Sustainable Buildings Checklist may also be submitted 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 is required on all new lease actions 5,000 usable square feet or greater to the maximum extent feasible. This checklist is not



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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 annually in November so that OFMP can summarize the data in its progress report (see Exhibit IV.B.1). Build-to-Suit leases must use Exhibit II.B.1 - Sustainable Buildings Checklist for Projects.

3. Exhibit II.B.3 - Letter of Non-conformance for Lease Actions must be submitted to OFMP within 60 days after lease award if compliance with the *Guiding Principles* is not achievable or cannot be verified. See Exhibit II.B.2 – Sustainable Buildings Checklist for Lease Actions, for requirements.

D. Existing Building Evaluation and Prioritization

Exhibit II.D.1 - Existing Building Assessment Tool is designed to help in the collection and recording of sustainable features achieved on existing owned and direct leased buildings. The tool is designed to collect and measure the Department's achievement in meeting the *Guiding Principles* and will help to identify and prioritize work to be done. HHS components are encouraged to complete the assessment of existing buildings for sustainable features concurrent with Facility Condition Assessments. In lieu of Exhibit II.D.1, Energy Star Portfolio Manager may be used to capture status of incorporation of the *Guiding Principles*. Each OPDIV shall develop a plan to ensure that assessments of all existing owned and direct leased building assets are completed by 2015.

Section III – Guidance and Information

A. O & M Sustainability Practices for Buildings

Building O & M practices should integrate sustainable principles, to ensure that the benefits of sustainable design and construction are maintained throughout the life cycle of the facility. Additional information and a checklist on sustainable O&M procedures and best practices can be found in the HHS Program Manual Volume II, Section 4-8.

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

HHS EMS implementation began in April 2000, under EO 13148, *Greening the Government Through Leadership in Environmental Management*. EO 13423 of January 2007 directed that the EMS serve as the primary mechanism for achieving compliance with all aspects of the Executive Order. EO 13514 continues implementation of existing EMS. The four HHS landholding Operating Divisions (OPDIVs) EMS goals and targets are also a part of the FPAA Sustainable Buildings Checklist for Projects and the Existing Building Assessment Tool. The checklist and evaluation tool are the 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.

The EMS is integrated in the “HHS Go Green Get Healthy” (GGGH) initiative through the HHS SSPP and tracked under EO 13514, which effectively incorporates previous EMS requirements. The GGGH initiative includes:

- HHS Higher Tier (headquarters level) EMS integrated with the HHS SSPP
- HHS Multi-site Organizational EMS covering OS, STAFFDIVS, and non-landholding OPDIVs
- Individual EMSs for HHS Landholding OPDIV facilities



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The latest EMS guidance is available at <http://www.fedcenter.gov/programs/EMS/>.

C. Additional Information and Assistance

1. Executive Orders and Statutes
 - [Executive Order \(EO\) 13514](#), *Federal Leadership in Environmental, Energy, and Economic Performance*
 - [Executive Order 13423](#), *Strengthening Federal Environmental, Energy and Transportation Management*
 - [Executive Order 13327](#), *Federal Real Property Asset Management*
 - [Energy Policy Act of 2005](#) (EPAAct 2005)
 - [Energy Independence and Security Act of 2007](#) (EISA 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
 - [HHS Affirmative Procurement Plan](#), Purchasing Environmentally Preferable Products and Services at the Department of Health & Human Services
3. Assistance
 - [FedCenter](#)
 - [Federal Energy Management Program](#)
 - [Office of the Federal Environmental Executive](#)
 - [Whole Building Design Guide](#)
 - [Labs21 Environmental Performance Criteria](#)

Section IV – Reporting

A. HHS Component Reporting

All HHS Components with real property asset management authority report sustainable buildings' compliance to OFMP through:

1. Update of Sustainability Data Element into ARIS, three times per year.
2. A data call to collect current progress in May and November each year, is rolled up into:
 - a. Exhibit IV.B.1 – HHS Sustainable Buildings Progress Report
 - b. Sustainable Buildings Progress Report – Semi-annual summary of actions taken provided to OFEE
3. Update of Exhibit IV.A.1 – Current Status of Implementation in Landholding OPDIVs

B. Departmental Reporting

HHS reports Sustainable Buildings' compliance in several ways:



Department of Health and Human Services Sustainable Buildings Plan

April 2011

1. OMB Scorecard on Sustainability/Energy (formerly the OMB Environmental Stewardship Scorecard) – updated semi-annually to verify progress towards 15 percent of buildings compliant by 2015.
2. Federal Real Property Profile (FRPP) Sustainability Data Element (#25) in the FRPP database – reported through ARIS Sustainability Data. This report includes the number of buildings and square footage categorized as compliant, non-compliant, not assessed, and not applicable.
3. OFEE Sustainable Buildings Progress Report – includes:
 - a. Federal Real Property Profile (FRPP) Baseline Inventory
 - b. Federal Real Property Profile (FRPP) Sustainability Data
 - c. Existing Building Assessments
 - d. New Contracts
 - e. New Agreements, Permits, Leases, Licenses, or Legally-binding Obligations
 - f. Business cases for new Building Construction or Major Renovations
 - g. Success Stories and Lessons Learned
 - h. Leased Buildings
 - i. Actions taken since last Reporting Cycle
 - j. Planned Actions for next Reporting Cycle
 - k. Meeting 15 percent goal by 2015

OFMP issues a data call semi-annually (May and November) to collect information not readily available from ARIS. 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 I.B.1
HHS Summary of Owned and Leased Buildings

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

	OWNED		DIRECT LEASED		GSA LEASED / IAA		All Buildings	
	# buildings	aggregate GSF	# buildings	aggregate GSF	# buildings	aggregate GSF	# buildings	aggregate GSF
Total Inventory	2,811	31,355,399	253	4,786,313	730	15,850,552	3,794	51,992,264
More than 5,000 sq ft	408	26,440,660	115 ¹	4,520,952	303	15,067,597	826	46,029,209
	14.51%	84.33%	45.45%	94.46%	41.5%	95.06%	21.77%	88.53%
5,000 sq ft Or less	903	1,347,915	137 ²	223,161	427	782,955	1,467	2,354,031
	32.12%	4.30%	54.15%	4.66%	58.5%	4.94%	38.67%	4.53%
Housing	1,500	3,566,824	1 ³	42,200	0	0	1,501	3,609,024
	53.36%	11.38%	0.40%	0.88%			39.56%	6.94%
Baseline Inventory	496	27,077,405	109	4,381,385			605	31,458,790
More than 5,000 sq ft	408	26,440,660	115	4,520,952			523	30,961,612
	14.51%	84.33%	45.45%	94.46%			13.78%	59.55%
Housing more than 5,000 sq ft	95	854,825	0	0			95	854,825
	3.38%	2.73%					2.50%	1.64%
Less Not Applicable ⁴	(7)	(218,080)	(6)	(139,567)			(13)	(357,647)
	(0.25%)	(0.70%)	(2.37%)	(2.92%)			(0.34%)	(0.69%)

All Data as of FY 2010 Year End (9/30/10)

Excludes Land, Structures and Disposed assets

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

¹ 93 of the 115 Direct Leases of more than 5,000 sf have initiation dates prior to the issuance of E.O 13423. Of those initiated after 24 Jan 2007, 8 were Direct Lease renewals with Tribes under P.L.94-437; 2 were leases executed by ASPR/NDMS under DHS.

² 99 of the 137 Direct Leases of 5,000 sf or less are IHS leases that are renewed on a yearly basis with the Tribes. Of the remaining 38 leases, 6 were leases executed by ASPR/NDMS under DHS; 14 Direct Leases comprising only 24,410 sf were initiated after the issuance of E.O 13423 on 24 Jan 2007.

³ Transitional housing (individual apartments) located in several rental complexes in the vicinity of the NIH Bethesda campus rented on a month to month basis for seasonal occupancy by students, not included in baseline inventory.

⁴ Buildings over 5,000 sf that will be removed from inventory prior to end of FY 2015.

Exhibit I.B.2
HHS Sustainability Goals

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

ASSESSMENTS				
All HHS Owned and Direct Leased Buildings				
Year Planned/Actual	% Total Assessments	Total # of Building Assets Assessed	% of Gross Square Footage Assessed	Gross Square Footage Assessed
2008 ³	1.72%	53	8.48%	2,974,745
2009 ⁴	4.09%	126	14.02%	4,861,517
2010 ⁵	8.22%	252	37.58%	13,582,478
2011	20.76%	636	44.95%	16,244,674
2012	46.96%	1,439	55.05%	19,896,900
2013	66.68%	2,043	69.07%	24,961,341
2014	84.76%	2,597	83.77%	30,275,785
2015 ⁶	100.00%	3,019	100.00%	36,342,939

GUIDING PRINCIPLES COMPLIANCE				
HHS Owned and Direct Leased Buildings over 5,000 GSF (Baseline Inventory)				
Year Planned/Actual	% Total Buildings in Compliance	Total # of Buildings in Compliance	% Gross Square Footage in Compliance	Gross Square Footage in Compliance
2008 ⁷	0.13%	4	2.71%	951,611
2009 ⁸	0.66%	4	3.18%	951,611
2010 ⁹	0.66%	4	3.10%	976,611
2011	1.48%	9	4.33%	1,360,907
2012	2.46%	15	10.01%	3,149,591
2013	3.28%	20	16.32%	5,134,924
2014	4.43%	27	19.16%	6,028,259
2015 ¹⁰	6.07%	37	23.98%	7,544,541

³ FY 2008 FRPP 3,091 buildings at 35,065,336 GSF

⁴ FY 2009 FRPP 3,079 buildings at 34,678,138 GSF

⁵ FY 2010 FRPP 3,064 buildings at 36,141,711 GSF

⁶ FY 2015 Projected FRPP 3,019 buildings at 36,342,939 GSF

⁷ FY 2008 Compliance was measured against FRPP inventory

⁸ FY 2009 Baseline Inventory 603 buildings at 29,970,272 GSF

⁹ FY 2010 Baseline Inventory 605 buildings at 31,458,790 GSF

¹⁰ FY 2015 Projected Baseline Inventory 605 buildings at 31,458,790 GSF

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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. The Project Manager will communicate all design and construction requirements, within the contract scope, to the Contractor. The PM/PO will communicate regularly with the Contracting Officer, who has sole authority to approve changes to the contract terms, scope, cost or schedule.

- **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.

- **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**

Exhibit II.A.1
Charter-HHS Owned Facilities

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

Exhibit II.A.1 Charter-HHS Owned Facilities

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, 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.
- **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

Exhibit II.A.2 Charter-Leased Facilities

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® or 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 (CQM)**
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**
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.

Exhibit II.A.2 Charter-Leased Facilities

- **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

OPDIV	Project Title/Location	Will the Project Be Certified?	Rating System	Level of Certification
		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> LEED® <input type="checkbox"/> Green Globes™ <input type="checkbox"/> Other	

Mandated Requirements	Requirement Definition	Will the requirement be met?	Where is it documented?	How will the requirement be met?
I. Employ Integrated Design Principles				
Integrated Project Team (IPT)	<ul style="list-style-type: none"> Establish and maintain an IPT per SBP Section II, B. 	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Comment:				
Performance Goals	<ul style="list-style-type: none"> Establish goals for siting, energy, water, materials, etc and insure incorporation of goals throughout the design and lifecycle of the building, including deconstruction. Confirm compliance with EPA Stormwater Guidance 841-B-09-001, EISA, EAct , and EO 13514 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No		
Comment:				
Life Cycle Cost Analysis (LCCA)	<ul style="list-style-type: none"> Performance goal development should consider all stages of life cycle per the <i>Guiding Principles</i> 	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Comment:				
Commissioning	<ul style="list-style-type: none"> Employ commissioning practices in accordance with EO13514 and EISA 2007. Prepare a commissioning plan, use commissioning provider, verify installation and performance of systems, and provide a commissioning report. 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA		
Comment:				

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

Mandated Requirements	Requirement Definition	Will the requirement be met?	Where is it documented?	How will requirement be met?
II. Optimize Energy Performance				
Energy Efficiency	Establish whole building energy performance targets per : <ul style="list-style-type: none"> • <i>Guiding Principles</i> • EO 13423 • EISA 2007 • EO 13514 	<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		
Comment:				
Overall Energy Efficiency	<ul style="list-style-type: none"> • Designed to support energy consumption reduction per EISA and EO 13423 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA		
Comment:				
On-Site Renewable Energy	<ul style="list-style-type: none"> • Incorporated on-site renewable energy per EO13514 • Employ solar water heaters accordance with EISA 2007 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA		
Comment:				
Measurement and Verification	<ul style="list-style-type: none"> • Provide electric meters per EPAct 2005 • Provided gas and steam meters per EISA 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA		
Comment:				
Benchmarking	<ul style="list-style-type: none"> • Plan to compare design performance and actual performance per the <i>Guiding Principles</i> 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA		
Comment:				

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

Mandated Requirements	Requirement Definition	Will the requirement be met?	Where is it documented?	
III. Protect and Conserve Water				
Indoor Water	<ul style="list-style-type: none"> Implement water reduction strategies per EO 13514 and the <i>Guiding Principles</i> 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA		
Comment:				
Outdoor Water	<ul style="list-style-type: none"> Employ water efficient strategies per the <i>Guiding Principles</i> Use outdoor water meters per the <i>Guiding Principles</i> Support agency goals for reducing outdoor water per EO 13514 	<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		
Comment:				
Stormwater	Implement strategies used to reduce runoff and pollution per: <ul style="list-style-type: none"> EPA 841-B-09-001 Guidance EISA 2007 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA		
Comment:				
Process Water	<ul style="list-style-type: none"> Employ water conservation measures per <i>Guiding Principles</i>, <i>EO 13514</i>, and EPA Act 2005 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA		
Comment:				
Water-Efficient Products	<ul style="list-style-type: none"> Employ EPA Water Sense products per EO13514 and the <i>Guiding Principles</i> Employ EPA Water Sense certification per <i>Guiding Principles</i> 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA		
Comment:				
Overall Water Conservation	<ul style="list-style-type: none"> Support OPDIV water reduction goals per EO13423 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA		
Comment:				

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

Mandated Requirements	Requirement Definition	Will the requirement be met?	
IV. Enhance Indoor Environmental Quality			
Ventilation & Thermal Comfort	<ul style="list-style-type: none"> Performance targets are consistent with <i>Guiding Principles</i> 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	
Comment:			
Moisture Control	<ul style="list-style-type: none"> Implement a moisture control strategy per the <i>Guiding Principles</i> 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	
Comment:			
Daylighting	<ul style="list-style-type: none"> Implement a day-lighting strategy per the <i>Guiding Principles</i> 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	
Comment:			
Low-emitting Materials	<ul style="list-style-type: none"> Establish targets and a certification system per <i>Guiding Principles</i> 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	
Comment:			
Protect Indoor Air Quality during Construction	<ul style="list-style-type: none"> Establish targets per the <i>Guiding Principles</i> 	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Comment:			

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

Mandated Requirements	Requirement Definition	Will the requirement be met?	Where is it documented?	
V. Reduce Environmental Impact of Materials				
Recycled Content	<ul style="list-style-type: none"> Use EPA designated recycled content products per the <i>Guiding Principles</i>, 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA		
Comment:				
Bio-based Content	<ul style="list-style-type: none"> Specify and use the highest content level bio-based products per the <i>Guiding Principles</i> 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA		
Comment:				
Environmentally Preferable Products	<ul style="list-style-type: none"> Use environmentally preferred products per the <i>Guiding Principles</i> 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA		
Comment:				
Waste and Materials Management	<ul style="list-style-type: none"> Include provisions for waste, salvage or recycling programs per the <i>Guiding Principles</i> & EO 13514 Identify local recycling and salvaging operations per the <i>Guiding Principles</i> Plan to recycle or salvage materials per the <i>Guiding Principles</i> and EO 13514 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No		
Comment:				
Ozone Depleting Compounds	<ul style="list-style-type: none"> Exclude ozone depleting compounds per the <i>Guiding Principles</i> 	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Comment:				

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

Mandated Requirements	Requirement Definition	Will the requirement be met?	
VI. Conformance with Local Environmental Requirements			
National Environmental Policy Act (NEPA)	<ul style="list-style-type: none"> Comply with NEPA requirements and implement all measures for mitigation 	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Comment::			
Other Environmental Regulations	<ul style="list-style-type: none"> Confirm compliance with all other applicable Federal, state and local environmental regulations 	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Comment:			
Environmental Baseline Survey	<ul style="list-style-type: none"> Assess the project for contamination and other environmental risks 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	
Comment:			
Environmental Management System	<ul style="list-style-type: none"> Conform to facility-level EMS requirements per EO 13148 and EO 13423 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	
Comment:			
Asset Management Planning	<ul style="list-style-type: none"> Consider consolidation to optimize performance of real property portfolio per EO 13514 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	
Comment:			
Rehabilitation of Historic Buildings	<ul style="list-style-type: none"> Promote long term viability per EO 13514 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	
Comment:			

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

Part 2

OPDIV	Project Title/Location	Was the Project Certified?	Rating System	Level of Certification
		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> LEED® <input type="checkbox"/> Green Globes™ <input type="checkbox"/> Other	

Mandated Requirements	Requirement Definition	Was the requirement met?	Where is it documented?	How was the requirement met?
I. Employ Integrated Design Principles				
Integrated Project Team (IPT)	<ul style="list-style-type: none"> Establish and maintain an IPT per the <i>Guiding Principles</i> 	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Comment:				
Performance Goals	<ul style="list-style-type: none"> Confirm accomplishment of siting, energy, water, materials, etc, goals. Confirm compliance with EPA Stormwater Guidance Document 841-B-09-001, EISA, EPAct, and EO13514 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No		
Comment:				
Life Cycle Cost Analysis (LCCA)	<ul style="list-style-type: none"> Performance goal development should consider all stages of life cycle per the <i>Guiding Principles</i> 	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Comment:				
Commissioning	<ul style="list-style-type: none"> Employ commissioning practices in accordance with EO13514 and EISA 2007. Prepare a commissioning plan, use commissioning provider, verify installation and performance of systems, and provide a commissioning report. 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA		
Comment:				

Exhibit II.B.1
Sustainable Buildings Checklist for Projects

Mandated Requirements	Requirement Definition	
II. Optimize Energy Performance		
Energy Efficiency	Establish whole building energy performance targets per : <ul style="list-style-type: none"> • <i>Guiding Principles</i> • EO 13423 • EISA 2007 • EO 13514 	
Comment:		
Overall Energy Efficiency	<ul style="list-style-type: none"> • Designed to support energy consumption reduction per EISA and EO 13423 	
Comment:		
On-Site Renewable Energy	<ul style="list-style-type: none"> • Incorporated on-site renewable energy per EO13514 • Employ solar water heaters accordance with EISA 	
Comment:		
Measurement and Verification	<ul style="list-style-type: none"> • Provide electric meters per EPAct 2005 • Provided gas and steam meters per EISA 	
Comment:		
Benchmarking	<ul style="list-style-type: none"> • After occupancy, compare design performance and actual performance per the <i>Guiding Principles</i> 	
Comment:		

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

Mandated Requirements	Requirement Definition	Was the requirement met?	Where is it documented?	How was the requirement met?
III. Protect and Conserve Water				
Indoor Water	<ul style="list-style-type: none"> Implement water reduction strategies per EO 13514 and the <i>Guiding Principles</i> 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA		
Comment:				
Outdoor Water	<ul style="list-style-type: none"> Employ water efficient strategies per the <i>Guiding Principles</i> Provide outdoor water meters per the <i>Guiding Principles</i> Are agency goals for reducing outdoor water supported per EO 13514? 	<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		
Comment:				
Stormwater	Implement strategies used to reduce runoff and pollution per: <ul style="list-style-type: none"> EPA 841-B-09-001 Guidance EISA 2007 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA		
Comment:				
Process Water	<ul style="list-style-type: none"> Employ water conservation measures per <i>Guiding Principles</i>, <i>EO 13514</i>, and <i>EPAct 2005</i> 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA		
Comment:				
Water-Efficient Products	<ul style="list-style-type: none"> Employ EPA Water Sense products per EO13514 and the <i>Guiding Principles</i> Employ EPA Water Sense certification per the <i>Guiding Principles</i> 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA		

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

Mandated Requirements	Requirement Definition	Was the requirement met?	
IV. Enhance Indoor Environmental Quality			
Ventilation & Thermal Comfort	<ul style="list-style-type: none"> Performance targets are consistent with <i>Guiding Principles</i> 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	
Comment:			
Moisture Control	<ul style="list-style-type: none"> Implement a moisture control strategy per the <i>Guiding Principles</i> 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	
Comment:			
Daylighting	<ul style="list-style-type: none"> Implement a day-lighting strategy per the <i>Guiding Principles</i> 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	
Comment:			
Low-emitting Materials	<ul style="list-style-type: none"> Establish targets and a certification system per <i>Guiding Principles</i> 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	
Comment:			
Protect Indoor Air Quality during Construction	<ul style="list-style-type: none"> Establish targets per the <i>Guiding Principles</i> 	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Comment:			

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

Mandated Requirements	Requirement Definition	Was the requirement met?	
V. Reduce Environmental Impact of Materials			
Recycled Content	<ul style="list-style-type: none"> Use EPA designated recycled content products per the <i>Guiding Principles</i>, EO 13514 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	
Comment:			
Bio-based Content	<ul style="list-style-type: none"> Specify and use the highest content level bio-based products per the <i>Guiding Principles</i>, 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	
Comment:			
Environmentally Preferable Products	<ul style="list-style-type: none"> Use environmentally preferred products per the <i>Guiding Principles</i> 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	
Comment:			
Waste and Materials Management	<ul style="list-style-type: none"> Include provisions for waste, salvage or recycling programs per the <i>Guiding Principles</i> & EO 13514 Identify local recycling and salvaging operations per the <i>Guiding Principles</i> Plan to recycle or salvage materials per the <i>Guiding Principles</i> and EO 13514 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No	
Comment:			
Ozone Depleting Compounds	<ul style="list-style-type: none"> Exclude ozone depleting compounds per the <i>Guiding Principles</i> 	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Comment:			

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

Mandated Requirements	Requirement Definition	
VI. Conformance with Local Environmental Requirements		
National Environmental Policy Act (NEPA)	<ul style="list-style-type: none"> Comply with NEPA requirements and implement all measures for mitigation 	
Comment::		
Other Environmental Regulations	<ul style="list-style-type: none"> Confirm compliance with all other applicable Federal, state and local environmental regulations 	
Comment:		
Environmental Baseline Survey	<ul style="list-style-type: none"> Assess the project for contamination and other environmental risks 	
Comment:		
Environmental Management System	<ul style="list-style-type: none"> Conform to facility-level EMS requirements per EO 13148 & EO 13423 	
Comment:		
Asset Management Planning	<ul style="list-style-type: none"> Consider consolidation to optimize performance of real property portfolio per EO 13514 	
Comment:		
Rehabilitation of Historic Buildings	<ul style="list-style-type: none"> Promote long term viability per EO 13514 and EO 13287 	
Comment:		

Exhibit II.B.1 Sustainable Buildings Checklist for Projects

General Instructions

Exhibit II.B.1, Sustainable Buildings Checklist for Projects, is intended to collect and record aspects of sustainability achieved on all projects requiring Departmental approval including all construction, improvement and repair projects and build-to-leases. It is not intended to be a comprehensive list of all sustainability-related requirements. Part 1 of the Checklist is used during project planning and Part 2 is used after project completion. The Checklist is designed to measure the Department's achievement in meeting the five *Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings*, and related laws and regulations. The six attributes that are identified for reporting compliance are:

- I. Employ Integrated Design Principles
- II. Optimize Energy Performance
- III. Protect and Conserve Water
- IV. Enhance Indoor Environmental Quality
- V. Reduce Environmental Impact of Materials
- VI. Conformance with Local Environmental Requirements

This checklist is applicable to construction, improvement and repair projects and build-to-leases. See also, Exhibit II.B.2 – Sustainable Buildings Checklist for Lease Actions, and Exhibit II.D.1 – Existing Building Assessment Tool.

Part 1 Instructions

Complete and submit Part 1 of the Checklist with the Facility Project Approval Agreement (FPAA).

OPDIV: Indicate the OPDIV

Project Title/Location: Provide the project title and location consistent with FPAA documentation.

Will the Project Be Certified?: Indicate if it is anticipated that the project will receive third party certification that meets the requirements of a multi-attribute green building standard developed by an ANSI-accredited organization.

Rating System: Indicate the ANSI approved third party rating system that will be used to certify project compliance.

Level of Certification: Identify the anticipated level of certification for the rating system being used (e.g., LEED® Silver or Gold).

Mandated Requirements: Complete each Mandated Requirement section under the six building attributes listed (I-VI).

Exhibit II.B.1 Sustainable Buildings Checklist for Projects

Use the comment box to explain “No” or “Not Applicable (NA)” answers. “NA” is only applicable to existing buildings where a specific system or component is not within the scope of the project. Projects that cannot meet individual *Guiding Principles* because of mission requirements must request a waiver in accordance with Section I.B.3 of this document. Examples of mission-requirement exceptions may include a laboratory with no day-lighting for functional reasons. The comment box can be used to illustrate accomplishments that contribute to partial achievement of a metric. Waived requirements do not necessarily disqualify a building from meeting the *Guiding Principles*. All “No” or “NA” response require a written explanation

Requirement Definition: This column provides a brief description of the requirement.

Will the requirement be met?: Check the “Yes”, “No” or “NA” box as appropriate.

Where is it documented?: List all supporting documents related to meeting requirements (e.g., the Project Charter, Life Cycle Cost Analysis, Commissioning Plan, Contractor’s Health and Safety Plan or a third party certification checklist).

How will the requirement be met?: Explain how the requirement will be met, as described in the referenced document. The explanation should address specific actions.

Mandated Requirements [This section applies to Parts 1 and 2]

I. Employ Integrated Design Principles

Integrated Project Team

- Confirm that a collaborative, integrated planning and design team (IPT), in accordance with the *Guiding Principles*, will or has been used in all stages of the project. See the [Whole Building Design Guide](#) more for information. IPT shall be consistent with the definition in Section II. B. Integrated Project Team Definition and Project Charter. Describe the project team core group under “How Will the Requirement Be Met.”

Performance Goals

- Confirm that the project establishes performance goals for siting, energy, water, materials, and indoor environmental quality, along with other comprehensive design goals, and insures incorporation of these goals throughout the design and lifecycle of the building, including deconstruction.
- Confirm compliance with EPA Stormwater Guidance Document 841-B-09-001, EISA, EPAct, and EO13514.

Life Cycle Cost Analysis (LCCA)

- When performing economic analyses, consider all stages of the building’s lifecycle, including deconstruction, in accordance with the *Guiding Principles*.

Exhibit II.B.1

Sustainable Buildings Checklist for Projects

Commissioning

- Employ 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. Confirm compliance with EO13514, and EISA 2007.
- Prepare a commissioning plan, include commissioning requirements in the construction documents, use an experienced commissioning provider, verify installation and performance of systems to be commissioned, and provide a commissioning report. Consider all stages of the building's lifecycle, including deconstruction.

II. Optimize Energy Performance

Energy Efficiency

- Establish a whole building performance target that takes into account the intended use, occupancy, operations, plug loads, other energy demands, and design to earn the ENERGY STAR[®] targets for new construction and major renovation where applicable. For new construction, reduce the energy use by 30 % compared to the baseline building performance rating per the American National Standards Institute (ANSI)/American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc., (ASHRAE)/Illuminating Engineering Society of North America (IESNA) Standard 90.1-2007, Energy Standard for Buildings Except Low-Rise Residential. For major renovations, reduce the energy use 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.
- Incorporate cost-effective, innovative sustainable features such as highly reflective or vegetated roofs, in accordance with EO 13514.
- Achieve net-zero-energy, in accordance with EO 13514.
- Use Energy Star[®] and FEMP-designated energy efficient products, where available, in accordance with EISA 2007.
- Reduce fossil-fuel energy consumption by 65% by 2015, 80% by 2020, 90% by 2025 and 100% by 2030) (compared to a similar building in 2003), in accordance with EISA 2007.
- Use energy efficient lighting fixture and bulbs per EISA 2007.
- Use the most energy-efficient systems used when replacing installed equipment per EISA 2007 for major renovations.
- Identify specific targets for each of the applicable requirements for this project.

Overall Energy Efficiency

- Design facility to support agency energy consumption reduction goals (21% by 2012, 24% by 2013, 27% by 2014, 30% by 2015), in accordance with EISA 2007, and EO 13423. Identify specific target for this project.

On-Site Renewable Energy

- Incorporate on-site renewable energy generation, in accordance with EO 13423.
- Meet at least 30% of the hot water demand with solar hot water heaters, per EISA 2007. If target is unknown, describe that an analysis will be done during design to determine the feasibility of meeting at least 30% of demand.

Measurement and Verification

- Per the EPAct 2005, install building level electricity meters in new major construction and renovation projects to track and continuously optimize performance.

Exhibit II.B.1

Sustainable Buildings Checklist for Projects

- Per EISA, include equivalent meters for natural gas and steam, where natural gas and steam are used.

Benchmarking

- Compare actual performance data from the first year of operation with the energy design target, preferably by using ENERGY STAR® Portfolio. Verify that the building performance 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. If benchmarking is not complete at submittal of Final Project Report indicate status of benchmarking.

III. Protect and Conserve Water

Indoor Water

- Employ strategies that in aggregate use a minimum of 20 % less potable water than the indoor water use baseline calculated for the building, after meeting the EPA 1992, Uniform Plumbing Codes 2006, and the International Plumbing Codes 2006 fixture performance requirements. The use of harvested rainwater, treated wastewater, and air conditioner condensate should also be considered and used where feasible for non-potable use and potable use where allowed.
- Confirm compliance with requirements of EO 13514 and EISA 2007.

Outdoor Water

- Use water efficient landscape and irrigation strategies, such as water reuse, recycling, and the use of harvested rainwater, to reduce outdoor potable water consumption by a minimum of 50 % over that consumed by conventional means (plant species and plant densities). The installation of water meters for locations with significant outdoor water use is encouraged.
- Employ design and construction strategies that reduce storm water runoff and discharges of polluted water offsite. Per EISA, to the maximum extent technically feasible, maintain or restore the predevelopment hydrology of the site with regard to temperature, rate, volume, and duration of flow using site planning, design, construction, and maintenance strategies.
- Reduce outdoor water consumption 2% annually or 20% by FY 2020, in accordance with EO 13514.

Stormwater

- In accordance with EISA 2007, and EPA 841-B-09-001 Guidance, does the project use design and construction strategies that reduce storm water runoff and discharges of polluted water offsite?

Process Water

- Per EPA 2005 and EO 13514, when potable water is used to improve a building's energy efficiency, deploy lifecycle cost effective water conservation measures.

Water-Efficient Products

- Specify EPA's [WaterSense-labeled](#) products or other water conserving products, where available. Choose irrigation contractors who are certified through a WaterSense labeled program.
- If the project includes irrigation, is the irrigation contractor, certified through EPA's WaterSense Program?

Overall Water Conservation

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Sustainable Buildings Checklist for Projects

- Confirm that the project supports OPDIV efforts to reduce water consumption by 2% annually and at least 16% by 2015 and 26% by 2020 relative to the FY 2007 baseline, per EO 13423.

IV. Enhance Indoor Environmental Quality

Ventilation and Thermal Comfort

- Meet 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.

Moisture Control

- 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.

Day lighting

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

Low-Emitting Materials

- Specify materials and products with low pollutant emissions, including composite wood products, adhesives, sealants, interior paints and finishes, carpet systems, and furnishings.

Protect Indoor Air Quality

- 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 %. After occupancy, continue flush-out as necessary to minimize exposure to contaminants from new building materials.

V. Reduce Environmental Impact of Materials

Recycled Content

- Per Section 6002 of the Resource Conservation and Recovery Act (RCRA), for EPA-designated products, specify 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. EPA's recycled content product designations and recycled content recommendations are available. See www.epa.gov/cpg.
- Quantify specific target for this project.

Bio-based Content

- Per Section 9002 of the Farm Security and Rural Investment Act (FSRIA), for USDA-designated products, specify products with the highest content level per USDA's biobased content recommendations. For other products, specify biobased products made from rapidly

Exhibit II.B.1

Sustainable Buildings Checklist for Projects

renewable resources and certified sustainable wood products. If these 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. USDA's biobased product designations and biobased content recommendations are available on <http://www.dm.usda.gov/procurement/programs/biopreferred.htm>

- Identify materials and quantify target applicable to this project.

Environmentally Preferred Products

- 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. A number of standards and ecolabels are available in the marketplace to assist specifiers in making environmentally preferable decisions. For recommendations, consult the [Federal Green Construction Guide for Specifiers](#).
- Quantify specific target for this project.

Waste and Materials Management

- 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 construction and demolition materials.
- Provide salvage, reuse and recycling services for waste generated from major renovations, where markets or onsite recycling opportunities exist.
- Per EO 13514, minimize the generation of waste and pollutants through source reduction and divert at least 50 % of non-hazardous solid waste by the end of fiscal year.
- Per EO 13514, reduce and minimize the quantity of toxic and hazardous chemicals and materials acquired, used, or disposed of; increase diversion of compostable and organic material from the waste stream; implement integrated pest management and other appropriate landscape management practices; increase agency use of acceptable alternative chemicals and processes in keeping with the agency's procurement policies; decrease agency use of chemicals where such decrease will assist the agency in achieving greenhouse gas emission reduction targets; and report in accordance with the Emergency Planning and Community Right-to-Know Act of 1986;
- Quantify specific target for this project.

Ozone Depleting Compounds

- Eliminate the use of ozone depleting compounds during and after construction where alternative environmentally preferable products are available, consistent with both the Montreal Protocol and Title VI of the Clean Air Act Amendments of 1990 or equivalent overall air quality benefits that take into account lifecycle impacts.

VI. Conformance with Local Environmental Requirements

National Environmental Policy Act (NEPA)

- Does the project comply with NEPA and implement mitigation measures? Identify if an EA or EIS is required for this project; and if so, current status.

Exhibit II.B.1 Sustainable Buildings Checklist for Projects

Other Environmental Regulations

- Does the project comply with other Federal, state and local environmental regulations with regard to contamination and other environmental risks? If this project requires specific abatement procedures, note here.

Environmental Baseline Survey

- Has the project site and facilities been assessed for contamination and other environmental risks? Describe status of assessment and applicable abatement.

Environmental Management Systems

- Meet the specific goals, targets, management controls and reporting requirements established by facility level EMS, in accordance with EO 13423.

Asset Management Planning

- Coordinate the project with the HHS Real Property Asset Management Plan (AMP). Provide plan title and date of current applicable Master Plan.

Rehabilitation of Historic Buildings

- If the project involves the rehabilitation of an historic building, use best practices and technologies to promote long term viability, in accordance with EO 13514. Identify specific requirements incorporated into project to address historic preservation requirements.

Part 2 Instructions

Complete Part 2 of the Checklist at project completion and after commissioning when the building is fully operational and submit with the Final Project Report (FPAA – F).

OPDIV: Indicate the OPDIV

Project Title/Location: Provide the project title and location as identified in Part 1 and on the FPAA.

Was the Project Certified?: Indicate if the project received third party certification that meets the requirements of a multi-attribute green building standard developed by an ANSI-accredited organization.

Rating System: Indicate the ANSI approved third party rating system used to certify the project. Provide a detailed explanation if the rating system is different than that shown in Part 1.

Level of Certification: Identify attained, or anticipated level of certification for the rating system used. Provide a detailed explanation if the level of certification is different than that shown in Part 1

Exhibit II.B.1

Sustainable Buildings Checklist for Projects

Mandated Requirements:

Use the comment box to explain “No” or “Not Applicable (NA)” answer. “NA” is only applicable to existing buildings where a specific system or component is not within the scope of the project. Projects that cannot meet individual *Guiding Principles* because of mission requirements must request a waiver in accordance with Section I.B.3 of this document. Examples of mission-requirement exceptions may include a laboratory with no day-lighting for functional reasons. The comment box can be used to illustrate accomplishments that contribute to partial achievement of a metric. Waived requirements do not necessarily disqualify a building from meeting the *Guiding Principles*. All “No” or “NA” response require a written explanation.

Requirement Definition: This column provides a brief description of the requirement

Was the requirement met?: Check the “Yes”, “No” or “NA” box as appropriate

Where is it documented?: Indicate all documents that provide information related to meeting the requirement.

How was the requirement met?: Provide an explanation of how the requirement was met as described in the document referenced. The explanation should address specific actions taken to comply with the requirement.

For completion of reminder of Part 2, refer to breakdown by Guiding Principle included in Part 1.

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

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

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

*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.

Mandated Requirements	
I. Employ Integrated Design Principles	
Integrated Project Team (IPT) 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:	
Commissioning 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:	
II. Optimize Energy Performance	
Energy Efficiency Establish a whole building performance target that takes into account the intended use, occupancy, operations, plug loads, other energy demands, and design to earn the ENERGY STAR® rating for the building.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Comments:	
Measurement and Verification 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:	
III. Protect and Conserve Water	
Indoor Water Employ strategies that in aggregate use a minimum of 20 percent less potable water than the indoor water use baseline calculated for the building.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Comments:	
Outdoor Water Use water efficient landscape and irrigation strategies, including water reuse and recycling, to reduce outdoor potable water consumption by a minimum of 50 percent over that consumed by conventional means (plant species and plant densities).	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Comments:	
Process Water 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:	
Water Efficient Products 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

IV. Enhance Indoor Environmental Quality	
Ventilation & Thermal Comfort 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:	
Moisture Control 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:	
Daylighting 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:	
Low-emitting Materials 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:	
Protect Indoor Air Quality 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:	
V. Reduce Environmental Impact of Materials	
Recycled Content Use products meeting or exceeding EPA's recycled content recommendations.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Comments:	
Biobased Content 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:	
Environmental Preferred Products 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:	
Waste and Materials Management 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:	
Ozone Depleting Compounds Eliminate the use of ozone depleting compounds where alternative environmentally preferable products are available.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Comments:	
VI. Conformance with local Environmental Requirements	
National Environmental Policy Act (NEPA) 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 13514 and the Energy Independence and Security Act of 2007 (EISA). 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.

HHS Components should complete the checklist to the best of the technical expertise. Where the collection of the building data cannot be readily obtained, a Letter of Non-Conformance, Exhibit II.B.3., must be submitted in lieu of the Exhibit II.B.2 checklist. The letter will detail the reasons for not submitting the Exhibit II.B.2 checklist.

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

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

Instructions

Property Information section:

- Indicate the HHS Component
- 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 standalone 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 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. 13514.

Exhibit II.B.2

Sustainable Buildings Checklist for Lease Actions

Instructions

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^{®1} 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 Guidelines² 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 13514, *implementation of renewable energy generation projects is encouraged*. Identify whether the facility has onsite renewable energy systems.
- Does the facility use Energy Star[®] and FEMP³ designated energy efficient products where available?

Measurement and Verification

- Per the Energy Policy Act of 2005 (EPA) Section 103, installation of advanced electric 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?
- 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

¹ <http://www.energystar.gov/>

² <http://www.labs21century.gov/>

³ <http://www.eere.energy.gov/femp/>

Exhibit II.B.2

Sustainable Buildings Checklist for Lease Actions

Instructions

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 Program⁴-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?

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?

⁴ <http://www.epa.gov/owm/water-efficiency/>

Exhibit II.B.2

Sustainable Buildings Checklist for Lease Actions

Instructions

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
 [HHS Component]

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 HHS Component 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.D.1
Existing Building Assessment Tool

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**Exhibit II.D.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	
A. Energy Performance	Energy Efficiency 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 higher in Energy Star	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	An Energy Conservation Plan has been developed	Reduction in EUI of > 5%	Reduction in EUI of > 10%	Reduction in EUI of > 15% OR Achieved a score of 69 or higher in ESPM or equivalent Labs21 Benchmarking Tool score for laboratory buildings.	Reduction in EUI of > 20%, OR Achieved a score of 75 or higher in ESPM or equivalent Labs21 Benchmarking Tool score for laboratory buildings.	

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

Building Attribute	Attribute Definition	Building Condition Scoring Criteria						
	Portfolio Manager (ESPM).							
		5	10	15	25	30	40	
	Measurement & Verification	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 13514, EPAct 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 performance.	Data entered in Energy Star Portfolio Manager	Data entered in High Performance Buildings Database	
		0	5	10	15	25	30	
	Renewable Energy (Bonus)	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.	
		5	10	20	30	40	Score	
B. Protect & Conserve Water	Indoor Water 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 is 160% of the Uniform Plumbing Codes of 2006 or the International	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 ¹	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.D.1
Existing Building Assessment Tool**

Building Attribute	Attribute Definition	Building Condition Scoring Criteria					
	Plumbing Codes 2006 fixture performance requirements. Reduce 2% annually potable water consumption intensity through FY 2020 or 26% by the end of FY2020 (baseline FY 2007 water consumption).						
		5	10	20	30	40	
	Outdoor Water Effectiveness of outdoor water conservation Identify, promote, and implement water reuse strategies that reduce potable water consumption.	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 ¹	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	
	Process Water Effectiveness of Process water conservation,					Cost effective conservation measures are in place to reuse or	

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

Building Attribute	Attribute Definition	Building Condition Scoring Criteria					
	where applicable. Reduce industrial, landscaping, and agricultural water consumption by 2% annually or 20% by the end of FY 2020 (baseline FY 2010 industrial, landscaping, and agricultural consumption).					reclaim water used in increasing energy efficiency, such as cooling towers, boilers, etc.	
						20	
	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)	
		0	5	10	15	20	Score
C. Enhance Indoor Environmental Quality	Thermal Comfort 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.	
		0	5	10	15	20	
	Ventilation Effectiveness of measures to enhance	Building does not meet current ASHRAE	Building does not meet current ASHRAE	Building does not meet current ASHRAE	Building does not meet current ASHRAE Standard 62.1-2007 Ventilation for Acceptable Indoor Air	Verification of design ventilation rates performed through	

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

Building Attribute	Attribute Definition	Building Condition Scoring Criteria					
	indoor environmental quality for ventilation	Standard 62.1-2007 Ventilation for Acceptable Indoor Air Quality. Verification of design ventilation rates (testing & balancing) not performed.	Standard 62.1-2007 Ventilation for Acceptable Indoor Air Quality. Verification of design ventilation rates (testing & balancing) not performed. O&M procedures in place for checking air supply and exhaust systems.	Standard 62.1-2007 Ventilation for Acceptable Indoor Air Quality. Verification of design ventilation rates (testing & balancing) not performed. O&M procedures in place for checking air supply and exhaust systems. Occupant complaints are rare.	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.	recommissioning or retrocommissioning, and meets current ASHRAE Standard 62.1-2007 Ventilation for Acceptable Indoor Air Quality established ranges per climate zone.	
		0	5	10	15	20	
	Moisture Control 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.	
		0	5	10	15	20	
	Daylighting or Lighting Controls Effectiveness of measures implemented to control	No measures have been implemented.	Accessible lighting controls (e.g., accessible manual lighting	Accessible lighting controls (e.g., accessible manual lighting	Accessible lighting controls (e.g., accessible manual lighting controls, glare control and automatic dimming controls) are provided for 40% of	Accessible lighting controls (e.g., accessible manual lighting controls, glare	

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

Building Attribute	Attribute Definition	Building Condition Scoring Criteria					
	lighting or daylighting.		controls, glare control and automatic dimming controls) are provided for 10% of regularly occupied building space, OR 10% of spaces have a minimum daylight factor of 2%.	controls, glare control and automatic dimming controls) are provided for 30% of regularly occupied building space, OR 30% of spaces have a minimum daylight factor of 2%.	regularly occupied building space, OR 40% of spaces have a minimum daylight factor of 2%.	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. OR 50% of spaces occupied for critical visual tasks have a minimum daylight factor of 2%.	
		0	5	10	15	20	
	Low Emitting Materials 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.	
		0	5	8	12	15	Score
D. Environmental Impact of Materials	Recycled Content 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. Ensure 95% of new contract actions for products and services are:	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.	

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

Building Attribute	Attribute Definition	Building Condition Scoring Criteria					
	<ul style="list-style-type: none"> - Energy efficient - Water efficient - Biobased-content - Environmentally preferable - Non-ozone depleting, - Recycled-content - Non-toxic or less-toxic than alternatives 						
		0	5	8	12	15	
	<p>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% (based on cost) of the total value of the materials used in the building.</p>	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.	
		0	2	4	8	10	
		0	2	4	8	10	
	<p>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.</p>	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.	
		0	5	10	15	20	

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

Building Attribute	Attribute Definition	Building Condition Scoring Criteria					
	<p>Solid Waste Diversion Divert 50% of non-hazardous solid waste from disposal by the end of FY 2015.</p> <p>Construction Waste Identify local recycling and salvage operations that process construction waste from building operation and maintenance, minor repairs and renovations and discarded furnishings. By 2015, recycle or salvage at least 50 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.</p>	No attempt to identify local recycling and salvage operations that process building related waste has been identified, or building records contain no documentation of attempts to identify such operations or demonstration of non-availability. Opportunities exist yet no wastes are recycled or salvaged.	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 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 50% of the total amount of the building related waste. 25 % 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 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.	
		0	5	15	20	30	Score
	<p>Ozone Depleting Compounds 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</p>	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	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	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.	

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

Building Attribute	Attribute Definition	Building Condition Scoring Criteria						
		5	10	20	30	40	50	Score
	impacts.	equipment in building.	been completed.					
E. Economics	Cost Current and avoidable potential costs associated with ownership and use of buildings	Cost to incorporate the <i>Guiding Principles</i> is greater than 11% of Present Replacement Value (PRV)	Cost to incorporate the <i>Guiding Principles</i> is 7% to 11% of PRV	Cost to incorporate the <i>Guiding Principles</i> is 3% to 7% of PRV	Cost to incorporate the <i>Guiding Principles</i> is 1% to 3% of PRV	Cost to incorporate the <i>Guiding Principles</i> is 0.5% to 1% of PRV	Cost to incorporate the <i>Guiding Principles</i> is less than 0.5% of PRV	
		5	10	20	30	40	50	Score
	Payback 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	
		0	10	30	40	50	Score	
F. Conformance with Local Environmental Requirements	Environmental Regulations 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 13514	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	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	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		

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

Building Attribute	Attribute Definition	Building Condition Scoring Criteria					
		0	15	30	50	Score	
			periodically evaluate compliance with those applicable legal, and (c) a system for implementing corrective action	on, or has not initiated corrective actions.			
		0	15	30	50	Score	
	Environmental Management System (EMS) Executive Order (EO) 13148 required all Federal Agencies to determine 'appropriate' facilities for implementing EMS. EO 13514 requires that EMSs serve as the primary mechanism for achieving compliance with all aspects of the order	Facility/building management has not established requirements/procedures to address applicable sustainable practices as required by Executive Order 13514 through the facility/organization's EMS.	Facility/building management has established requirements/procedures to address applicable sustainable practices as required by Executive Order 13514 through the facility/organization's EMS, including procedures for setting objectives and target as appropriate, monitoring, training, and management review, but has not implemented the requirements/procedures	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 implementation schedule to complete incorporation of the remainder of the applicable sustainable practices through the EMS.	Facility/building management has met all the criteria in Column B and C AND Facility/organization has verified conformance and performance through monitoring and management review OR Facility/Building in not included in the HHS 'appropriate' facility list and is not required to have an EMS		

¹ www1.eere.energy.gov/femp/water_fedrequire.html

² 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

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

Building Attribute	Building Condition Scoring Criteria	
	Achieved Score	Maximum Score
<i>GUIDING PRINCIPLES</i>		
A. Energy Performance		
Energy Efficiency		80
Measurement & Verification		40
B. Protect & Conserve Water		
Indoor Water		40
Outdoor Water		40
Process Water		20
C. Enhance Indoor Environmental Quality		
Thermal Comfort		20
Ventilation		20
Moisture Control		20
Daylighting or Lighting Controls		20
Low Emitting Materials		20
D. Environmental Impact of Materials		
Recycled Content		30
BioBased Content		20
Construction Waste		20
Ozone Depleting Compounds		30
<i>GUIDING PRINCIPLES SCORE</i>		420
<i>Non-Guiding Principles</i>		
Economics		
Cost		50
Payback		50
Conformance with local Environmental Requirements		
Environmental Regulations		50
Environmental Management Systems (EMS)		50
Renewable Energy		30
Maintain/Restore Hydrology		20
<i>NON-GUIDING PRINCIPLES AND BONUS SCORE</i>		250
TOTAL SCORE		670

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Exhibit II.D.1 Existing Building Assessment Tool Instructions

HHS Components are encouraged to use the [ENERGY STAR Portfolio Manager for Federal Agencies Checklist](#) to verify compliance with the *Guiding Principles*. Alternatively, the Existing Building Assessment Tool may be used. The following instructions are designed to help in the collection and recording of sustainable actions achieved on an applicable capital asset if the Exhibit II.D.1 tool is used.

The tool is designed to collect and measure the Department's achievement in meeting the *Guiding Principles* as described in Executive Order 13514 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 Principles* 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)
- G. Renewable Energy (30 points)
- H. 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.
- The highest priority buildings in the existing buildings inventory are those owned assets more than 5,000 gross square feet with the exception of housing.
- 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 applicable projects as defined in the SBP with design awards after October 1, 2008 must incorporate the *Guiding Principles* 100%.
- Highlight each achievement and record the score on Exhibit II.D.1 – Existing Building Assessment Tool. 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.

Exhibit II.D.1

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- 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 Exhibit II.D.1 – Existing Building 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
 - 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
 - *EO 13514 (from 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 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 onsite 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

Exhibit II.D.1

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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.

- **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)**

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.

 - **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. Examples of potential violations include:
 - lack of controls to prevent exceeding 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 storm drain systems;
 - exceeding of air emission from regulated sources such as emergency generators, boilers, or fume hoods;
 - improper storage of hazardous chemicals;
 - non-compliance with fuel storage tank (above ground and underground) provisions; or

Exhibit II.D.1

Existing Building Assessment Tool

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- failure to maintain proper operating logs for regulated equipments and mechanical systems.
- 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).
- **Environmental Management System (EMS) (50 points)**
 - EO 13514 (from Executive Order (EO) 13148) requires all Federal Agencies to determine ‘appropriate’ facilities for implementing EMS. (from EO 13423) EMSs should 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.
 - 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.
- **Renewable Energy (30 points)**

See the [Federal Energy Management Program](#) (FEMP) technical assistance and resources to help evaluate and implement renewable energy technologies. FEMP activities include:

 - [Federal Requirements](#): Current Federal renewable energy regulations, goals, and guidance documents to help Federal agencies understand and meet requirements.
 - [Renewable Resources and Technologies](#): Introduction to renewable energy resources and technologies with a strong emphasis on Federal application opportunities.
 - [Project Planning](#): Overview of how Federal agencies can assess and implement renewable energy technologies to meet energy and regulatory requirements.
 - [Resource Maps and Screening Tools](#): Collection of resource maps and assessment tools to help Federal agencies screen for potential renewable energy projects.
 - [Purchasing Renewable Power](#): Available options to purchase renewable power and renewable energy certificates (RECs) to meet energy regulatory requirements and goals.
 - [Case Studies](#): Examples of renewable energy projects conducted by Federal agencies across wind, solar, geothermal, biomass, and other renewable sources.
 - [Training](#): On-demand training sessions covering Federal renewable energy requirements, technologies, and best practices.
 - [Working Group](#): Forum for Federal agencies and the renewable energy industry to exchange information on existing and planned projects, lessons learned, project funding sources, and technologies available.
 - [Contacts](#): FEMP and Department of Energy national laboratory contacts focused on renewable energy technology assessments and implementation.
- **Maintain/Restore Hydrology (20 points)**

See the Environmental Protection Agency’s “[Federal Stormwater Management Requirements](#)” webpage for Technical Guidance on Implementing the Stormwater Runoff Requirements for Federal Projects under Section 438 of EISA.

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Current Status of Implementation within Landholding OPDIV'S

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Exhibit IV.A.1
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I. Employ Integrated Design Principles	
Integrated Design. <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>	
Health and Human Services (HHS)	Each OPDIV shall establish an integrated project team (IPT) approach that ensures a project sustainability strategy is incorporated consistent with the policy.
Centers for Disease Control & Prevention/ ATSDR (CDC)	<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"> • Establishment of aggressive energy and water conservation goals early in the project planning stage • 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 • Utilization of energy consultants to supplement engineering staff on energy intensive projects • Commissioning of all new buildings and major renovations. <p>A LEED® Accredited Professional serves on all IPT teams on all phases of the project. CDC has LEED® accredited personnel on staff as well as contracts with LEED® accredited consultants for specific projects. The IPT coordinates with CDC's Energy Manager and CDC's Sustainable Buildings Coordinator at all phases of the project.</p> <p>Sustainability Updates are sent to Buildings & Facilities Office (BFO) personnel on a regular basis. Training is ongoing for all responsible offices within BFO. The CDC Design and Construction Guidelines include the Sustainable Design and High Performance Building Guidelines which were updated to include Sustainable Operations and Maintenance procedures.</p> <p>Some of CDC's Accomplishments for 2010 include:</p> <p>The Ft. Collins Building 401 Core & Shell Space Build-Out Achieved LEED® Gold for Commercial Interiors (CI). Completed in 2010, Building 401, floors 4 and 4M, provide approximately 27,000 gross square feet of additional laboratory and laboratory support space for CDC's Office of Infectious Disease, Division of Vector Borne Diseases. Because this new space was part of a core and shell build-out in an existing laboratory building, the design and</p>

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	<p>construction team registered for LEED® Commercial Interiors (CI) certification. Notification of LEED® CI Gold certification was received by the CDC in June of 2010. CDC's portfolio includes three buildings with LEED® certification: Building 21 at Roybal (LEED® Silver), and Buildings 106 and 110 at Chamblee (LEED® Gold).</p> <p>The CDC Buildings and Facilities Office has an in-house transportation planner, instrumental in coordinating, supporting and promoting a number of successful transportation initiatives at the CDC.</p> <ul style="list-style-type: none"> • CDC is a Platinum Level Partner with the Clean Air Campaign (http://www.cleanaircampaign.org/). The Buildings and Facilities Office has signed partnership certificates for each of CDC's metro Atlanta owned and leased facilities. In 2010 CDC conducted transportation fairs at each campus with the Clean Air Campaign to educate personnel on transportation choices including walking, bicycling, riding mass transit, vanpooling, carpooling, teleworking, and compressed schedule days off. Personnel are also informed of incentives for clean commuting provided by the Clean Air Campaign, and programs, policies, and infrastructure at CDC to encourage and support clean commuting. • With assistance from the Clean Air Campaign, CDC conducted "Try-It-Days" at each metro Atlanta facility in FY 2010. As part of this program, a total of 802 personnel walked, bicycled, took transit, carpooled, or vanpooled. CDC has worked with the Clean Air Campaign to establish campus specific websites where CDC personnel can log their commutes. In FY 2010, 742 personnel logged 92,397 clean commutes with the Clean Air Campaign, 420 personnel logged commutes for the first time in FY10. CDC personnel reported 23,860 carpool trips, 34,194 vanpool trips, 10,305 mass transit trips, 5,612 bicycle trips, 1,800 walk trips, 1,854 compressed work week days off, and 14,772 trips avoided due to telecommute. Reported clean commutes reduced 1,828,647 vehicle miles traveled. <p>The CDC FareShare program continues to be one of the most successful programs at CDC/ATSDR to reduce single occupancy motor vehicle travel. CDC promotes the program during alternative commute promotional events. BFO provides vanpool and mass transit information to personnel, connecting the commuter with a feasible public transportation option, then incentivizes that public transportation choice by educating the employee on the benefits of the FareShare program.</p>
<p>Food and Drug Administration (FDA)</p>	<p>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.</p>
<p>Indian Health Service (IHS)</p>	<p>The 2010 IHS AE Guide and OEHE Technical Handbook Chapter 21-17.2 requires establishment of an Integrated Project Team to be chaired by a Sustainability Coordinator in all phases of new construction projects from planning through post-construction. The Sustainability Coordinator is responsible for developing the Sustainability Checklist,</p>

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	<p>participating in Design Charettes, and reporting on the implementation of the Guiding Principles. 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. Concept Phase sustainable design charettes are required where project specific sustainability goals are established. Progress towards those goals is monitored and reported on at key project milestones.</p>
<p>National Institutes of Health (NIH)</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>NIH has several project officers that are LEED® Accredited Professionals (AP) as well as several LEED® Accredited Professionals in technical support organizations such as the Division of Technical Resources and the Division of Facilities Planning. The Department of Environmental Protection (DEP) has 3 additional full time LEED® 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. NIH is in the process of developing an end of project review process to confirm and verify all goals that have been stated during the design and construction phase have been successfully met. This process is slated to be developed and formalized in FY2011.</p> <p>Requirements to follow all <i>Guiding Principles</i>, including Integrated Design Principles have been added to the NIH Design Requirements Manual as addendum. The DRM is now available online. A formal review, addressing potential inconsistencies between standard NIH design requirements listed in the DRM and mandated Federal sustainability requirements will take place in FY2011.</p> <p>The Department of Technical Resources is currently in the process of reviewing the existing Design Requirements Manual to discuss updates to reflect the integration of IPT as standard practices in the construction field. The NIH Guidance Manual for New Construction, which provides the IPTs with guidance as to meeting the <i>Guiding Principles</i> is posted on the NIH internal website. This manual is being reviewed for formal incorporation into NIH's Design Requirements Manual.</p>

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<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>	
Health and Human Services (HHS)	The IPT shall establish and monitor performance goals consistent with the sustainability strategy for the project and document in the FPAA.
Centers for Disease Control & Prevention/ ATSDR (CDC)	<p>The CDC has incorporated the sustainability MOU performance goals performance goals of the <i>Guiding Principles</i>, federal regulations and policy into the current Design and Construction Guidelines and measures performance by using through the LEED® certification process, or the Green Globes™ rating systems.</p> <p>Performance targets are also evaluated using (www.eere.energy.gov/femp) Building Life-Cycle Costing Program (BLCC 5.3-06), Target Base Energy Budget, and GREENGUARD (http://www.greenguard.org) low emission products for interior spaces, and industry Best Management Practices.</p> <p>For projects meeting HHS Capital Investment Review Board (CIRB) thresholds the IPT will:</p> <ul style="list-style-type: none"> • Establish and monitor performance goals consistent with the sustainability strategy for the project and document in the FPAA with the HHS Sustainability Checklist. • Establish goals at pre-project planning and identify specific technologies to be considered • Determine the level of appropriate certification under LEED® • Coordinate and incorporate EMS plans <p>For projects below the HHS CIRB 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), and reviewed/approved by CDC's standing Facilities Board.</p>
Food and Drug Administration (FDA)	<p>The FDA has completed Sustainability Assessments on 100% of its owned assets 5000 SF or more for the 'State of their Sustainability, using the HHS Existing Building Assessment Tool 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>

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Indian Health Service (IHS)	The 2010 IHS AE Guide and OEHE Technical Handbook Chapter 21-17.2 require Concept Phase sustainable design charettes where project specific sustainability goals are established. Goals are to be based upon the Guiding Principles and include sustainable sites, optimization of energy performance, protection and conservation of water, environmental impact of materials, enhancement of Indoor Environmental Quality, renewable energy and third-party certification. Progress toward those goals is monitored and reported on at key project milestones. Silver certification under the most current edition of LEED® is required.
National Institutes of Health (NIH)	<p>The <i>Guiding Principles</i>, 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 NIH Design Requirements Manual (DRM). A review, addressing potential gaps in sustainability requirements and/or standards in the DRM will take place in FY2011.</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 is continuing to finalize baseline energy and water intensity data for NIH laboratory and office buildings for use in setting project specific goals.</p>
<i>Considers all stages of the building's lifecycle, including deconstruction.</i>	
Health and Human Services (HHS)	The performance goals shall include Life Cycle Cost Analysis (LCCA).
Centers for Disease Control & Prevention/ ATSDR (CDC)	The CDC Design and Construction Guidelines require performance goals to align with life cycle cost effective solutions to meet those goals. The IPT is responsible for performing appropriate Life Cycle Cost Analysis (LCCA) for major systems, strategies, and components considered.
Food and Drug Administration (FDA)	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.

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Indian Health Service (IHS)	The 2010 AE Design Guide contains direction to perform life cycle cost analyses during initial 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.
National Institutes of Health (NIH)	<p>The 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 remediation of contaminants including the initial assessment, 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> <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>Commissioning: <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>	
Health and Human Services (HHS)	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). Commissioning for projects below the major capital threshold will be scaled to the scope of the project.
Centers for Disease Control & Prevention/ ATSDR (CDC)	The current CDC Design and Construction Guidelines require commissioning for all new capital construction projects and major renovations. Scope of commissioning to be determined by the project team on renovation and alteration projects below HHS Capital Investment Review Board thresholds. Capital construction projects and major renovations are to comply with the minimum commissioning requirements of LEED® Energy and Atmosphere (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. Additionally,

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	<p>the CDC complies with Section 432 EISA, the HHS Facilities Program Manual and the CDC Design and Construction Guidelines.</p> <p>The IPT develops a commissioning plan for each project based on the required commissioning procedures and the specific requirements of the project. The commissioning plan is incorporated in the design and construction documents for the project. Commissioning is performed by the IPT to include an experienced commissioning agent and documented in the commissioning report.</p> <p>Retro-commissioning or re-commissioning is tailored to the size and complexity of the building and its system components, in order to optimize and verify performance of fundamental building systems. The CDC Design and Construction Guidelines require retro-commissioning and re-commissioning to meet the requirements of EISA Section 432 and associated FEMP guidance.</p>
<p>Food and Drug Administration (FDA)</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>Indian Health Service (IHS)</p>	<p>The OEHE Technical Handbook Chapter 21-17.2 requires that all buildings be commissioned during construction and recommissioned every four years thereafter. The 2010 IHS AE Guide includes detailed building commissioning procedures and requires compliance with LEED® Fundamental and Enhanced Commissioning requirements. In general terms, required commissioning procedures are as follows:</p> <ol style="list-style-type: none"> 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&M manuals, this will provide an operating guide for the facility. 2. The Building System Commissioning Plan shall be outlined in the 65% construction document phase of the design as a submission separate volume. 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

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	<p>document shall define “The Commissioning Team” which includes a Qualified Commissioning Specialist.</p> <p>4. Health Care Facility systems includes Chilled water system (chiller, pump & coils control valves), Heating Hot water system (Boiler, pumps & coils control valve), HVAC system (AHUs, VAV box, Ventilation, DDC & duct work), Fire protection & Fire Alarm system, Electrical distribution system and other systems (such as O2, NO, & dental vacuum)</p>
<p>National Institutes of Health (NIH)</p>	<p>NIH commissioning requirements for laboratories and vivaria have been revised and released in a new publication. Commissioning requirements have been integrated into the updated Design Requirements manual (DRM) which is now available on the NIH website.</p> <p>Specifications implementing this <i>Guiding Principle</i> 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 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 listed in the DRM and NIH Fit-out Guidelines.</p> <p>The current on-going sustainability assessments are reviewing the existing buildings for the commissioning records and the need for retro/re-commissioning.</p> <p>NIH has created a commissioning committee, to oversee and verify the commissioning process for the larger projects. This team will assist the project officers in insuring that the projects are properly commissioned, and that the process is verified and documented. This team will also assist the project officers on the smaller projects as needed.</p> <p>NIH is reviewing the newly issued HHS policies for commissioning, re-commissioning and retro-commissioning to ensure NIH's policies are in alignment.</p>
<p>II. Optimize Energy Performance</p>	
<p>Energy Efficiency. <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</i></p>	

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<i>Star and FEMP designated Energy Efficient products, where available.</i>	
Health and Human Services (HHS)	<p>Each OPDIV shall develop guidelines to incorporate performance targets consistent with the MOU, EPAAct 2005, EO 13514 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 13514 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"> ○ 3% in FY 2007-2009 ○ 5% in FY 2010-2012 ○ 7.5% in FY 2013 and thereafter <p>In addition, EO 13514 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>Implement renewable energy generation projects on agency property.</p> <p>Per EPAAct 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 <i>Guiding Principles 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>Progress and implementation plan shall be reported in Annual Energy Report.</p>

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<p>Centers for Disease Control & Prevention/ ATSDR (CDC)</p>	<p>The current CDC Design and Construction Guidelines require compliance with the E.O. 13514, The <i>Guiding Principles</i> of the Federal Leadership in High Performance and Sustainable Buildings MOU, EPAAct 2005, EO 13423, and EISA 2007.</p> <p>Energy Efficiency</p> <p>CDC's Design and Construction Guidelines require projects meet or exceed energy performance targets set forth in the <i>Guiding Principles</i> of the MOU, E.O. 13514, E.O. 13423, EPAAct 2005, and EISA. The IPT is required to explore the use of ENERGY STAR and FEMP-designated Energy Efficient products, where available and meets the requirements of the project. Design teams are required to explore life cycle cost effective alternatives for exceeding energy efficiency requirements and/or on-site renewable energy generation towards meeting the 2030 net-zero-energy building goal.</p> <p>More detailed energy conservation strategies are included in the CDC Design and Construction Guidelines. The IPT is required to employ those design alternatives and energy conservation options identified by the IPT that are life cycle cost effective, that optimize the building design within the project budget limitations and achieve the required energy savings targets. Each project evaluates options for cost effective renewable energy technologies. The IPT evaluates the availability for ENERGY STAR and Federal Energy Management Program (FEMP)-designated products. The IPT employs energy saving strategies by evaluating the site design orientation, landscaping, structure, architectural features and components, major building mechanical, plumbing and electrical systems, equipment, controls, etc.</p> <p>CDC considers on-site and, or off-site renewable energy sources, if reliable sources are available and life cycle cost effective.</p> <p>Per EISA Section 433 and per the Department of Energy (DOE) revised federal energy performance standards, the IPT is required to ensure new construction and major renovations are designed so that the fossil fuel-generated energy consumption is reduced as compared with energy consumption of similar buildings in fiscal year 2003, as measured by Commercial Buildings Energy Consumption Survey (CBECS) or Residential Energy Consumption Survey data from the Energy Information Administration, by the following percentages: 55% for 2010, 65% for 2015, 80% for 2020, 90% for 2025, and 100% by 2030.</p> <p>Per EISA Section 434 the IPT is required to ensure that any large capital investment in an existing building that is not a major renovation (refer to HHS Facilities Program Manual Volume I, Section 3-5 <i>Sustainable and High Performance Buildings - Policy</i>) employ the most energy efficient designs, systems, equipment, and controls that are life-cycle cost effective, for example the replacement of installed equipment such as heating and cooling systems; or the minor</p>
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renovation, rehabilitation, expansion, or remodeling of existing space. Projects below the HHS Capital Investment Review Board threshold will evaluate performance targets and design alternatives using CDC's internal process, the Project Evaluation Ranking Tool (PERT). All other projects will evaluate performance targets and design alternatives, in accordance with the HHS Sustainable Buildings Implementation Plan (SBIP).

Per EISA Section 524 CDC reviews standby power watt usage of appliances and equipment and selects products with standby power mode use of not more than 1 watt, or if not available, the lowest standby power wattage available if life cycle cost effective and performance of selected product is acceptable.

On-Site Renewable Energy

Per EISA 2007, Section 523, the IPT will investigate the life cycle cost effectiveness to meet at least 30% of the hot water demand through the installation of solar hot water heaters. Per Executive Order 13423, the IPT evaluates the cost effectiveness of implement renewable energy generation projects on agency property for agency use. Each project will review the feasibility of adding on-site and off-site renewable energy sources. At a minimum the IPT will explore and prepare life cycle cost analysis for solar hot water, photovoltaics, and wind renewable energy sources. The project team to determine if other alternatives such as geothermal systems should be investigated.

The CDC posts work site energy saving, awareness information on the CDC intranet.

The following lists some of CDC's accomplishments for 2010

- Energy Efficiency - FY2003 base line consumption was 327,991 Btu/GSF. FY 2010 consumption was 271,947 Btu/GSF (including credits for renewable power purchased), which represents a 17.08% reduction from the 2003 baseline. Without the renewable energy credits the consumption was 271,975 Btu/GSF for a reduction of 17.07% from the 2003 baseline. The 17.08% reduction from the FY2003 baseline exceeds the *Energy Independence and Security Act* (EISA) 2007 goal of 15%.
- CDC purchased Renewable Energy. CDC's agreement with Georgia Power resulted in the purchase of 14,000,400 kwh of green power for FY 2010. CDC purchased 738,000 kwh of renewable wind energy from Avista Utilities for use at the Spokane, Washington, facility to represent 100% of the power used at that campus. Additionally, 7,225,318 kwh of the power purchased for the Ft. Collins, CO site was renewable power through Xcel Energy's WindSource program. All together these renewable sources represent 12% of the total electric use by CDC which exceeds the Energy Policy Act 2005 (EPAct 2005) requirements of 5%.
- A temporary parking lot was outfitted with solar powered LED lighting that did not require the installation of

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	<p>additional electrical service and draws no power from the CDC grid. When the temporary parking area is no longer needed the fixtures can be moved to other locations. The solar powered LED lights cut down on light pollution, maintain the amount of light needed for safety, reduce the need for power and reduce the overall cost of operations.</p> <p>The Ft. Collins Building 401 Core & Shell Space Build-Out - The new space uses 15.84% less energy for lighting than a standard laboratory. (Note: This project was underway prior to October 1, 2008.)</p>
<p>Food and Drug Administration (FDA)</p>	<p>The FDA has completed the sustainability assessment of 100% of its owned asset 5000 SF or more utilizing the HHS Existing Building Assessment Tool. A total of 1,741,998 SF was assessed. To ensure that FDA assets, at or below the ASA thresholds incorporate the <i>Guiding Principles</i>, 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 EAct 2005. 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 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® or Green Globes™ requirements.</p>

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<p>Indian Health Service (IHS)</p>	<p>The 2010 IHS AE Guide and the OEHE Technical Handbook Chapter 21-17.2 provides detailed guidance for compliance with the energy performance requirements of the MOU, EPACK, EO 13514, and EISA. Energy modeling is required for demonstration of compliance with 10 CFR 433, 434, and 435. Energy Star ratings are required. Advanced metering systems are required. All project budgets are required to include line items for on-site renewable energy systems and solar hot water heating systems.</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>National Institutes of Health (NIH)</p>	<p>The energy cost reduction requirements have been incorporated into the 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>A formal review, addressing any other potential inconsistencies between standard NIH design requirements listed in the DRM and newly mandated Federal sustainability requirements will take place in FY2011.</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 2010 for all NIH facilities was 359.3 compared to the 2003 Baseline of 470.4 kBtu/gsf. On this OPDIV-wide basis, NIH has reduced energy intensity 23% toward the 2015 goal of 30%. However, this was an increase in energy intensity compared to 2009. This increase is due to several factors: (1) the temporary discontinued use of the cogeneration facility because of repairs, (2) the renovation of a building that was previously unused, (3) weather extremes during extended periods of both the winter and summer seasons. The above data are documented in the 2010 NIH Energy Report.</p>

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<p>Measurement and Verification. <i>In accordance with DOE guidelines issued under section 103 of the Energy Policy Act of 2005 (EPAc), 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>Health and Human Services (HHS)</p>	<p>Each OPDIV shall install metering consistent with the MOU, EPAc 2005, EISA 2007 and EO 13514. HHS Metering Policy updated to current metering requirements for all utilities. 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>Centers for Disease Control & Prevention/ ATSDR (CDC)</p>	<p>The current CDC Design and Construction Guidelines require compliance with the E.O. 13514, The <i>Guiding Principles</i> of the Federal Leadership in High Performance and Sustainable Buildings MOU, EPAc 2005 and EISA. The CDC guidelines also include the following requirements:</p> <ul style="list-style-type: none"> • Meter all building utility services, including but not limited to, electrical, natural gas, chilled water, steam, and potable water, where life cycle cost effective. CDC is currently evaluating the separate metering of its data centers. Advanced meters to be provided where deemed life cycle cost effective. Advanced metering capabilities to measure and record interval data hourly and communicate the data to CDC's Energy Management System (EMS) and the Facilities Local Area Network (FACLAN). • Consider enhanced commissioning of systems once the facility has been occupied, for verification and comparison of system performance with design goals and parameters. • 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. <p>Some of CDC's accomplishments for 2010:</p> <p>The metering plan for CDC is ahead of the EPAc 2005 goals, with 80% of all GSF metered; 70% of all GSF has advanced metering. There are 49 facilities where it is life cycle cost effective to have advanced or standard electrical metering. Currently, 25 of these facilities have advanced and 12 facilities have standard electrical meters.</p> <p>CDC is on target performing sustainability/energy/water building assessments of its owned inventory for compliance with the <i>Guiding Principles</i> and EISA.</p>
<p>Food and Drug Administration</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 EPAc 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</p>

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(FDA)	and renovation projects to tract and continuously optimize performance in accordance with DOE guidelines issued under section 103 of EAct05. 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.
Indian Health Service (IHS)	<p>The IHS July 2006 Metering Implementation Plan establishes milestones for achieving the EAct 2005 advanced metering requirements. The IHS Metering Plan requires that installations and sites must be metered and how cost impacts should be budgeted.</p> <p>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.).</p>
National Institutes of Health (NIH)	<p>Building level utility metering has been installed in all applicable buildings on the NIH Bethesda campus. Off-campus facilities are under contract to install building level utility metering.</p> <p>NIH has implemented a utility data analysis system to gather, sort, and meter the utilities usage for each building. This system accrues information from the building's utility meters to determine measured energy use baselines, as well as measuring future energy usage to compare against the buildings baseline. This data is currently being compiled and analyzed by DEP and will be incorporated into the newly developed NIH GIS building database. The NIH GIS database will is a geographic information system database which will capture all building systems information, organize and distribute that information in a user friendly operating system. The energy data collected will also be imported in to the Labs21 database for use in assisting NIH in meeting LEED® Existing Building certification on applicable buildings.</p> <p>The NIH is utilizing the EPA Energy Star database program, Portfolio Manager, to assist with tracking the progress of meeting the <i>Guiding Principles</i>. In addition, all NIH buildings that meet the EPA defined criteria to utilize the EPA Energy Star benchmarking tool and scoring system, will apply for an Energy Star score. The NIH currently has 24 buildings entered into the Portfolio Manager and will begin Energy Benchmarking in mid FY 2011.</p> <p>For NIH facilities that do not qualify for an Energy Star score due to the building type and function, an alternate baseline for energy use intensity data will be compiled using the LEED® EBOM EA Credit 2.1 - Option C, which will utilize a national baseline of like buildings to create a benchmarking baseline to compare the NIH baseline against. This national average will be developed in part from the Labs21 database and benchmarking toolkit. The NIH GIS database is still being developed in phases, with some features of the database currently in operations. This database is available via the NIH website.</p>

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III. Protect and Conserve Water	
<p>Indoor Water. <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></p>	
<p>Health and Human Services (HHS)</p>	<p>Each OPDIV shall develop guidelines to incorporate performance targets consistent with the MOU, EAct 2005, EISA 2007 and EO 13514.</p> <p>Reduce 2% annually potable water consumption intensity through FY 2020 or 26% by the end of FY2020 (baseline FY 2007 water consumption).</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 required. Exceptions to the performance target shall be defined on a case-by-case basis.</p> <p>Identify, promote, and implement water reuse strategies that reduce potable water consumption.</p>
<p>Centers for Disease Control & Prevention/ ATSDR (CDC)</p>	<p>The current CDC Design and Construction Guidelines require compliance with the E.O. 13514, The <i>Guiding Principles</i> of the Federal Leadership in High Performance and Sustainable Buildings MOU, EAct 2005 and EO 13423. The current CDC guidelines also include:</p> <ul style="list-style-type: none"> • Distribution system audits, leak detection and repair. • Posting of water awareness information to encourage conservation from building occupants. • Use of low flow faucets with aerators or flow restrictors. Use of low flow shower heads, toilets and urinals. • Consideration given to re-circulating process cooling water, if life cycle cost effective. • Installing an automatic boiler/steam blow down system based on water quality to better manage the treatment of boiler make-up water. • Consideration given to capture air handling unit condensate water for irrigation or cooling tower makeup water, if life cycle cost effective. <p>CDC posts work site water saving, awareness information on the CDC intranet.</p> <p>CDC has developed a water use baseline, water use reduction plan, and incorporated Best Management Practices (BMPs) into its operations and maintenance programs.</p> <p>CDC is a committed partner in the EPA WaterSense Program. The CDC Design and Construction Guidelines require the IPT meet or exceed performance targets set forth in the <i>Guiding Principles</i>, EAct 2005 and the E.O 13423. The</p>

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	<p>IPT evaluates alternative water conservation strategies and determines if life cycle cost effective. For water conservation strategies for laboratories, the IPT reviews and evaluates, for project-specific appropriateness, the Labs21 <i>Water Efficiency Guide for Laboratories</i>. For equipment such as autoclaves and washers, the IPT considers equipment with internal water saving features that meet the performance requirements of the intended use.</p> <p>The following lists some of CDC's accomplishments for 2010</p> <ul style="list-style-type: none"> • CDC's total water consumption for FY 2010 was 252.682 Mgal and a usage intensity of 46.01 gal/GSF. This represents an improvement of 13.1% over the 52.9 gal/GSF reported in the baseline year 2007. This reduction exceeds the Executive Order 13423 <i>Strengthening Federal Environmental Energy and Transportation Management</i> mandate of 2% per year starting in FY2008 or 6% for FY2010. FEMP Best Management Practices continue to be used. Where feasible, older legacy systems utilizing one pass water for cooling are being removed or used as little as possible. <p>The Ft. Collins Building 401 Core & Shell Space Build-Out water efficiency is 43.87% more efficient than a standard laboratory.</p>
<p>Food and Drug Administration (FDA)</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 <i>Guiding Principles</i> 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>Indian Health Service (IHS)</p>	<p>The OEHE Technical Handbook Chapter 21-17.2 and 72-2 provides guidance for compliance with federal water conservation standards.</p> <p>The 2010 IHS AE Guide requires compliance with the LEED® Water Efficiency Prerequisite and to investigate and implement other LEED® Water Efficiency credits when feasible.</p>
<p>National Institutes of Health (NIH)</p>	<p>Requirements to follow all <i>Guiding Principles</i>, including conservation and protection of water have been placed in the NIH Design Requirements Manual. A formal review, addressing any other potential inconsistencies between standard NIH design requirements listed in the DRM and newly mandated Federal sustainability requirements will take place in FY2011.</p> <p>The DEP has provided specific guidance on meeting this requirement in the NIH Guidance Manual for New Construction which is published on the NIH/ORF internal website.</p> <p>An assessment tool was developed to assess the baseline water use intensity for NIH laboratory and office buildings.</p>

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	<p>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 increased 65.7 to 74.8, which is unfortunately an increase of about 13% from the 2009 baseline. This increase was mainly due to an increase in lab activities that are water intensive, increase use of chillers and an increase in leaks.</p> <p>Having worked with on the release of the update for the HHS Facilities Program Manual Volume 2, Section 4-13, Facilities Leak Detection Policy, NIH will begin to implement these policies into all ongoing operations, addressing the shortfalls in current leak detection procedures.</p> <p>NIH has implemented a utility data analysis system to gather, sort, and meter the utilities usage for each building. This system accrues information from the building's utility meters to determine measured water use baselines, as well as measuring future water usage to compare against the buildings baseline. This system has just been commissioned to verify the accuracy of the utility data. Currently this data is being compiled and analyzed by DEP and will be incorporated into the newly developed NIH GIS building database.</p>
<p>Outdoor Water. <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>Health and Human Services (HHS)</p>	<p>Each OPDIV shall develop guidelines to incorporate performance targets consistent with the MOU, EPAAct 2005, EISA 2007 and EO 13514.</p> <p>Reduce industrial, landscaping, and agricultural water consumption by 2% annually or 20% by the end of FY 2020 (baseline FY 2010 industrial, landscaping, and agricultural consumption).</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>

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<p>Centers for Disease Control & Prevention/ ATSDR (CDC)</p>	<p>Identify, promote, and implement water reuse strategies that reduce potable water consumption.</p> <p>The current CDC guidelines require compliance with the E.O. 13514, The <i>Guiding Principles</i> of the Federal Leadership in High Performance and Sustainable Buildings MOU, EAct 2005, EO 13423 and EISA.</p> <p>The current CDC guidelines also include:</p> <ul style="list-style-type: none"> • Use of low maintenance plant material, climate appropriate, non invasive, pest resistant, and drought resistant. Use of native and native adapted plants is encouraged. • Use of potable water for irrigation is prohibited. The IPT to evaluate water capture and reuse strategies for life cycle cost effectiveness to include but not be limited to rainwater, condensate for use in landscape irrigation or cooling tower make-up water,. • The IPT to evaluate the use of greywater or other life cycle cost effective water saving strategies and technologies to reduce the overall water consumption levels. <p>CDC requires compliance with the EISA 2007 requirements and has incorporated the requirements into the Design and Construction Guidelines 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>CDC requires compliance with local, State and EPA’s National Pollutant Discharge Elimination System (NPDES) CDC posts work site water saving awareness information on the CDC intranet. CDC has developed water use baseline, water use reduction plan and incorporated BMPs. CDC is a committed partner in the EPA WaterSense Program.</p> <p>The following lists some of CDC’s accomplishments for 2010</p> <ul style="list-style-type: none"> • CDC’s total water consumption for FY 2010 was 252.682 Mgal and a usage intensity of 46.01 gal/GSF at a cost of \$8.57/Kgal. This represents an improvement of 13.1% over the 52.9 gal/GSF reported in the baseline year 2007. This reduction exceeds the Executive Order 13423 <i>Strengthening Federal Environmental Energy and Transportation Management</i> mandate of 2% per year starting in FY2008 or 6% for FY2010. FEMP Best Management Practices continue to be used. Where feasible, older legacy systems utilizing one pass water for cooling are being removed or used as little as possible.
<p>Food and Drug Administration (FDA)</p>	<p>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, Eact 2005 and EO 13423.</p>

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Indian Health Service (IHS)	<p>The OEHE Technical Handbook Chapter 21-17.2 and 72-2 provides guidance for compliance with federal water conservation standards. Only indigenous plants are permitted and no potable water may be used for irrigation.</p> <p>The 2010 IHS AE Guide requires compliance with the LEED® Water Efficiency Credit 1 – Water Efficient Landscaping.</p>
National Institutes of Health (NIH)	<p>This <i>Guiding Principle</i> 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.</p> <p>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.</p>
<p>IV. Enhance Indoor Environmental Quality</p>	
<p>Ventilation and Thermal Comfort. <i>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.</i></p>	
Health and Human Services (HHS)	<p>Each OPDIV shall develop guidelines to incorporate performance targets consistent with the MOU and EPOA 2005. Innovation in design is encouraged. Exceptions to the performance target shall be defined on a case-by-case basis.</p>
Centers for Disease Control & Prevention/ ATSDR (CDC)	<p>The current CDC guidelines include the ASHRAE Standard 55-2004 and 62.1-2007 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"> • 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. • Evaluate all systems and air distribution devices for ventilation effectiveness. • Laboratories and vivariums shall be ventilated with 100% outside air. • Design ventilation ducts and shafts for 100% outside-air to the air handlers (this is also required by the outside-air economizer control requirement).

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	Exhaust flow rates from restrooms, locker rooms, janitor closets, fitness centers, and similar spaces shall correspond to minimum 10 air changes per hour.
Food and Drug Administration (FDA)	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 <i>Guiding Principles</i> and aid in the development of new policies.
Indian Health Service (IHS)	The 2010 IHS AE Guide and the OEHE Technical Handbook Chapter 21-17.2 requires compliance with the most current version of ASHRAE 55, ASHRAE 62.1, and the FGI Guidelines (which includes ASHRAE 170) thermal and ventilation standards.
National Institutes of Health (NIH)	<p>General requirements to follow all <i>Guiding Principles</i>, including ventilation and thermal comfort, have been placed in the NIH Design Requirements Manual. A formal review, addressing any other potential inconsistencies between standard NIH design requirements listed in the DRM and newly mandated Federal sustainability requirements will take place in FY2011.</p> <p>Specifications implementing this <i>Guiding Principle</i> 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 has provided specific guidance on meeting this requirement in the NIH Guidance Manual for New Construction which is published on the NIH/ORF internal website.</p> <p>Air quality testing and assessments have been included in the NIH joint Facility Condition Index and Sustainability Assessments currently being done on all NIH buildings. This program is part of the plan implemented at NIH to meet the requirement that all buildings be assessed against the <i>Guiding Principles</i> by 2015.</p>
Moisture Control. <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>	
Health and Human Services (HHS)	Each OPDIV shall develop guidelines to incorporate a moisture control strategy in each project that considers design, construction, operations and maintenance.

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<p>Centers for Disease Control & Prevention/ ATSDR (CDC)</p>	<p>The IPT develops the performance requirements appropriate for the project's geographic location at the planning stages of the project. Key elements for evaluation include drainage and storm water management, the building envelope and the mechanical systems. The IPT will review the design documents for compliance with best management practices for limiting moisture from condensation and other sources. Construction phasing to allow for substrate materials to dry-out the appropriate amount of time before subsequent construction begins. For larger projects the IPT to specify air infiltration and water penetration testing.</p> <p>The current CDC Design and Construction Guidelines require:</p> <ul style="list-style-type: none"> • 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. • Provide strategies for controlling moisture during construction and operation of the building. • Implementation of an appropriate moisture control strategy to prevent building damage, minimize mold contamination, and reduce health risks related to moisture. • Routine inspections of buildings for sources of moisture • Timely repair of problem areas • Maintain relative humidity at appropriate levels • Follow EPA mold remediation procedures <p>Consider including exterior envelope as part of the building commissioning.</p>
<p>Food and Drug Administration (FDA)</p>	<p>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 <i>Guiding Principles</i>.</p>

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Indian Health Service (IHS)	The 2010 IHS AE Design Guide establishes moisture control design practices to control moisture flows and condensation to prevent building damage and mold contamination. The designs are implemented based upon the geographic location and local climate conditions.
National Institutes of Health (NIH)	<p>NIH has established and implemented a moisture control, mold prevention and remediation policy meeting the requirements of this principle.</p> <p>General requirements to follow all <i>Guiding Principles</i>, including following a moisture control strategy, have been placed in the NIH Design Requirements Manual. A formal review, addressing any other potential inconsistencies between standard NIH design requirements listed in the DRM and newly mandated Federal sustainability requirements will take place in FY2011.</p> <p>The DEP has provided specific guidance on meeting this requirement in the NIH Guidance Manual for New Construction which is published on the NIH/ORF internal website.</p> <p>Moisture control assessments and remediation recommendation have been included in the NIH joint Facility Condition Index and Sustainability Assessments currently being done on all existing NIH facilities, with all buildings having been assessed by 2015.</p>
<p>Daylighting. <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>	
Health and Human Services (HHS)	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.
Centers for Disease Control & Prevention/ ATSDR (CDC)	<p>The current CDC Design and Construction Guidelines include the following:</p> <ul style="list-style-type: none"> • 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. • The IPT to consider the maintenance and life cycle costs as well as the disposal of light fixtures, bulbs and other components when comparing interior lighting systems. • The IPT to review various automated lighting control strategies along with sensors and unoccupied hour setbacks. The interior lighting strategy will take into consideration the reduction of night light pollution. Where building occupancy is anticipated to be 24 hours, the IPT to consider and compare life cycle cost of shading or dimming devices to reduce the light coming from the inside of the building.

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Food and Drug Administration (FDA)	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.
Indian Health Service (IHS)	The 2010 IHS AE Design Guide includes the 2 percent daylight factor, automatic dimming controls, accessible manual lighting controls, and daylight glare controls as design requirements.
National Institutes of Health (NIH)	<p>General requirements to follow all <i>Guiding Principles</i>, including daylighting, have been placed in the NIH Design Requirements Manual. A formal review, addressing any other potential inconsistencies between standard NIH design requirements listed in the DRM and newly mandated Federal sustainability requirements will take place in FY2011.</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 has provided specific guidance on meeting this requirement in the NIH Guidance Manual for New Construction which is published on the NIH/ORF internal website.</p> <p>Potential for day lighting and strategies for improving day lighting have been included in the NIH joint Facility Condition Index and Sustainability Assessments currently being done on all existing NIH facilities, with all buildings having been assessed by 2015.</p>
<p>Low-Emitting Materials. <i>Specify materials and products with low pollutant emissions, including composite wood products, adhesives, sealants, interior paints and finishes, carpet systems, and furnishings.</i></p>	
Health and Human Services (HHS)	Each OPDIV shall develop guidelines and/or standard specifications to incorporate low emitting materials and products.
Centers for Disease Control & Prevention/ ATSDR (CDC)	<p>The current CDC Design and Construction Guidelines require:</p> <ul style="list-style-type: none"> • At a minimum, meet the <i>LEED® Reference Guide for Green Building Design and Construction</i>, 2009 edition, <i>Indoor Environmental Quality (IEQ) Credit 4.1 Low-Emitting Materials - Adhesives and Sealants</i>, <i>Credit 4.2 Low-Emitting Materials - Paints and Coatings</i>, <i>Credit 4.3 Low-Emitting Materials - Flooring Systems</i>, <i>Credit 4.4 Low-Emitting Materials - Composite Wood & Agrifiber Products</i>, <i>Credit 4.5 Low-Emitting Materials – Furniture and Furnishings</i>, and <i>Credit 4.6 Low-Emitting Materials – Ceiling and Wall Systems</i>.

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	<ul style="list-style-type: none"> • It is the preference of the CDC that, when available, products certified as, or meeting the same criteria as GREENGUARD Indoor Air Quality Certified low emission products be used. These products currently include flooring, ceiling systems, paints and coatings, insulation, adhesives, and wall coverings with the potential to emit VOCs and other toxic materials, and used in construction, renovation, and repair. • Use of an integrated pest management plan to comply with E.O. 13514 Section 2 (e) (vii). Use of EPA-registered products only when needed. O&M to employ appropriate landscape management practices. • Per E.O. 13514, review of environmentally preferred alternatives for chemicals and processes to reduce the amount of hazardous chemicals used with hazardous emissions and, or, green house gases. • Use of alternatives to ozone depleting substances to the maximum extent feasible as identified by EPA's Significant New Alternatives Policy (SNAP) program.
Food and Drug Administration (FDA)	<p>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 <i>Guiding Principles</i> will be incorporated into the FDA design requirements manual.</p>
Indian Health Service (IHS)	<p>The 2010 IHS AE Design Guide requires compliance with LEED® IEQ credits addressing low-emitting materials and also requires the specification of furnishings with low pollutant emissions.</p>
National Institutes of Health (NIH)	<p>General requirements to follow all <i>Guiding Principles</i>, including use of low emitting materials, have been placed in the NIH Design Requirements Manual. A formal review, addressing any other potential inconsistencies between standard NIH design requirements listed in the DRM and newly mandated Federal sustainability requirements will take place in FY2011.</p> <p>Specifications implementing this <i>Guiding Principle</i> 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 has provided specific guidance on meeting this requirement in the NIH Guidance Manual for New Construction which is published on the NIH/ORF internal 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>

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	<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>Department of Health and Human Services developed the Affirmative Procurement Plan for Purchasing Environmentally Preferable Products and Services at the U.S. Department of Health and Human Services (DHHS) in April 2009. NIH has reviewed the document and has had discussions with DHHS to create an abbreviated document that highlights the main information from the Affirmative Procurement Plan.</p>
<p>Protect Indoor Air Quality during Construction. <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>	
Health and Human Services (HHS)	<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>
Centers for Disease Control & Prevention/ ATSDR (CDC)	<p>The current CDC Design and Construction Guidelines include:</p> <ul style="list-style-type: none"> • Compliance with <i>LEED® Reference Guide for Green Building Design and Construction</i>, 2009 edition, <i>Indoor Environmental Quality (IEQ) Credit 3.1 Construction IAQ Management Plan - During Construction</i> and <i>Credit 3.2 Construction IAQ Management Plan - Before Occupancy</i>, Option 1 Flush out and Option 2 Air Quality Testing. Note, for LEED® credit only one option is required, however the CDC requires both options. <p>CDC Policy prohibits tobacco use within the building and on CDC campuses</p>
Food and Drug Administration (FDA)	<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>
Indian Health Service (IHS)	<p>The 2010 IHS AE Design Guide requires compliance with LEED® credits addressing air quality management during construction and before occupancy. OSHA guidelines are included in all contracts.</p>
National Institutes	<p>General requirements to follow all <i>Guiding Principles</i>, including protection of indoor air quality during construction, have been placed in the NIH Design Requirements Manual. Per the FPAA checklist, all projects at NIH are required to</p>

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of Health (NIH)	<p>follow SMACNA guidelines. A formal review, addressing any other potential inconsistencies between standard NIH design requirements listed in the DRM and newly mandated Federal sustainability requirements will take place in FY2011.</p> <p>The DEP has provided specific guidance on meeting this requirement in the NIH Guidance Manual for New Construction which is published on the NIH/ORF internal website.</p>
<p>Recycled Content. <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>	
Health and Human Services (HHS)	<p>Each OPDIV shall develop guidelines and/or standard specifications to incorporate recycled content materials. EPA's recycled content product designations and recycled content recommendations are available on EPA's Comprehensive Procurement Guideline web site at www.epa.gov/cpg</p>
Centers for Disease Control & Prevention/ ATSDR (CDC)	<p>The current CDC Design and Construction Guidelines include:</p> <ul style="list-style-type: none"> • 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. • 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. <p>The CDC has recycling programs in place for building O&M and durable goods.</p> <p>CDC developed a furniture reuse and refurbishment program to reduce the amount of waste going to landfill and to reduce the amount of new resources used to manufacture new furniture. An informational brochure and "Road Show" was created to increase awareness of BFO's interior design services available and the furniture reuse initiative. Not only does the furniture reuse initiative reduce furniture going to landfill or being needlessly stockpiled, it creates a cost saving bonus. Reused furniture only requires the cost of moving the furniture and installation, or some in some cases minor refurbishment. Furniture that is being reused is coming from CDC buildings scheduled for demolition, or from leased facilities whose leases have been terminated or consolidated. An assessment of existing furniture is completed to determine if the furniture is needed and suitable for CDC's reuse. Furniture not suitable or identified for reuse by the CDC is distributed to other governmental agencies, schools and non-profits. Successful furniture reuse projects in recent years have resulted in a net savings of \$733,000.</p>

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	<p>The following lists some of CDC's accomplishments for 2010</p> <p>Carpet replacement projects are using 63-66% recycled content carpeting to replace the existing carpet in need of replacement. The old carpeting goes back to the manufacturer to be put back into the production stream of creating new carpet.</p> <p>The Building 24 construction project is including more than 20% of the construction materials from recycled sources.</p> <p>The Ft. Collins Building 401 Core & Shell Space Build-Out new construction materials include 25% recycled material and 24% from local and regional sources.</p>
Food and Drug Administration (FDA)	<p>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 <i>Guiding Principles</i>.</p>
Indian Health Service (IHS)	<p>The 2010 IHS AE Design Guide requires the specification of products that meet or exceed EPA recycled content recommendations and also requires compliance with LEED® Materials and Resources Credit 4 – Recycled Content.</p>
National Institutes of Health (NIH)	<p>General requirements to follow all <i>Guiding Principles</i>, including use of recycled content materials, have been placed in the NIH Design Requirements Manual. A formal review, addressing any other potential inconsistencies between standard NIH design requirements listed in the DRM and newly mandated Federal sustainability requirements will take place in FY2011.</p> <p>Specifications implementing this <i>Guiding Principle</i> 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 has provided specific guidance on meeting this requirement in the NIH Guidance Manual for New Construction which is published on the NIH/ORF internal website.</p>
<p>Biobased Content. <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>	

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Health and Human Services (HHS)	Each OPDIV shall develop guidelines and/or standard specifications to incorporate bio-based content materials. 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. USDA's biobased product designations and biobased content recommendations are available on USDA's BioPreferred web site at www.usda.gov/biopREFERRED . 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.
Centers for Disease Control & Prevention/ ATSDR (CDC)	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. The Ft. Collins Building 401 Core & Shell Space Build-Out - Over 70% of the wood on the project came from certified wood sources.
Food and Drug Administration (FDA)	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 <i>Guiding Principles</i> .
Indian Health Service (IHS)	The 2010 IHS AE Design Guide requires compliance with LEED® Materials and Resources Credit 4 – Recycled Content and Credit 7 – Recycled Wood. Also required is the specification of products with the highest content level per USDA's biobased content recommendations where available.
National Institutes of Health (NIH)	General requirements to follow all <i>Guiding Principles</i> , including use of low emitting materials, have been placed in the NIH Design Requirements Manual. A formal review, addressing any other potential inconsistencies between standard NIH design requirements listed in the DRM and newly mandated Federal sustainability requirements will take place in FY2011. 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. The DEP has provided specific guidance on meeting this requirement in the NIH Guidance Manual for New Construction which is published on the NIH/ORF internal website. NIH has begun switching from phosphorus to citrus based caged wash cleaners. In the revised custodial contract, language mandating the use of bio-based and Green Seal certified cleaning products has been included.

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<p>Waste and Materials Management. <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>	
<p>Health and Human Services (HHS)</p>	<p>Divert 50% of non-hazardous solid waste from disposal by the end of FY 2015. Does not include diversion to waste-to-energy plants. Divert 50% of construction and demolition materials and debris from disposal by the end of FY 2015.</p>
<p>Centers for Disease Control & Prevention/ ATSDR (CDC)</p>	<p>The current CDC design and construction guidelines require recycling or salvaging at least 50% of construction and renovation waste where feasible.</p> <p>The following lists some of CDC's accomplishments for 2010: Carpet replacement projects are using 63-66% recycled content carpeting to replace the existing carpet in need of replacement. The old carpeting goes back to the manufacturer to be put back into the production stream of creating new carpet. The Building 24 construction project at the Atlanta Roybal campus is diverting at least 75% of its construction waste from landfill. The Ft. Collins Building 401 Core & Shell Space Build-Out diverted 80% of its construction waste from landfill approximately 112 tons of waste.</p>
<p>Food and Drug Administration (FDA)</p>	<p>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 <i>Guiding Principles</i>.</p>
<p>Indian Health Service (IHS)</p>	<p>The 2010 AE Design Guide requires designs to earn LEED® Materials and Resources Prerequisite 1 – Storage and Collection of Recyclables and LEED® Materials and Resources – Construction Waste Management where services are available.</p>
<p>National Institutes of Health (NIH)</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 <i>Guiding Principles</i>, diverting close to 90% of the main Bethesda Campus construction waste from landfills.</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>

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<p>Ozone Depleting Compounds. <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>Health and Human Services (HHS)</p>	<p>Each OPDIV shall develop guidelines and/or standard specifications to eliminate the use of ozone depleting compounds.</p>
<p>Centers for Disease Control & Prevention/ ATSDR (CDC)</p>	<p>The current CDC design and construction guidelines include:</p> <ul style="list-style-type: none"> • 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. • 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 (HCFC) or Halon. Carefully consider the trade-offs between various CFC and Halon substitutes. • 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>Food and Drug Administration (FDA)</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 <i>Guiding Principles</i>. Ongoing sustainability assessments will determine existing conditions and aid in establishing specifications consistent with the <i>Guiding Principles</i>.</p>
<p>Indian Health Service (IHS)</p>	<p>OEHE Technical Handbook Chapter 21-17.2 requires the elimination of the use of ozone depleting compounds 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 lifecycle impacts</p> <p>The 2010 IHS AE Design Guide requires the specification of no refrigerants that contain CFCs and compliance with LEED® Energy and Atmosphere Prerequisite 3 – Fundamental Refrigerant Management and Credit 4 – Enhanced Refrigerant Management.</p>
<p>National Institutes of Health (NIH)</p>	<p>General requirements to follow all <i>Guiding Principles</i>, including prohibitions on the use of ozone depleting compounds, have been placed in the NIH Design Requirements Manual.</p> <p>The DEP has provided specific guidance on meeting this requirement in the NIH Guidance Manual for New Construction which is published on the NIH/ORF internal website.</p>

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	<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

I. Sustainable Buildings Baseline Inventory								
Total Buildings		Square Feet	# Assessed	Square Feet Assessed	% SF Assessed	Total # in Compliance	SF in Compliance	% SF in Compliance
<i>FRPP</i>								
<i>Owned</i>	2,811	31,355,399	241	13,215,299	42.15%	4	976,611	3.11%
<i>Direct Lease</i>	253	4,786,313	11	367,179	7.67%	0	0	0%
Total	3,064	36,141,712	252	13,582,478	37.58%	4	976,611	2.70%
<i>Baseline¹</i>								
<i>Owned</i>	496	27,077,405	159	13,102,417	48.39%	4	976,611	3.61%
<i>Direct Lease</i>	109	4,381,385	8	360,468	8.23%	0	0	0%
Total	605	31,458,790	167	13,462,885	42.79%	4	976,611	3.10%

II. Lease Actions						
FY 2009	# Awarded	Square Feet Awarded	# in Compliance		Total Square Feet in Compliance	% Awarded in Compliance
			By GP	By Certification		
<i>Continued GSA Assignment</i>	25	1,694,535	0 ²	0	0	0%
<i>New GSA Assignment</i>	28	622,118	0	1 ³	19,431	3.57%
<i>Direct Lease</i>	4	31,203	0	0	0	0%

1. Baseline Inventory captures all buildings over 5,000 sf in FRPP upload, except those planned for disposal by 2015. See Exhibit I.B.1 for detailed breakdown.
2. One Continued GSA Assignment reported compliance with many, but not all, of the Guiding Principles.
3. One New GSA Assignment reported compliance by certification (LEED® Gold).

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