SUBJECT: HIGH PERFORMANCE SUSTAINABLE BUILDINGS

[This Guide describes acceptable, but not mandatory means for complying with requirements. Guides are not requirements documents and are not to be construed as requirements in any audit or appraisal for compliance with associated rules or directives.]
FOREWORD

This Department of Energy (DOE) Guide, for use by all DOE elements, assists with documenting compliance with high performance sustainable building requirements.

This DOE Guide provides acceptable, but not mandatory, means for complying with requirements included in DOE Order 413.3B, Program and Project Management for the Acquisition of Capital Assets, current version. This DOE Guide does not impose, but may cite, requirements. Guides neither substitute for requirements nor replace technical standards that implement requirements. Send citations of errors, omissions, ambiguities, and contradictions found in this Guide to PMpolicy@hq.doe.gov.
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1 PURPOSE

1.1 OVERVIEW

This Guide addresses implementing the high performance sustainable building (HPSB) requirements in Department of Energy (DOE) Order 413.3B, Program and Project Management for the Acquisition of Capital Assets1 (“the Order”), current version, incorporating the HPSB principles in the design, construction, and commissioning of new, and renovation of existing, DOE buildings, and verifying their incorporation at Critical Decisions (CDs) 0 through 4 and project closeout.

Application of HPSB principles yields benefits including:

1. Reduced total (life-cycle) ownership cost of facilities;
2. Improved energy efficiency and water conservation;
3. Safe, healthy, and productively built environments; and
4. Protection of the natural environment.

1.2 ACQUISITION APPROACHES

The Order references two approaches for acquiring HPSBs.

1. Earning United States Green Building Council (USGBC) Leadership in Energy and Environmental Design2 (LEED) Building Design and Construction (BD+C) certification at the Gold rating level; and,

2. Achieving all of the 2016 Guiding Principles for Sustainable Federal Buildings3 (GPs) for new construction referenced by Executive Order (EO) 13834 implementing instructions.4

1.3 APPLICABILITY

1. This Guide applies to buildings acquired in accordance with the Order that DOE will either own or lease and that will have the characteristics in the following table:

<table>
<thead>
<tr>
<th>Criteria</th>
<th>LEED BD+C</th>
<th>GPs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Project Cost</td>
<td>≥ $50M</td>
<td>Any</td>
</tr>
<tr>
<td>Individual Building Size</td>
<td>≥ 1,000 GSF</td>
<td>&gt; 5,000 GSF</td>
</tr>
<tr>
<td>Real Property Trailers</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Human Occupants</td>
<td>Yes</td>
<td>Yes or No</td>
</tr>
<tr>
<td>Individual Building Cost</td>
<td>Any</td>
<td>Any</td>
</tr>
</tbody>
</table>

Sources: DOE Order 413.3B, USGBC Minimum Program Requirements5, DOE Order 430.1C

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1 DOE Order 413.3B, [https://go.usa.gov/xVW8j](https://go.usa.gov/xVW8j)
3 Guiding Principles for Sustainable Federal Buildings, [https://go.usa.gov/xpMbp](https://go.usa.gov/xpMbp)
4 EO 13834 Implementing Instructions, [https://go.usa.gov/xVW8k](https://go.usa.gov/xVW8k)
5 USGBC LEED MPR, [https://www.usgbc.org/credits](https://www.usgbc.org/credits)
2. Although structured by the CDs pertinent to capital asset projects with a total project cost of $50 million or more, this Guide also provides useful information for incorporating HPSB principles into minor construction projects acquiring or renovating buildings at DOE sites.

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6 DOE Order 413.3B refers to minor construction projects as “general plant projects (GPPs)”.
2 BASIS

2.1 DOE DIRECTIVES

1. DOE Order 413.3B, *Program and Project Management for the Acquisition of Capital Assets*\(^7\), along with its contractor requirements document (CRD), requires incorporating the HPSB principles in the project management of capital asset acquisitions involving the siting, design, construction, and commissioning of new facilities and major renovations of existing facilities.

2. DOE Order 430.1C, *Real Property Asset Management*\(^8\), in Section 4(b)(1)(c), requires that the construction or renovation of existing DOE-owned buildings larger than 5,000 gross square feet must meet the White House Council on Environmental Quality (CEQ) Guiding Principles for Sustainable Federal Buildings and Associated Instructions, February 2016, or subsequent revision (GPs).

3. DOE Order 436.1A, *Departmental Sustainability*\(^9\), implements sustainable practices for enhancing Department environmental, energy, and transportation management performance. Section 4(c) requires the preparation of site sustainability plans that typically include a list of planned HPSBs while Sections 4(c)(3) and 5(e)(2) require the utilization of environmental management systems that support HPSBs.

2.2 EXECUTIVE ORDER AND IMPLEMENTING INSTRUCTIONS

1. Executive Order (EO) 13834, *Efficient Federal Operations*\(^10\), directs the head of each agency to ensure that new construction and major renovations conform to applicable building energy efficiency requirements and sustainable design principles. For new construction and modernization (NC), EO 13834 implementing instructions, in Section III(A)(5), identifies as the basis for HPSBs either the GPs revised in 2016 or one or more third-party building certifications or standards identified by the General Services Administration (GSA). GSA has not published a list of third-party building certifications or standards yet.

2. According to the implementing instructions, CEQ will evaluate agencies based on progress made toward bringing or keeping 15 percent of their buildings 10,000 GSF or larger into compliance with the GPs. CEQ will give bonus credit to agencies that have buildings under 10,000 GSF that comply with the GPs by adding this compliant building area to both the denominator and numerator of the performance metric ratio. EO 13834 revokes and replaces EO 13693 which revoked and replaced EOs 13423 and 13514 referenced in DOE Order 413.3B and DOE Order 436.1A.

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\(^7\) DOE Order 413.3B, [https://go.usa.gov/xVW8j](https://go.usa.gov/xVW8j)

\(^8\) DOE Order 430.1C, Section 4(b)(1)(c), [https://go.usa.gov/xV5mN](https://go.usa.gov/xV5mN)

\(^9\) DOE Order 436.1, [https://go.usa.gov/xRwCR](https://go.usa.gov/xRwCR)

\(^10\) EO 13834, Section 2(e), [https://go.usa.gov/xVW8K](https://go.usa.gov/xVW8K)
2.3 GUIDING PRINCIPLES FOR SUSTAINABLE FEDERAL BUILDINGS

CEQ issued the GPs\footnote{FEMP, Resources on the Guiding Principles for Sustainable Federal Buildings, https://go.usa.gov/xVW8R and https://go.usa.gov/xVW85} in two documents: “Determining Compliance with the Guiding Principles for Sustainable Federal Buildings” (GP Compliance Document), which outlines evaluation criteria for each of the GPs and the “Guiding Principles for Sustainable Federal Buildings and Associated Instructions,” which provides instructions, guidance and recommended practices. Where the latter contains generalities, the former offers specifics.

2.4 OFFICE OF MANAGEMENT AND BUDGET CIRCULAR A-11 GUIDANCE

OMB Circular A-11\footnote{OMB, Circular A-11, Supplement to Part 7—Capital Programming Guide, https://go.usa.gov/xVW8E} addresses, among other topics, the planning, budgeting, and acquisition of capital assets. The Capital Programming Guide, a supplement to the Circular, in Section (1)(5)(1), requires integrated project teams (IPTs) to determine the extent to which asset acquisition or renovation requirements have incorporated sustainable design principles.

2.5 ACQUISITION REGULATIONS AND GUIDANCE

1. The Federal Acquisition Regulation (FAR) in 48 CFR §7.103(p)(3)\footnote{FAR, 48 CFR §7.103, https://go.usa.gov/xV5y3} directs heads of agencies to ensure their planners comply with the GPs in designing, constructing, or renovating federal buildings.

2. The Department of Energy Acquisition Regulation\footnote{DEAR, 48 CFR §952, https://go.usa.gov/xV5yB, and 48 CFR §970, https://go.usa.gov/xV5yk} (DEAR) supplement the FAR, which codifies uniform policies for acquisition of supplies and services by executive agencies, and contains clauses for inclusion in contracts. Several clauses support HPSB principles in the acquisition of capital assets. For the sustainable acquisition program, see DEAR 952.223-78 and DEAR 970.5223-7. For integration of environment, safety, and health into work planning and execution, see DEAR 952.223-71 and DEAR 970.5223-1.

3. The Department of Energy Acquisition Guide, Chapter 23.1\footnote{DOE Acquisition Guide, Chapter 23.1, Sustainable Acquisition Policy, https://go.usa.gov/xVW82}, addresses sustainability especially from the perspective of purchasing sustainable supplies, materials, and equipment.
3 BACKGROUND

3.1 OTHER RESOURCES

1. This Guide does not fully address all of the other governing statutes, rules, and other guidance related to sustainability at Federal sites, such as the Energy Policy Act of 2005\(^\text{16}\) (EPAct) and the Energy Independence and Security Act of 2007\(^\text{17}\) (EISA). Note that the GPs do not incorporate EISA Section 523 which requires agencies to install solar hot water heaters when lifecycle cost effective.\(^\text{18,19}\)

2. Regulation requires newly constructed buildings to comply with the applicable version of the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) 90.1\(^\text{20}\), or if low-rise residential, the International Energy Conservation Code (IECC),\(^\text{21}\) at a level 30 percent more energy efficient than the applicable version of ASHRAE 90.1 or the IECC if life-cycle cost effective or, if not life-cycle cost effective, at the maximum percentage more energy efficient than the applicable version of ASHRAE 90.1 or the IECC to achieve life-cycle cost effectiveness.\(^\text{22}\)

3. The Office of Project Management (PM) has published a glossary of DOE project management terms.\(^\text{23}\) A building meeting the GPs also conforms to the definition of a high performance green building.\(^\text{24}\) However, a building that conforms to the definition of a high performance green building has not necessarily conformed to federal statutes related to sustainability, met the GPs, or earned LEED Gold certification.

3.2 GUIDING PRINCIPLES

1. The GPs originate in the January 24, 2006 Memorandum of Understanding on Federal Leadership in High Performance and Sustainable Buildings,\(^\text{25}\) in which signatory agencies committed to follow a set of principles in the siting, design, construction and commissioning of federal buildings.

\(^{17}\) EISA, Pub. L. No. 110-140, https://go.usa.gov/xVW8D
\(^{19}\) FEMP, Solar Hot Water Heater Guidance, https://go.usa.gov/xVW8n and https://go.usa.gov/xVW8Q
\(^{20}\) See 10 CFR §433.100, https://go.usa.gov/xV5ZN, which specifies the applicable version of ASHRAE 90.1 based on when design began. Determine energy consumption levels using the performance rating method found in ASHRAE 90.1, Appendix G.
\(^{21}\) See 10 CFR §435.4, https://go.usa.gov/xpHvE, which specifies the applicable version of the International Energy Conservation Code based on when design began.
\(^{22}\) See 10 CFR §436.19 et. seq. for the methodology for determining life-cycle cost effectiveness.
\(^{23}\) DOE Acquisition and Project Management Glossary of Terms Handbook, https://go.usa.gov/xRwxb
\(^{24}\) Per DOE and GSA interpretation of the HPGB Definition, 42 USC §17061(13), https://go.usa.gov/xVfg
2. The GPs as revised in 2016 include:

   a. Employ integrated design principles;
   b. Optimize energy performance;
   c. Protect and conserve water;
   d. Enhance indoor environmental quality;
   e. Reduce environmental impact of materials; and,
   f. Assess and consider climate change risks.

3. Attachment 1 lists by GP element resources useful to projects.

### 3.3 LEED CERTIFICATION

1. The USGBC created the LEED rating system as an independent commercial green building certification program. The system provides guidelines for, and third-party verification of, features intended to improve environmental performance in functional areas including site selection and access, site development, energy and water consumption, materials selection, and indoor environmental quality. The Green Business Certification Inc. (GBCI) administers LEED including LEED Online, performs third-party technical reviews, and verifies LEED-registered projects.\(^{26}\) USGBC charges fees.\(^{27}\)

2. The LEED rating system offers multiple certification tracks applicable to different project or building types. The Order in its CRD specifies achievement of LEED certification at the Gold rating level but does not prescribe a particular certification track. Based on the number of points achieved, a project earns one of four LEED rating levels: Certified, Silver, Gold or Platinum. Due to its ubiquity in the commercial sector, construction contractors will likely have, or at least access to, expertise in LEED.

3. Each LEED rating system has minimum program requirements (MPRs) and credit category prerequisites. Buildings that cannot satisfy one or more MPRs and credit category prerequisites for a LEED rating system may not earn certification under that LEED rating system. Some credit category pre-requisites introduce scope beneficial only when a building will have human occupants.

### 3.4 EQUIVALENCE AND TRAINING

1. CEQ has not identified any green building certifications as equivalent to the GPs. Instead, DOE has determined that a LEED Gold rating level equates to compliance with the GPs under the following circumstances:

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\(^{27}\) USGBC LEED Fee Schedule, [https://www.usgbc.org/cert-guide/fees](https://www.usgbc.org/cert-guide/fees)
a. Any contracts supporting constructing a new, or renovating an existing, building invoke 48 CFR § 970.5223-7, Alternate I for Construction Contracts and Subcontracts; and,
b. The LEED credits earned satisfy the GPs per 10 CFR § 433.300(c).

2. GSA has determined that prerequisite and point criteria for LEED BD+C Version 4.0 do not incorporate the following component requirements of the GPs:

a. Radon detection; and,
b. Waste diversion for occupants.

3. GSA has further determined that buildings may earn LEED BD+C Version 4.0 certification without incorporating the following component requirements of the GPs:

a. Indoor air quality plans;
b. Moisture control;
c. Integrated pest management;
d. Actual energy use reduction;
e. ENERGY STAR products;
f. Energy efficiency benchmarking;
g. Procuring materials with recycled content; and,
h. Procuring materials with biobased content.

4. The Federal Energy Management Program (FEMP) provides training on the GPs including using spreadsheets to track compliance. USGBC offers training on LEED. Both offer reference materials. GSA and FEMP have also published other HPSB resources.

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28 Per 42 USC §17092(h), GSA reviews high-performance building certification systems quinquennially. GSA, HPB Certification System Review, Table 3-1, https://go.usa.gov/xVWN3
29 GSA, HPB Certification System Review, Table 3-1, https://go.usa.gov/xVWN3
30 FEMP, Training on the 2016 Guiding Principles, https://go.usa.gov/xVW8P
31 FEMP GP compliance tracking spreadsheets, https://go.usa.gov/xp7RM
4 ROLES AND RESPONSIBILITIES

4.1 CHIEF EXECUTIVE FOR PROJECT MANAGEMENT

Reviews CD documents including plans to incorporate the GPs or design for LEED Gold certification on projects with a total project cost equal to or greater than $750 million.

4.2 PROJECT MANAGEMENT EXECUTIVE

1. Adjudicates LEED Gold certification waiver requests.

2. Reviews CD documents including plans to incorporate the GPs or design for LEED Gold certification on projects with a total project cost equal to or greater than $100 million.

4.3 PROGRAM SECRETARIAL OFFICER

1. Sets sustainability goals for capital asset projects and ensures their incorporation in the mission need statement.

2. Devises a process for requesting LEED Gold certification waivers.

3. Reviews CD documents including plans to incorporate the GPs or design for LEED Gold certification on projects with a total project cost equal to or greater than $50 million.

4. Provides first tier interpretations of the GPs.

4.4 FEDERAL PROJECT DIRECTOR

1. Gains a familiarity with the GPs and LEED certification requirements.

2. Staffs the IPT with design and construction management professionals proficient in building commissioning, the GPs, and LEED certification requirements.

3. Arranges for the appointment of a commissioning agent.

4. Includes sustainability requirements in the scope to ensure compliance with DOE Order 413.3B. Verifies incorporation of GPs in design and construction documents. Furnishes documentation addressing sustainability to project review teams.

5. Arranges for the preparation and submission of LEED Gold certification waiver requests when necessary.

6. Documents plans associated with HPSBs in the DOE Sustainability Dashboard. Documents GPs met in FEMP GP checklists, LEED credits earned in the GBCI

system “LEED Online,” and applies for LEED certification. Documents completed HPSBs in the Facilities Information Management System (FIMS).34

4.5 DIRECTOR OF THE OFFICE OF ASSET MANAGEMENT

1. Issues guidance related to HPSBs, complying with GPs, updating site sustainability plans, and documenting plans to construct or renovate a HPSB.

2. Provides second tier interpretations of the GPs.

3. Reports to OMB annually the inventory of buildings complying with the GPs either outright or through equivalence.

4.6 PROJECT ANALYST IN OFFICE OF PROJECT MANAGEMENT

1. Includes lines of inquiry related to HPSB in reviews as appropriate.

2. Compares scope baselined to scope delivered to confirm that the project delivered HPSB-related requirements.

34 Facilities Information Management System (FIMS), https://fims.doe.gov/.
5 SCHEDULE

The below schedule arranges deliverables or actions required by the Order and recommended by this Guide according to the timing of their completion, either prior to or following a CD.

<table>
<thead>
<tr>
<th>Action</th>
<th>Basis</th>
<th>PRE</th>
<th>CRITICAL DECISION</th>
<th>POST</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Address meeting the GPs in Mission Need Statement and Program Requirements Document.</td>
<td>Guide</td>
<td></td>
<td>0</td>
<td>• Ensure IPT and support contractors have adequate expertise.</td>
<td>Guide</td>
</tr>
<tr>
<td>• Address meeting the GPs and earning LEED certification in the conceptual design report, acquisition strategy, analysis of alternatives, and project execution plan.</td>
<td>Order</td>
<td></td>
<td>1</td>
<td>• Ensure design contractors have adequate expertise.</td>
<td>Guide</td>
</tr>
<tr>
<td>• Document which parts of specific GPs, if any, do not apply to each building.</td>
<td>Order</td>
<td></td>
<td>2</td>
<td>• Ensure the contractor will provide adequate documentation.</td>
<td>Guide</td>
</tr>
<tr>
<td>• Address meeting the GPs in the final design and External Independent Review (or equivalent).</td>
<td>Order</td>
<td></td>
<td>3</td>
<td>• Document compliance with the GPs and LEED credits.</td>
<td>Guide</td>
</tr>
<tr>
<td>• Obtain an initial LEED credit determination</td>
<td>Guide</td>
<td></td>
<td></td>
<td>• Profile the buildings acquired or renovated in ENERGY STAR Portfolio Manager</td>
<td></td>
</tr>
<tr>
<td>• Confirm the GPs inclusion in commissioning plans.</td>
<td>Guide</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Verify compliance with the GPs.</td>
<td>Guide</td>
<td></td>
<td>4</td>
<td>• Confirm completeness of GP compliance records.</td>
<td>Guide</td>
</tr>
<tr>
<td>• Verify the completion of commissioning.</td>
<td></td>
<td></td>
<td></td>
<td>• Obtain a final LEED credit determination</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Confirm records in FIMS address compliance with the GPs.</td>
<td></td>
</tr>
</tbody>
</table>
6 DELIVERABLES

6.1 INITIATION PHASE

<table>
<thead>
<tr>
<th>Mission Need Statement and Program Requirements Documents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source: DOE Order 413.3B, Appendix A, Table 2.0</td>
</tr>
<tr>
<td>Applies to:</td>
</tr>
<tr>
<td>• Approve a Mission Need Statement Document with</td>
</tr>
<tr>
<td>recommendation from PM for projects with a TPC ≥ $100M.</td>
</tr>
<tr>
<td>• For NNSA only, prepare a Program Requirements Document</td>
</tr>
<tr>
<td>that defines the ultimate goals which the project must</td>
</tr>
<tr>
<td>satisfy.</td>
</tr>
</tbody>
</table>

1. The Mission Need Statement documents the gap between current and needed capabilities. Include in it a brief discussion on how the project intends to incorporate HPSB principles in its plans for constructing new or renovating facilities.

2. Address in the Program Requirements Document, required for NNSA projects per the Order, achieving a minimum of a LEED Gold rating and complying with the GPs.

3. Identify a representative of a site or field sustainability or energy management program office familiar with the current version of LEED and the GPs during the formation of the IPT. This representative will provide first tier interpretations of the GPs.

6.2 DEFINITION PHASE

<table>
<thead>
<tr>
<th>Conceptual Design Report, Acquisition Strategy, and Project Execution Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source: DOE Order 413.3B, Appendix A, Table 2.1</td>
</tr>
<tr>
<td>Applies to:</td>
</tr>
<tr>
<td>• Document Guiding Principles for Federal Leadership in High Performance</td>
</tr>
<tr>
<td>and Sustainable Building provisions . . . and/or other sustainability</td>
</tr>
<tr>
<td>considerations planned in the Conceptual Design Report, Acquisition</td>
</tr>
<tr>
<td>Strategy, and/or [Project Execution Plan (PEP)], as appropriate.</td>
</tr>
</tbody>
</table>

6.2.1 Planning Documents

1. Apply integrated design principles as early as possible and throughout the life of the project to both establish expectations up front and provide the framework for tracking progress throughout the project.

2. Benchmark the theoretical energy and water demands of each building proposed for construction or renovation under each alternative as part of determining the life-cycle costs for each alternative.

3. Include in the conceptual design report LEED and GP related requirements in the code of record. Post CD-1, identify the target LEED certification level.
4. Include in the acquisition strategy requirements that contractors or execution agents will need to meet, including LEED certification levels.

6.2.2 **Integrated Project Team**

1. Ensure the IPT has:
   
   a. Federal or contractor members with HPSB experience, including a LEED accredited professional\(^{35}\), who will document accomplishment of LEED credits and GP compliance; and,
   
   b. A representative from the commissioning agent that ideally will remain under contract to support the project through occupancy.

2. Select design firms with experience in sustainable buildings.

3. Use scorecards and checklists to keep the IPT informed of planned and completed actions supporting achieving LEED credits or GP compliance.

6.2.3 **LEED Registration**

Register projects with USGBC as soon as possible.\(^{36}\) Note registration incurs a fee. Although either federal or contractor personnel may register a project, if DOE plans to own the building, a federal employee signs the registration. Begin each registered building name with "US DOE," followed by the two letter program abbreviation of the project owner, the site abbreviation, and then the planned property name appearing in the FIMS Anticipated Asset Information Module.\(^{37}\) Once registered with USGBC, the building may comply with the current or a future version of LEED, whichever seems most advantageous to the project. After registration the project may:

1. Access reference materials that will aid in planning;
2. Access credit-specific templates;
3. Store project documents; and,
4. Assign roles to members of the integrated project team.

6.2.4 **Identifying Energy Goals**

1. Complying with the GPs for new construction requires an energy efficiency at least 30 percent better than the current ASHRAE 90.1 standard.\(^{38}\)

2. The current version of the International Green Construction Code may present options for energy efficiency ASHRAE 90.1 does not address.\(^{39}\)

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\(^{35}\) USGBC LEED Accredited Professionals, [https://www.usgbc.org/people](https://www.usgbc.org/people)

\(^{36}\) USGBC LEED Project Registration Agreement and Form, [https://www.usgbc.org/resources/leed-project-registration-agreement](https://www.usgbc.org/resources/leed-project-registration-agreement) and [https://www.leedonline.com](https://www.leedonline.com) or [https://arcskoru.com/](https://arcskoru.com/)

\(^{37}\) DOE Order 430.1C, Section 4(b)(1)(b), [https://go.usa.gov/xV5mN](https://go.usa.gov/xV5mN)

\(^{38}\) Guiding Principles for Sustainable Federal Buildings, [https://go.usa.gov/xpMbp](https://go.usa.gov/xpMbp)

3. The earlier energy efficiency planning begins, the more likely the project will maximize its LEED “Optimize Energy Performance” credit points.


6.2.5 Commissioning

Post CD-1, develop a commissioning plan with your commissioning agent. Address at a high level in the Preliminary Project Execution Plan (PPEP) startup and commissioning processes. Include in the Owner’s Project Requirements (OPR) and Basis of Design (BOD) documents commissioning requirements. Have the commissioning agent review both the OPR and the BOD.

6.2.6 LEED and GP Site Credits

Some GP elements concern site-wide policies or activities. Similarly, LEED awards some credits based on sustainable features or practices external to the building(s) seeking certification. Sites may leverage related documentation for multiple buildings seeking compliance with the GPs or LEED certification. Involve site sustainability contacts in planning discussions as they will provide supporting documentation.

6.2.7 LEED and GP documentation

Despite the similarities between the GP and LEED credit categories, specific requirements and documentation methods differ. Achieving a LEED Gold rating does not equate to meeting all of the GPs nor does achieving 100 percent of the GPs guarantee receipt of a LEED Gold rating. Track LEED credits and GP compliance separately; however, where requirements coincide, the IPT may use LEED credit documentation to document compliance with the GPs.

6.2.8 LEED Minimum Requirements

Post CD-1, with an alternative selected, the project may determine which buildings it will acquire or renovate will meet the USGBC-defined MPR and prerequisites for certification. The project may select any LEED rating system to follow for each building in the scope.

6.2.9 LEED Waiver

Where the IPT suspects that a building while meeting the LEED MPR will not satisfy LEED prerequisites or earn enough credits for a LEED Gold rating, the federal project director (FPD) requests a waiver from the Project Management Executive (PME). Section 7.7.1 describes the waiver process. Section 7.7.2 addresses instances where a building does not meet LEED MPR.

\(^{40}\) See 10 CFR §433.101, [https://go.usa.gov/xV5ZN](https://go.usa.gov/xV5ZN).
6.2.10 Communication with the Designers

Include in the OPR and BOD the requirements to (1) achieve LEED Gold certification absent a waiver the terms of which may still require earning LEED certification at a target certification level and (2) comply with the GPs.

6.2.11 Conflicting Requirements

If a federal regulation seems stricter than the GPs, LEED credit requirement, or industry standard, follow the federal regulation. The contracting officer, in consultation with the FPD, decides what constitutes stricter.

6.2.12 Scorecards and Checklists

1. Scorecards and checklists facilitate tracking the project’s sustainable features through design, construction, and transition to operations.

2. Based on the recommended alternative, and if seeking LEED certification, use a scorecard to identify LEED credits and points the project intends to earn.

3. If seeking compliance with the GPs outright to modernize an existing building, identify the preferred energy efficiency strategy in a checklist.

4. As the project progresses, use LEED scorecards to document completed and remaining credits for LEED certification and GP checklists to document actions planned and taken to achieve compliance. Find example scorecards and checklists in Attachment 2.

6.3 EXECUTION PHASE, PRIOR TO CRITICAL DECISION-2

<table>
<thead>
<tr>
<th>Preliminary Design and Design Review</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source: DOE Order 413.3B, Appendix A, Table 2.2</td>
</tr>
<tr>
<td>• Incorporate the Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings . . . and/or other sustainability considerations into the preliminary design and design review.</td>
</tr>
</tbody>
</table>

6.3.1 Assigning Responsibility

1. The FPD will address requirements associated with attaining a LEED Gold rating and compliance with the GP in the PDR, OPR, and contract documents including the BOD.

2. The FPD will identify one or more IPT members to bear the responsibility for each LEED credit or GP element and empower them to work closely with the appropriate members of the design team.
6.3.2 Routine Progress Meetings

Hold regular HPSB team meetings in order to review progress made and identify potential challenges to complying with a GP element or achieving LEED credits early. Continue meetings through the start of operations.

6.3.3 Preliminary Design

1. Verify 60 percent design incorporates all sustainable features except for final energy and water savings projections, which 90 percent design documents will include.

2. Identify achievable sustainable building features in the preliminary design report. Update the energy projections and model. Analyze the lifecycle cost effectiveness of installing solar hot water systems to meet at least 30 percent of the design hot water demand, per EISA Section 523.41

6.3.4 Use of “Not Applicable” for GPs

Identify GP NC elements or sub-elements deemed “not applicable” to each applicable building per Section 7.7.3. Justify each such determination in the GP checklist.

6.3.5 LEED Credit and GP Element Documentation

Update documentation so that it identifies the LEED level deemed achievable to include a LEED scorecard and GP checklist identifying the sustainable features that will contribute to achieving the certification. Much like USGBC provides a website for documenting compliance with credit requirements, FEMP provides checklists for the GPs.42 Identify risks to planned sustainable features and develop risk response strategies. Update scorecards and checklists to reflect the validated sustainable features of the preliminary project design and justify decisions to deem a GP element or sub-element not applicable.

6.3.6 LEED Waiver

Where the IPT suspects that a building while meeting the LEED MPR will not satisfy LEED prerequisites or earn enough credits for a LEED Gold rating, the FPD requests a waiver from the PME if it did not do so prior to CD-1. See Section 7.7.1 for a description of a waiver process.

6.3.7 Project Reviews

Include a line of inquiry related to the project’s sustainable features in project reviews.

6.3.8 USGBC Split Review

At the project’s request, GBCI completes a review of LEED credit documentation following preliminary design and a second and final review prior to project closeout. Negative determinations may result in the IPT revising documentation or pursuing additional credits.

41 FEMP, Solar Hot Water Heater Guidance, https://go.usa.gov/xVW8n and https://go.usa.gov/xVW8Q
42 FEMP, Resources on the GPs, https://go.usa.gov/xVW85
documentable during either final design or construction. Note that USGBC assesses fees for each review conducted by GBCI.

6.4 EXECUTION PHASE, PRIOR TO CRITICAL DECISION-3

<table>
<thead>
<tr>
<th>Final Design and External Independent Review</th>
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<tbody>
<tr>
<td>Source: DOE Order 413.3B, Appendix A, Table 2.3</td>
</tr>
<tr>
<td>• Incorporate the Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings . . . and/or other sustainability considerations into the Final Design and the EIR.</td>
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</tbody>
</table>

6.4.1 Final Design

Ensure that the final design and the solicitation for construction incorporate the sustainable features deemed necessary to comply with the GPs and attain LEED Gold certification in the absence of an approved waiver. Confirm specifications address acquiring environmentally preferable products for construction and other materials, energy efficiency, and recycling of construction and demolition waste. Select contractors with experience constructing sustainable buildings.

6.4.2 Scorecards and Checklists

Update scorecards and checklists to reflect any changes made during the final design process that might impact the project’s ability to comply with the GPs or achieve LEED certification. Reflect the final energy and water savings projections in updated scorecards and checklists.

6.4.3 Project Reviews

Include a line of inquiry related to the project’s sustainable features in project reviews.

6.4.4 LEED Credit and GP Element Documentation

Maintain documentation of LEED credits sought and attained along with GP elements satisfied.

6.4.5 Commissioning

Begin coordinating commissioning agents, subcontractors, site contractors, federal personnel, and federal support contractors to facilitate cooperation during testing, startup, commissioning, and transition to operations.

6.5 EXECUTION PHASE, PRIOR TO CRITICAL DECISION-4

<table>
<thead>
<tr>
<th>Construction and Commissioning</th>
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</thead>
<tbody>
<tr>
<td>Source: DOE Order 413.3B, Attachment 1, 15</td>
</tr>
<tr>
<td>• The Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings . . . must be applied to the siting, design, construction, and commissioning of new facilities and major renovations of existing facilities.</td>
</tr>
</tbody>
</table>
6.5.1 **LEED Credit and GP Element Documentation**

Earning certain LEED credits and satisfying certain GP elements depends on collecting each month information on construction activity pollution prevention, indoor air quality management, sustainable building materials, and construction and demolition waste recycling.

6.5.2 **Commissioning**

Confirm that the project’s commissioning plan incorporates the sustainable features of each building. The commissioning agent will verify correct installation and proper operation of equipment and systems followed by checking that personnel have received sufficient training in their operations and maintenance and that management contracts include each commissioned building.

6.5.3 **Benchmarking**

Add each acquired building to, or update existing building records in, the Environmental Protection Agency (EPA) ENERGY STAR Portfolio Manager to facilitate tracking of energy and water consumption in addition to greenhouse gas emissions.

6.6 **PROJECT CLOSEOUT PHASE**

<table>
<thead>
<tr>
<th>Documentation of Compliance with GPs and LEED Certification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source: DOE Order 413.3B, Appendix A, Table 2.5</td>
</tr>
<tr>
<td>• Complete and document achievement of Facility Sustainment goals (e.g., LEED Gold, LEED Silver, etc.), as applicable, via an independent third-party entity within one year of facility occupancy.</td>
</tr>
</tbody>
</table>

6.6.1 **Third-Party Entity**

1. GBCI serves as the third-party review entity for LEED certification.

2. Programs may determine compliance with the GPs themselves, through the project commissioning agent, or through an independent service provider external to the project that charges fees such as GBCI or Green Building Initiative.

6.6.2 **LEED Certification**

Obtain a final LEED credit determination from GBCI by requesting a construction review. Convene a formal ceremony for, and issue a press release upon, mounting the LEED certification plaque. Invite key stakeholders such as the PME to the ceremony. Provide to the site FIMS coordinator the LEED rating earned on each building acquired or renovated.

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43 GBCI GP compliance determination, [https://guidingprinciples.gbci.org/](https://guidingprinciples.gbci.org/)

44 GBI GP compliance determination, [https://thegbi.org/guiding-principles-compliance-certification/overview/](https://thegbi.org/guiding-principles-compliance-certification/overview/)
6.6.3 **GP Documentation**

Document compliance with the GPs in a final version of the GP checklist or in the project closeout report in accordance with the procedures set by the Program Secretarial Officer (PSO) of the Project Owner. Provide to the site FIMS coordinator documentation, such as a completed GP checklist, of the percentage of the GP NC achieved on each building acquired.

6.6.4 **GPs for Existing Buildings**

If a site wishes to document a building’s compliance with the GPs subsequent to a FIMS annual snapshot recording the building as either “evaluated and does not meet the guidelines” or “not yet evaluated”, the site would evaluate the building’s compliance with the GPs for Existing Buildings.\(^{45}\)

### 6.7 TAILORING AND EXCEPTIONS

<table>
<thead>
<tr>
<th>LEED Gold Waiver</th>
<th>Applies to</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source: DOE Order 413.3B, Attachment 1, 16</td>
<td></td>
</tr>
<tr>
<td>• At a minimum, all new construction and major building renovations must meet U.S. Green Building Council’s Leadership in Energy and Environmental Design (LEED) Gold certification absent an approved waiver from the PME.</td>
<td>• Pre-CD-2</td>
</tr>
</tbody>
</table>

#### 6.7.1 **LEED Gold Waiver Procedures**

1. Each PSO creates a waiver process for planned construction or renovation of buildings that meet the LEED MPR but will not earn a LEED rating of Gold or Platinum.

2. The PME adjudicates the waiver request. Waiver request adjudication may occur prior to the approval of CD-1 but may not occur after CD-2.

3. The PME may approve a blanket waiver applicable to specific usages or other objective attributes.

4. To support the waiver request, use a LEED scorecard to indicate the achievable sustainability criteria and justify sustainability criteria deemed unachievable. Reasons to request a waiver may include:
   a. A building meets the LEED MPR\(^ {46}\) but will not meet LEED prerequisites;
   b. A building meets the LEED MPR, will meet LEED prerequisites, but cannot achieve sufficient credits for a LEED Gold rating, and does not plan to obtain LEED Certification.

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\(^{45}\) FEMP, Resources on the GPs, [https://go.usa.gov/xVW85](https://go.usa.gov/xVW85)

\(^{46}\) USGBC LEED MPR, [https://www.usgbc.org/credits](https://www.usgbc.org/credits)
c. A building meets the LEED MPR and prerequisites, cannot achieve sufficient credits for a LEED Gold rating, but does plan to obtain a LEED Certification.

6.7.2 LEED Non-Applicability Documentation

1. Buildings that do not meet LEED MPR, or buildings meeting the LEED MPR but will have no human occupants, may forgo submitting a waiver request by documenting these findings in either a:

   a. Preliminary Design Report or the PEP; or,

   b. Memorandum to file from the PSO responsible for sustainability prepared in consultation with the IPT.

2. LEED non-applicable buildings have the potential to still comply with the GPs.

6.7.3 Non-Applicable GP Element Documentation

1. Document using a checklist any GP elements or sub-elements deemed “not applicable” to the building. A project may not deem all elements of a single GP “not applicable” but still claim compliance with the GPs.

2. The FPD may make a “not applicable” determination where the building’s inherent function, mission, safety or designation prevents compliance with a specific GP element, or sub-element.

3. The PSO responsible for sustainability or, when no such office exists, the Office of Asset Management reviews the project’s “not applicable” determinations prior to CD-2. Retain documentation of the determination with project and real property asset records.

6.8 SUMMARY SYSTEM DIAGRAM

Figure 1 depicts the inputs that inform the planning, design, and acquisition of HPSBs, tools and techniques used to track LEED points earned and GP elements met, and project management deliverables, i.e., outputs, that provide evidence of accomplishing the above.

<table>
<thead>
<tr>
<th>Inputs</th>
<th>Tools &amp; Techniques</th>
<th>Outputs</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Program Requirements Document</td>
<td>2. LEED Scorecards</td>
<td>2. GP Compliance Documentation</td>
</tr>
<tr>
<td>3. EO 13834 Instructions</td>
<td>3. Documentation templates</td>
<td>3. LEED Credits</td>
</tr>
<tr>
<td>4. GPs</td>
<td>4. LEED Online</td>
<td>4. LEED Certification</td>
</tr>
<tr>
<td>5. LEED Rating System</td>
<td>5. ENERGY STAR Portfolio Manager</td>
<td>5. LEED Gold Waiver</td>
</tr>
<tr>
<td>6. Commissioning plan</td>
<td></td>
<td>6. Benchmarked energy and water consumption</td>
</tr>
</tbody>
</table>

Figure 1: Inputs, Tools & Techniques and Outputs for HPSBs
7 ACRONYMS AND ABBREVIATIONS

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASHRAE</td>
<td>American Society of Heating, Refrigerating and Air-Conditioning Engineers</td>
</tr>
<tr>
<td>BD+C</td>
<td>Building Design and Construction</td>
</tr>
<tr>
<td>BOD</td>
<td>Basis of Design (<em>LEED term</em>)</td>
</tr>
<tr>
<td>CD</td>
<td>Critical Decision</td>
</tr>
<tr>
<td>CEQ</td>
<td>White House Council on Environmental Quality</td>
</tr>
<tr>
<td>CFR</td>
<td>Code of Federal Regulations</td>
</tr>
<tr>
<td>DEAR</td>
<td>Department of Energy Acquisition Regulation</td>
</tr>
<tr>
<td>DOE</td>
<td>Department of Energy</td>
</tr>
<tr>
<td>EIR</td>
<td>External Independent Review</td>
</tr>
<tr>
<td>EISA</td>
<td>Energy Independence and Security Act</td>
</tr>
<tr>
<td>EO</td>
<td>Executive Order</td>
</tr>
<tr>
<td>EPA</td>
<td>Environmental Protection Agency</td>
</tr>
<tr>
<td>EPAct</td>
<td>Energy Policy Act</td>
</tr>
<tr>
<td>FAR</td>
<td>Federal Acquisition Regulation</td>
</tr>
<tr>
<td>FEMP</td>
<td>Federal Energy Management Program</td>
</tr>
<tr>
<td>FIMS</td>
<td>Facility Information Management System</td>
</tr>
<tr>
<td>FPD</td>
<td>federal project director</td>
</tr>
<tr>
<td>IECC</td>
<td>International Energy Conservation Code</td>
</tr>
<tr>
<td>IPT</td>
<td>integrated project team</td>
</tr>
<tr>
<td>GBCI</td>
<td>Green Business Certification Incorporated</td>
</tr>
<tr>
<td>GPs</td>
<td>2016 Guiding Principles for Sustainable Federal Buildings</td>
</tr>
<tr>
<td>GSA</td>
<td>General Services Administration</td>
</tr>
<tr>
<td>GSF</td>
<td>gross square feet</td>
</tr>
<tr>
<td>HPSB</td>
<td>High Performance Sustainable Building</td>
</tr>
<tr>
<td>LEED</td>
<td>Leadership in Energy and Environmental Design®</td>
</tr>
<tr>
<td>M</td>
<td>million</td>
</tr>
<tr>
<td>MPR</td>
<td>Minimum Program Requirements</td>
</tr>
<tr>
<td>NC</td>
<td>new construction and modernization</td>
</tr>
<tr>
<td>OMB</td>
<td>Office of Management and Budget</td>
</tr>
<tr>
<td>OPR</td>
<td>Owner’s Project Requirements (<em>LEED term</em>)</td>
</tr>
<tr>
<td>PM</td>
<td>The Office of Project Management</td>
</tr>
<tr>
<td>PME</td>
<td>Project Management Executive</td>
</tr>
<tr>
<td>PSO</td>
<td>program secretarial officer</td>
</tr>
<tr>
<td>USACE</td>
<td>United States Army Corps of Engineers</td>
</tr>
<tr>
<td>USGBC</td>
<td>United States Green Building Council</td>
</tr>
<tr>
<td>WBDG</td>
<td>Whole Building Design Guide</td>
</tr>
</tbody>
</table>
8 SOURCES CITED


7. DOE Order 413.3B, Chg. 5, Program and Project Management for the Acquisition of Capital Assets, https://go.usa.gov/xVW8j.

8. DOE Order 430.1C, Real Property Asset Management, https://go.usa.gov/xV5mN.

9. DOE Order 436.1, Departmental Sustainability, https://go.usa.gov/xRwCR.


ATTACHMENT 1: RESOURCES BY GUIDING PRINCIPLE ELEMENT

1. Employ integrated design principles
   a. FEMP Training, https://go.usa.gov/xVWXj
   b. FEMP Commissioning, https://go.usa.gov/xVWXB
   c. GSA Commissioning Plan Template, https://go.usa.gov/xvqfA

2. Optimize energy performance
   b. Renewable energy, https://go.usa.gov/xpHH8
   c. Life-cycle cost analysis, https://go.usa.gov/xpHH9
   d. Metering, https://go.usa.gov/xVWX8

3. Protect and conserve water
   a. Water Products, https://go.usa.gov/xVWXn
   b. Conserve Water:
      i. Water Planning, https://go.usa.gov/xVWX5
      ii. Water Management, https://go.usa.gov/xVWXN
   d. Cooling Tower Management, https://go.usa.gov/xVWXP
   e. Stormwater, https://go.usa.gov/xVWXE

4. Enhance indoor environmental quality
   a. ENERGY STAR, https://go.usa.gov/xVWXy
   d. Integrated Pest Management, https://go.usa.gov/xp7R4

5. Reduce environmental impact of materials
   a. Purchasing:
      i. GSA Sustainability Tool, https://sftool.gov/
      iii. Environmental Protection Agency, www.epa.gov/epp/
6. Assess and consider climate change risk

b. EPA, Ozone Depleting Substances, [https://go.usa.gov/xVWXd](https://go.usa.gov/xVWXd)
c. EPA, Alternatives, [https://go.usa.gov/xVWXv](https://go.usa.gov/xVWXv)
1. LEED Scorecard example (http://bit.ly/2fQPKZG) – Link provides a legible version of the image below.

### LEED v4 for BD+C: New Construction and Major Renovation

<table>
<thead>
<tr>
<th>Location and Transportation</th>
<th>16</th>
<th>Materials and Resources</th>
<th>13</th>
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<td>LEED for Neighborhood Development Location</td>
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<td>Storage and Collection of Recyclables</td>
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<td>Construction and Demolition Waste Management Planning</td>
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<td>Surrounding Density and Diverse Uses</td>
<td>5</td>
<td>Building Product Disclosure and Optimization - Environmental Product Declarations</td>
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<td>Access to Quality Transit</td>
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<td>Building Product Disclosure and Optimization - Sourcing of Raw Materials.</td>
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<td>Bicycle Facilities</td>
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<td>Building Product Disclosure and Optimization - Material Ingredients</td>
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<td>Reduced Parking Footprint</td>
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<td>Green Vehicles</td>
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<td>Construction Activity Pollution Prevention</td>
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<td>Minimum Indoor Air Quality Performance</td>
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<td>Site Development - Protect or Restore Habitat</td>
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<td>Low-Emitting Materials</td>
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<td>Outdoor Water Use Reduction</td>
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<td>Building-Level Energy Metering</td>
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<td>LEED Accredited Professional</td>
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<td>Outdoor Water Use Reduction</td>
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<td>Indoor Water Use Reduction</td>
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<td>Cooling Tower Water Use</td>
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<td>Regional Priority: Specific Credit</td>
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<table>
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<td>Fundamental Commissioning and Verification</td>
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<td>Demand Response</td>
<td>2</td>
<td>Regional Priority: Specific Credit</td>
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<td>Renewable Energy Production</td>
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<td>Enhanced Refrigerant Management</td>
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<td>Regional Priority: Specific Credit</td>
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<tr>
<td>Green Power and Carbon Offsets</td>
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### II. Employ Integrated Assessment, Operation, and Management Principles

<table>
<thead>
<tr>
<th>Guiding Principle</th>
<th>Required or Additional</th>
<th>Metric</th>
<th>Suggested Evidence of Compliance (may need one or more)</th>
<th>Compliance (if required)</th>
<th>Notes/Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integrated Assessment, Operation, and Management</td>
<td>ROD</td>
<td>1. Consider the environmental impact of siting decisions and use an integrated project team to: establish energy and other environmental performance goals in the design process; follow sustainable landscape design principles; evaluate electric vehicle charging needs; consider design choices that improve environmental performance, support health and wellness of building occupants and consider climate risks including wildfire; and consider all stages of the building's life cycle.</td>
<td>- Integrated Team roster or equivalent&lt;br&gt;- Baseline Guiding Principles assessment&lt;br&gt;- Site assessment&lt;br&gt;- Sustainable design charrette&lt;br&gt;- Other</td>
<td>Yes</td>
<td>(Sample) Project uses integrated Project team; Energy goals and environmental goals established via LEED Gold; Sustainable design charrette was held on May 16, 2016 with the project team. Meeting results are available.</td>
</tr>
</tbody>
</table>

### III. Commissioning

<table>
<thead>
<tr>
<th>Guiding Principle</th>
<th>Required or Additional</th>
<th>Metric</th>
<th>Suggested Evidence of Compliance (may need one or more)</th>
<th>Compliance (if required)</th>
<th>Notes/Comments</th>
</tr>
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<tbody>
<tr>
<td>Commissioning</td>
<td>ROD</td>
<td>2. Commission and recommission at least every 4 years to optimize building performance using commissioning agents who are independent of the design and construction or operating team. Commissioning should be consistent with the Energy Independence and Security Act (EISA) section 432 and Federal Energy Management Program (FEMP) commissioning guidance.</td>
<td>- Commissioning report&lt;br&gt;- Other</td>
<td>Yes</td>
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</table>

### IV. Optimize Energy Performance

<table>
<thead>
<tr>
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<tr>
<td>Energy Efficiency</td>
<td>ROD</td>
<td>3. A. For new construction, ensure energy efficiency is 30% better than the current American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) 90.1 standard, OR&lt;br&gt;6. For modernization, ensure: 1) Energy use is 20% below the fiscal year (FY) 2015 energy use baseline, OR 2) Energy use is 30% below the FY 2003 energy use baseline, OR 3) The building has an ENERGY STAR® rating of 75 or higher, OR 4) For building types not in ENERGY STAR Portfolio Manager, where adequate benchmarking data exists, the building is in the top quartile of energy performance for its building type, AND&lt;br&gt;C. Use energy efficient products, as required by statute</td>
<td>- Document reduction calculation method and results&lt;br&gt;- ENERGY STAR Portfolio Manager documentation&lt;br&gt;- ENERGY STAR Portfolio Manager documentation&lt;br&gt;- Document reduction calculation method and results&lt;br&gt;- Agency or site purchasing policy&lt;br&gt;- Purchasing contracts&lt;br&gt;- Purchase orders&lt;br&gt;- Affirmative procurement reports&lt;br&gt;- Other</td>
<td>Yes</td>
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<td>Renewable and Clean Energy</td>
<td>ROD</td>
<td>4. Evaluate and implement, where appropriate, life cycle cost-effective renewable energy projects on-site, consider long-term off-site renewable sources and Renewable Energy Certificates (RECs); and utilize clean and alternative energy where possible.</td>
<td>- Renewable energy contract&lt;br&gt;- Utility records&lt;br&gt;- Photos of on-site renewable&lt;br&gt;- Photos of alternative energy&lt;br&gt;- Proof of purchase of RECs&lt;br&gt;- Other</td>
<td>Yes</td>
<td></td>
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