Bureau of Land Management
O & M Sustainability Practices for New and Existing Buildings

Introduction

The Bureau of Land Management (BLM) implemented a sustainable buildings program policy (July 3, 2006) to address the requirements of the Federal Leadership in High Performance and Sustainable Buildings Memorandum of Agreement (MOU). To ensure the benefits of sustainability carry on throughout the life cycle of the facility additional guidance is required in the area of Operations and Maintenance (O & M). The purpose of this document is to provide the added guidance needed by a facility manager who intends to upgrade their existing facility to incorporate sustainable O & M practices in an existing facility. The document is divided into four sections:

- A definition of O & M;
- An overview of the guiding principles;
- A list of the sustainable O & M practices that apply to each of the 5 guiding principles; and
- References.

An O & M Checklist is attached to provide facility managers and operations and maintenance personnel with a simple survey tool to determine the extent of the use of sustainable practices in their facility.

Definition of Operations and Maintenance

Operations and maintenance consists of the daily activities required to run a facility. These activities are made up of operating the building equipment, service calls, routine maintenance and repairs, cleaning, roads, parking and grounds maintenance.

The cost of running a facility can easily exceed the construction cost over the life of a facility. O & M costs consist of both labor and materials for the following four components:

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

The Five Guiding Principles

The Federal Leadership in High Performance and Sustainable Buildings Memorandum of Agreement (MOU) outlined five guiding principles, which are:

1. Employ Integrated Design Principles
    - Integrated Design
    - Commissioning
2. Optimize Energy Performance

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

Not all of these elements can be applied to O & M practices; however, each of the 5 principles contains at least one element that does apply to O & M.

Sustainable O & M Practices

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

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

- Set demanding short and long term goals.
- Measure performance so that the building can be benchmarked against other buildings.
- Easily adjust to changing occupant needs by designing in the capability to modify HVAC, lighting, electrical, telecommunications, safety, housekeeping and building automation control systems.
- Repair, upgrade, and re-commission building systems to ensure that they are performing at their peak performance.
- Extend the useful service life of materials and equipment.
- Prevent disruptive failures in the building and its systems.
- Promote greater productivity.
- Incorporate environmentally-protective features into all contracts, and all maintenance and procurement practices.
- Develop and maintain a master equipment list, with model and serial numbers, required spare parts, equipment specifications, and parts suppliers list.
- Develop and maintain an equipment history record file, noting dates of installation and repair history.
- Maintain operating manuals and specifications for equipment.

- Maintain air balancing reports and airflow specifications.
- Maintain as-built blueprints of mechanical, electrical, and plumbing systems and control blueprints showing how the systems operate.
- Develop and maintain preventive maintenance charts for each piece of equipment and work orders for those activities.

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

1. Employ Integrated Design Principles

1.1 Integrated Design

1.1.1 Train building occupants, facilities managers and maintenance staff in sustainable design principles.

1.1.2 Design the HVAC system so that maintenance and inspection will be easy to accomplish, including adequate space to maintain, repair and replace equipment in mechanical rooms and interstitial spaces. This includes providing access doors in ceilings or walls to reach air handling units, filter banks, fan-coil units, terminal boxes, and controllers or sensors that require regular maintenance and calibration (repair and maintenance).

1.1.3 Provide adequately sized and properly designed storage facilities in the building, such as a separately exhausted central chemical supply area near the loading dock, janitor's closets on each floor, dedicated recycling storage areas, and handling and transport mechanisms (custodial).

1.1.4 Include permanent walk-off grilles or mats at all entrances to eliminate tracked-in dirt. Use landscaping or railings to keep people on the pavement near the building entrances (custodial).

1.1.5 Select durable, low-maintenance, soil-resistant, low-emitting building materials, equipment, and furnishings. In heavily trafficked areas, carpet tiles may be preferable to broadloom because small stained sections can be replaced and recycled, avoiding use of powerful carpet cleaners (custodial).

1.1.6 Provide documentation of design intent for building systems (repair and maintenance).

1.1.7 Incorporate controls and feedback systems for building systems to inform the facility manager of conditions and deviations of the design intent.

1.2 Commissioning

1.2.1 Implement a comprehensive, preventive maintenance program to keep all building systems functioning as designed. Provide operations support to facilities managers and maintenance crews to answer questions and offer additional information. At a minimum, re-commission on a 10 year cycle (repair and maintenance).

1.2.2 During the construction phase and prior to turnover of the facility, O & M manuals are provided by the construction project manager to the O & M organization and O & M organization personnel are provided training required for O & M of the new facility (repair and maintenance).

2. **Optimize Energy Performance (utilities – all)**

2.1 Energy Efficiency

2.1.1 Controls

2.1.1.1 Use schedule, occupancy, or luminance sensors to control lighting and other functions.

2.1.1.2 Use timers to turn on/off equipment.

2.1.1.3 Manually turn off the lights, computers, and equipment if not equipped with automatic controls when not in use.

2.1.1.4 Enable power-down features on office equipment (Energy Star).

2.2 Measurement and Verification

2.2.1 Meter and monitor all utilities (utilities).

2.2.2 Benchmark the facility using EPA's Energy Star benchmarking tool (utilities).

2.3 Conduct energy and O & M audits.

2.4 Purchase energy from renewable sources (utilities).

3. **Protect and Conserve Water (utilities – all)**

3.1 Indoor Water

3.1.1 Inspect and repair leaks in a timely manner.

3.1.2 Install low flow fixtures.

3.2 Outdoor Water

3.2.1 Landscaping

3.2.1.1 Landscape with native, or indigenous, plants to minimize watering requirements (grounds).

3.2.2 Discharge Water

3.2.2.1 Discharge water meets EPA regulations (repair and maintenance).

3.2.2.2 Cooling tower make up water is metered (repair and maintenance).

4. Enhance Indoor Environmental Quality

4.1 Ventilation and Thermal Comfort

4.1.1 Develop and maintain master schedules for operations and preventive/predictive maintenance (repair and maintenance).

4.1.2 Continuously monitor equipment performance (repair and maintenance).

4.1.3 Assure early detection of defects or failures in equipment through use of service alarms (repair and maintenance).

4.1.4 Minimize equipment failures by use of preventive maintenance, standbys, etc. so that the failed component can be isolated and repaired without interrupting system performance (repair and maintenance).

4.1.5 Use internal and external test systems to locate faults and fix problems (repair and maintenance).

4.1.6 While HVAC systems may be designed to isolate operations (kitchens, dry cleaners, etc.) from other occupancies, the O & M staff should check to see that pressure differentials are in fact maintained, to avoid the undesirable flow of contaminants from restrooms, kitchens, parking garages, laboratories, etc. (repair and maintenance).

4.1.7 Outside air ventilation meets ASHRAE 62.1-2007 standards (repair and maintenance).

4.1.8 Indoor temperature and humidity conditions meet ASHRAE 55-2004 standards (repair and maintenance).

4.1.9 Air handling equipment is equipped or modified to be equipped with an economizer cycle (repair and maintenance).

4.2 Moisture Control

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

4.2.2 Prevent moisture condensation (repair and maintenance).

4.2.3 Maintain a water tight building envelope, including the roof (repair and maintenance).

4.3 Day-lighting – none specified

4.4 Low-Emitting Materials

4.4.1 Use integrated pest management methods of pest control as part of the overall building maintenance program (custodial).

4.4.2 Shut down ventilation system(s) and remove occupants until pesticide applications are completed. Perform applications during non-working hours to the maximum extent practicable (custodial).

4.4.3 For carpets, follow guidelines of the Carpet and Rug Institute (custodial).

4.4.4 Prevent excess moisture or cleaning residue accumulation (custodial).

4.4.5 When appropriate, select "certified" environmental cleaning products (custodial).

4.4.6 Develop safe handling, disposal, and storage practices including procedures for spill control (repair and maintenance).

4.4.7 Establish maintenance practices to minimize exposure to hazardous materials by substituting less hazardous materials (repair and maintenance).

4.4.8 Use cleaners that biodegrade rapidly (custodial).

4.4.9 Purchase products that are concentrated, using less packaging for more power (custodial).

4.4.10 Use non-toxic pest control for indoor spaces and plants (custodial).

4.4.11 Implement a structured preventative maintenance program to insure air ducts are clean and free of microorganisms through a structured program of preventive maintenance (repair and maintenance).

4.4.12 Low emission paint is used for maintaining surfaces (repair and maintenance).

5.0 Reduce Environmental Impact of Materials

5.1 Recycled Content

5.1.1 Start a comprehensive recycling program with source separation and occupant incentives (custodial).

5.1.2 Use on-site composting of organic materials (grounds).

5.1.3 Use landscaping products with recycled content (grounds).

5.2 Bio-based Content

5.2.1 Bio-based products are used that meet or exceed the USDA's biobased content recommendations (custodial).

5.2.2 Recycled paper products are purchased (custodial).

5.3 Construction Waste – Demolition waste is separated and recycled to the maximum extent practicable

5.4 Ozone Depleting Compounds

5.4.1 Retrofit/replace A/C equipment with environmentally friendly refrigerants (repair and maintenance).

5.4.2 Retrofit/replace Halon-based fire suppression equipment with environmentally friendly fire suppression agents (repair and maintenance).

References

More information can be obtained through the following websites:

WBDG—Construction Operations Building Information Exchange (COBIE)
Benchmarking, a Reliability Driver by Ray Oliverson, SMRP Presented at the 8th International Process Plant Reliability Conference (October 26, 1999)
DOD UFC 3-270-06 Paver Asphalt Surfaced Airfields Pavement Condition Index (PCI)
DOD UFC 4-310-02N Design: Clean Rooms
DOE/EE-0249 FEMP Low Energy Building Design Guidelines
DOE FEMP Operations and Maintenance Best Practices Guide: Chapter 3: O & M Management
DOE FEMP Operations and Maintenance: Pump Design / Selection
DOE FEMP Utility Services Case Study—Thermal Energy Storage at a Federal Facility
EPA I-BEAM—The Indoor Air Quality Building Education and Assessment Model (I-BEAM) is a guidance tool designed for use by building professionals and others interested in indoor air quality in commercial buildings.

Chapter - Ductwork cleaning/standards
Chapter - Exhaust System Design
GSA 2003 Facilities Standards (P100)—Appendix 3: New Constructions and Modernizations
WBDG—Construction Operations Building Information Exchange (COBIE)
DOE FEMP Commissioning Case Study—In-house Retro-commissioning at a DOE National Laboratory
DOE FEMP Operations and Maintenance Best Practices Guide: Chapter 7: Commissioning Existing Buildings
FEMP O & M Continuous Commissioning Guidebook
Energy Star® Buildings Manual Recommissioning
Example Retro-Commissioning Scope of Work
GSA - Succession Planning
Mechanical Systems Commissioning
Society for Machinery Failure Prevention Technology
TM 5-697 Commissioning of Mechanical Systems for Command, Control, Communications, Computer, Intelligence, Surveillance, and Reconnaissance (C4ISR) Facilities
WBDG—Construction Operations Building Information Exchange (COBIE)
DOD UFC 3-410-05N Heating Systems Operation and Maintenance
DOE FEMP Operations and Maintenance Best Practices Guide: O & M Management - Section 3.4 Measuring the Quality of Your O & M Program
DOE FEMP Operations and Maintenance Best Practices Guide: Types of Maintenance Programs - Section 5.1 through 5.5
DOE FEMP Operations and Maintenance Best Practices Guide: Types of Maintenance Programs - Sections 5.5 and 5.6 Reliability Centered Maintenance
DOE FEMP Operations and Maintenance Best Practices Guide: Chapter 8: Metering for Operations and Maintenance
Energy Star®Operation and Maintenance (O & M) Reports
"FEMP Operations and Maintenance Best Practices Guide" by Greg Sullivan PE, CEM, Pacific Northwest National Laboratory, Presented at the Energy 2003, August 18, 2003
FEMP Operations and Maintenance
Society for Machinery Failure Prevention Technology
Air Force Instruction 32-1051 Roof Systems Management
DOD UFC 3-600-02: O & M: Inspection, Testing, and Maintenance of Fire Protection Systems
DOE FEMP Operations and Maintenance Best Practices Guide: Types of Maintenance Programs - Section 5.4 Predictive Maintenance
DOE FEMP Operations and Maintenance Best Practices Guide: O & M Ideas for Major Equipment Types - Section 9.3 Steam Traps
DOE FEMP Operations and Maintenance Best Practices Guide: O & M Ideas for Major Equipment Types - Sections 9.4.6 to 9.4.8 Maintenance of Chillers
DOE FEMP Operations and Maintenance Best Practices Guide: O & M Ideas for Major Equipment Types - Section 9.5 Cooling Towers
DOE FEMP Operations and Maintenance Best Practices Guide: O & M Ideas for Major Equipment Types - Section 9.6 Energy Management/Building Automation Systems
DOE FEMP Operations and Maintenance Best Practices Guide: O & M Ideas for Major Equipment Types - Sections 9.6.6 to 9.6.9 EMS Maintenance

DOE FEMP Operations and Maintenance Best Practices Guide: O & M Ideas for Major Equipment Types - Sections 9.10.6 to 9.10.9 Maintenance of Air Compressors
Elevator inspection/repair
Energy Star® Buildings Manual Fan System Upgrades
Energy Star® Buildings Manual Lighting
EPA I-BEAM—The Indoor Air Quality Building Education and Assessment Model (I-BEAM) is a guidance tool designed for use by building professionals and others interested in indoor air quality in commercial buildings.
Chapter - Cooling Towers
FEMP Operations and Maintenance Fans Maintenance
FEMP Operations and Maintenance Lighting Technologies
FEMP Operations and Maintenance Maintenance of Pumps
FEMP Operations and Maintenance Steam Traps
FEMP Operations and Maintenance Types of Motors
Society for Machinery Failure Prevention Technology
TM 5-617 Facilities Engineering - Maintenance and Repair of Roofs
TM 5-692-1 Maintenance of Mechanical and Electrical Equipment at Command, Control Communications, Intelligence, Surveillance, and Reconnaissance (C4ISR) Facilities
TM 5-692-2 Maintenance of Mechanical and Electrical Equipment at Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) Facilities
VA Boiler Plant Operations - VHA Directive 2003-050
VA Electrical Power Distribution System Operations - VHA Directive 2006-056
DOE FEMP Operations and Maintenance Best Practices Guide: Chapter 4: Computerized Maintenance Management System

Note: this information was obtained from the WBDG Website.

Introduction/Instructions

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

1. Employ Integrated Design Principles

1.1 Integrated Design

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

☐ Yes ☐ No ☐ N/A

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

☐ Yes ☐ No ☐ N/A

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

☐ Yes ☐ No ☐ N/A

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

☐ Yes ☐ No ☐ N/A

1.2 Commissioning

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

☐ Yes ☐ No ☐ N/A

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

☐ Yes ☐ No ☐ N/A

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

☐ Yes ☐ No ☐ N/A

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

☐ Yes ☐ No ☐ N/A

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

☐ Yes ☐ No ☐ N/A

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

☐ Yes ☐ No ☐ N/A

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

☐ Yes ☐ No ☐ N/A

2. Optimize Energy Performance

2.2 Controls

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

☐ Yes ☐ No ☐ N/A

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

☐ Yes ☐ No ☐ N/A

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

☐ Yes ☐ No ☐ N/A

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

☐ Yes ☐ No ☐ N/A

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

☐ Yes ☐ No ☐ N/A

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

☐ Yes ☐ No ☐ N/A

2.2 Measurement and Verification

A. Is Electricity metered?

☐ Yes ☐ No ☐ N/A

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

☐ Yes ☐ No ☐ N/A

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

☐ Yes ☐ No ☐ N/A

2.3 Energy Auditing

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

☐ Yes ☐ No ☐ N/A

2.4 Renewable Energy

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

☐ Yes ☐ No ☐ N/A

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

☐ Yes ☐ No ☐ N/A

3. Protect and Conserve Water

3.1 Indoor Water

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

☐ Yes ☐ No ☐ N/A

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

☐ Yes ☐ No ☐ N/A

C. Is the water metered?

☐ Yes ☐ No ☐ N/A

3.2 Outdoor Water

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

☐ Yes ☐ No ☐ N/A

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

☐ Yes ☐ No ☐ N/A

3.3 Discharge/Storm Water

A. Facility discharge water meets EPA regulations.

☐ Yes ☐ No ☐ N/A

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

☐ Yes ☐ No ☐ N/A

4. Enhance Indoor Environmental Quality

4.1 Ventilation and Thermal Comfort

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

☐ Yes ☐ No ☐ N/A

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

☐ Yes ☐ No ☐ N/A

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

☐ Yes ☐ No ☐ N/A

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

☐ Yes ☐ No ☐ N/A

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

☐ Yes ☐ No ☐ N/A

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

☐ Yes ☐ No ☐ N/A

G. Outside air dampers all work as designed.

☐ Yes ☐ No ☐ N/A

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

☐ Yes ☐ No ☐ N/A

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

☐ Yes ☐ No ☐ N/A

4.2 Moisture Control

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

☐ Yes ☐ No ☐ N/A

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

☐ Yes ☐ No ☐ N/A

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

☐ Yes ☐ No ☐ N/A

4.3 Day-lighting

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

☐ Yes ☐ No ☐ N/A

4.4 Low-Emitting Materials

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

☐ Yes ☐ No ☐ N/A

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

☐ Yes ☐ No ☐ N/A

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

☐ Yes ☐ No ☐ N/A

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

☐ Yes ☐ No ☐ N/A

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

☐ Yes ☐ No ☐ N/A

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

☐ Yes ☐ No ☐ N/A

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

☐ Yes ☐ No ☐ N/A

H. Are cleaners used that biodegrade rapidly?

☐ Yes ☐ No ☐ N/A

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

☐ Yes ☐ No ☐ N/A

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

☐ Yes ☐ No ☐ N/A

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

☐ Yes ☐ No ☐ N/A

L. Low emission paint is used for maintaining surfaces?

☐ Yes ☐ No ☐ N/A

5.0 Reduce Environmental Impact of Materials

5.1 Recycled Content

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

☐ Yes ☐ No ☐ N/A

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

☐ Yes ☐ No ☐ N/A

C. Use landscaping products with recycled content?

☐ Yes ☐ No ☐ N/A

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

☐ Yes ☐ No ☐ N/A

5.2 Bio-based Content

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

☐ Yes ☐ No ☐ N/A

5.3 Construction Waste – N/A

5.5 Ozone Depleting Compounds

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

☐ Yes ☐ No ☐ N/A

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

☐ Yes ☐ No ☐ N/A

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

☐ Yes ☐ No ☐ N/A

5.5 Hazardous Materials

A. The facility has a comprehensive Asbestos program.

☐ Yes ☐ No ☐ N/A

B. The facility has a comprehensive Mercury program.

☐ Yes ☐ No ☐ N/A

C. The facility has a comprehensive PCB program.

☐ Yes ☐ No ☐ N/A

D. The facility has a comprehensive Lead program.

☐ Yes ☐ No ☐ N/A