

BPS 007 – Operations and Maintenance Programs

OR BPS Background

The Oregon Building Performance Standard (OR BPS) is a mandatory program that aims to bring awareness about building energy use to owners of existing commercial buildings, and to reduce energy use and utility costs for less efficient buildings. Buildings that must comply with this program are divided into two tiers, based on Gross Floor Area and property type. The table below shows the two tiers covered by the OR BPS program and gives compliance dates.

Oregon Building Performance Standard Tiers

Gross Floor Area (excludes parking garage area)	Property Type	Tier / Compliance Date
35,000 to 90,000 square feet	Nonresidential, Hotel, or Motel	Tier 1 / June 1, 2030
90,000 to 200,000 square feet	Nonresidential, Hotel, or Motel	Tier 1 / June 1, 2029
200,000 square feet and greater	Nonresidential, Hotel, or Motel	Tier 1 / June 1, 2028
20,000 to 35,000 square feet	Nonresidential, Hotel, or Motel	Tier 2 / July 1, 2028
35,000 square feet and greater	Multifamily, Hospital, School, University, Dormitory, Barracks, Prison, Residential/Senior Care Facility	Tier 2 / July 1, 2028

Tier 2 buildings are required to **report Energy Use Intensity and Energy Use Intensity Targets** by their July 1, 2028, compliance date.

Tier 1 buildings are required to **report Energy Use Intensity and Energy Use Intensity Targets** and submit operation & maintenance and energy management plans by their compliance date. They must also **meet EUI** or demonstrate an effort to **reduce energy use**. Tier 1 buildings that expect to exceed their energy target must report at least **180 days before** their compliance date, perform **energy audits** and **life cycle cost assessments**, and develop a plan to implement **cost-effective energy efficiency measures** by their June 1, 2028/2029/2030, compliance dates.

This guidance describes what to submit about Operations and Maintenance programs for Tier 1 buildings. Additional guidance documents are available on the OR BPS website:

<https://tinyurl.com/ODOE-BPS>.

Operations and Maintenance Programs

All Tier 1 buildings are required to establish and implement Operations and Maintenance (O&M) programs. The objective of an O&M program is to ensure that a building's energy-using systems operate at their intended efficiency levels throughout their service life. O&M programs establish performance goals and track all necessary maintenance tasks for building equipment.

As laid out in Section 6 and Normative Appendix C of the Oregon Building Performance Standard, every Tier 1 building must have an O&M program with the following elements:

- List of measurable program objectives, such as maintaining indoor comfort and air quality and achieving certain levels of energy use or energy efficiency
- Inventory of items needing inspection and maintenance, along with their manuals, manufacturer contacts, parts suppliers, and repair contractors
- Schedule of planned inspection and maintenance tasks
- Catalog of all building operating procedures, including control settings and schedules for all equipment during occupied and unoccupied hours
- List of all building personnel and their contact information
- Log of inspection results and maintenance work
- Tracked data for measurable program objectives

Informative Appendix I of Oregon Building Performance Standard 100 also describes the types of inspections and maintenance to be performed on different building components, including:

- Building Envelope
- Domestic Hot Water Systems
- HVAC Systems
- Refrigeration Systems
- Lighting Systems
- Controls Systems
- Power Distribution and On-Site Generation Systems

OR BPS Operations and Maintenance Program Reporting

OR BPS requires each Tier 1 building owner and Qualified Person to review the building's O&M program and records. If any elements are missing or are not performed satisfactorily, building personnel are to make improvements.

The **OR BPS O&M and EMP Checklist** is a combined document to be filled out by a Tier 1 building's Qualified Person and submitted by the building's compliance date. The O&M portion of the checklist is included below, listing the required elements for each O&M program. These elements must be in place over the year prior to the O&M submission for first-time OR BPS applicants, or since the last submission for later applications. There is also an optional [OR BPS O&M and EMP Template](#) available, a spreadsheet tool a facility may use to help meet O&M requirements.

O&M Checklist for Tier 1 Buildings

Building UBID ID Number:

Building Owner:

Qualified Person:

Element	YES
6.2 Operations and Maintenance Program. A formal operations and maintenance (O&M) program is established and implemented in order that the building's energy-using systems achieve their intended energy efficiency throughout their service life.	<input type="checkbox"/>
6.3 Operation and Maintenance Implementation. An operations and maintenance (O&M) program has been implemented in accordance with Normative Appendix C.	<input type="checkbox"/>
6.4.1 Maintenance for all equipment, components and systems has been established in accordance with applicable manufacturers' requirements and includes tasks that minimize failures and maintain energy efficiency, such as those found in Informative Appendix I for the following building systems. building envelope, domestic hot water, heating, ventilation, and air conditioning, refrigeration, lighting, controls, electric Power Distribution and on-site power generation.	<input type="checkbox"/>
6.4.2 Safe and reasonable access is provided to all equipment covered by the O&M program for inspection, maintenance, and repairs.	<input type="checkbox"/>
6.4.3 O&M requirements are reevaluated when building use changes or renovations / alterations are made that affect the facility's operations.	<input type="checkbox"/>
6.5 Tenant Improvements. The Qualified Person has implemented a formal process to ensure that any tenant improvements involving a change in space use or the relocation of partitions (including partial height partitions) do not change the annual net energy use except to the extent that the annual net energy use change (increase or decrease) is consistent with any change in the building's energy target.	<input type="checkbox"/>
6.6.1 Equipment and Component Replacement. Equipment and component replacement shall be performed in accordance with the capital management plan, if applicable, described in Section 5.1.3.3 of the OR BPS standard. Replacement equipment shall meet all applicable energy efficiency requirements in the federal equipment standards, state equipment standards, and the applicable building code.	<input type="checkbox"/>
6.6.2 Lighting Replacement. When lighting equipment is replaced, the replacement equipment shall meet all applicable energy efficiency requirements in federal equipment standards, state equipment standards, and the applicable building code.	<input type="checkbox"/>
6.6.2.2 Lighting Replacement. Replacement lighting equipment does not increase the existing installed lighting power demand, unless the existing installed lighting power may proportionally increase when the current light levels are below those recommended in the Illuminating Engineering Society (IES) Lighting Handbook.	<input type="checkbox"/>

Element	YES
C3.1 Inventory of Items to be Inspected and Maintained. Components of building systems that impact the building's performance have been inventoried and used to establish unacceptable system condition indicators, inspection frequencies, and maintenance tasks.	<input type="checkbox"/>
C3.2 Maintenance Plan. The maintenance plan was written and developed specifically to meet the size, design, scope, and complexity of the systems serving our facility. The plan describes required tasks, identifies the parties responsible for performing these tasks, specifies the authorizing party, documents completion of required tasks, and subsequently monitors the results.	<input type="checkbox"/>
C3.2.1 Inspection and Maintenance Tasks. Inspection and maintenance tasks for inventoried equipment, systems, and controls have been established. Inspections include the physical assessment of system components and may include measurement of operating parameters and data provided by sensors or a building management system (BMS). Maintenance tasks include adjustment, service, or replacement of inventoried equipment and systems. Control systems settings, including but not limited to set points, schedules, and sequence of operations, are inspected and maintained.	<input type="checkbox"/>
C3.2.2 Inspection and Maintenance Task Frequencies. Frequency of inspection and maintenance tasks for inventoried equipment, systems, and controls have been established. If unacceptable condition indicators or unacceptable performance is found during two (2) consecutive inspections, the owner or owner's designated representative investigates and analyzes possible causes.	<input type="checkbox"/>
C3.2.3 Condition Indicators. Indicators of unacceptable system and equipment conditions have been established. These indicators are measurements or observations of conditions that could lead to failure or performance degradation.	<input type="checkbox"/>
C3.2.4 Maintenance Program Objectives. Program objectives are established to define desired outcomes for the maintenance program for all building systems and equipment that impact building envelope performance, and that deliver required thermal and visual comfort, energy efficiency, and indoor environmental quality, and other services. Program objectives are measurable quantities that can be trended over time and define maintenance program success. Program objectives are based on responsible party requirements and operating procedures. The responsible party and the implementing party shall mutually agree on the program objectives. The program objectives are documented and reviewed periodically.	<input type="checkbox"/>

Element	YES
C4.1 Maintenance Plan Authorization and Execution. Inspection and maintenance tasks are performed on an established frequency or upon documented observance of unacceptable condition. Whether authorized by written or verbal instructions, execution of the task is documented and archived for future reference.	<input type="checkbox"/>
<p>C5. Revision of the Maintenance Program. The O&M program is reviewed, and revisions considered, in any of the following situations:</p> <ol style="list-style-type: none"> 1. Modifications have occurred that impact building performance objectives. 2. The building function or use changed and impacts performance objectives. 3. Building system component changes have occurred. 4. One or more systems are incapable of achieving their performance objectives. 5. Upon documented recommendation from the maintenance provider. <p>Miscellaneous changes to equipment condition or status, facility, or acquisition of new maintenance technology, or revision of task frequencies in response to actual condition results in improved condition or reduced inspection and maintenance work.</p>	<input type="checkbox"/>
C5.1 Degradation of Condition and Performance. Degradation of equipment condition or performance that is observed while performing scheduled inspection and maintenance tasks or on other occasions is documented.	<input type="checkbox"/>
C5.2 Response to Changes. Upon initial discovery or observation of the degraded state, the situation is resolved through appropriate corrective or preservative action. If preservative action cannot resolve the degraded status, then further action outside the scope of this standard is taken if required.	<input type="checkbox"/>
C5.3 If unacceptable condition indicators or unacceptable performance are found on a system or component during two successive inspections, the maintenance plan and condition history of the system or component is reviewed to determine if the inspection frequency or the maintenance task frequency should be increased. Further, maintenance tasks are also reviewed for improvement opportunities. Results of the review, and revisions to the maintenance plan, are documented and implemented.	<input type="checkbox"/>
C5.4 If acceptable condition indicators or acceptable performance are observed during three successive inspections, the maintenance plans are reviewed for opportunities to reduce task frequencies or work procedures without compromising condition or performance. Revisions to task frequencies and work procedures shall be documented.	<input type="checkbox"/>
C5.5 Climate-related or facility operational requirements may impact execution of the maintenance plan and are reviewed along with the maintenance plan for opportunities to revise task frequencies or work procedures. Revisions to task frequencies and work procedures shall be documented.	<input type="checkbox"/>
C5.6 Equipment Warranty. O&M work does not supersede equipment manufacturers' warranty terms and conditions and other guidance that may require different tasks or task frequencies.	<input type="checkbox"/>