



INFORMATION

Reduced Occupancy Guidance for LEED 2009 Existing Buildings: Operations & Maintenance and LEED for Existing Buildings: Operations & Maintenance v2008

Guidance version 1

Effective date: 10/8/09

Recommended – This guidance is applicable to any registered or prospective LEED EB: O&M project that has experienced reduced occupancy. It may allow projects to register for LEED EB: O&M that were previously unable to because of reduced occupancy. USGBC recommends that all projects with reduced occupancy follow this guidance.

Required – USGBC and GBCI will actively enforce this guidance for all registered LEED EB: O&M projects that meet either of the following conditions:

- 1) LEED registration occurred before the effective date listed above and average occupancy is below 75%, OR
- 2) LEED registration occurred after the effective date listed above and average occupancy is below 90%

Introduction

Under the [Minimum Program Requirements \(MPRs\)](#), version 2009 LEED EB: O&M projects must be in a state of typical physical occupancy for the entire performance period as well as at least 12 continuous months immediately preceding the first submission for certification review. LEED EB: O&M v2008 projects are subject to a similar requirement. USGBC has relaxed the threshold that projects must meet in order to satisfy this requirement, effective immediately for all projects in LEED EB: O&M v2009 and v2008.

USGBC defines typical physical occupancy (i.e., full occupancy) to mean the building experiences:

- normal usage and occupancy patterns throughout its floor area, and
- normal operations of its systems, equipment, and support staff throughout its floor area

The term “normal” is subject to interpretation for some building uses, i.e., for some applications (leased offices, hotels, convention centers, etc.) the normal condition may be that part of the building is unused for some periods of time. Historically, USGBC has addressed this ambiguity for LEED EB: O&M v2008 and v2009 as follows: whole buildings have been considered fully occupied if at least 75% of their floor area is fully occupied according to the definition above.

USGBC has now relaxed this threshold to 50% of floor area for all building types except hotels. For hotels, compliance now requires that the building have an annual average occupancy of 55% or greater. All LEED EB: O&M projects that meet the new relaxed thresholds are deemed to comply with the v2008 and v2009 minimum occupancy MPRs. This new eligibility is granted regardless of where the project is in its LEED engagement, whether registered or not, and if registered, whether or not any LEED EB: O&M performance periods have begun. Various forms of averaging are permitted in order to derive the occupied floor area metric.

General Guidance

This document contains technical guidance explaining how LEED EB: O&M project teams demonstrate compliance when a reduced occupancy condition exists. The technical guidance only pertains to projects having an average occupied floor area between 50 and 90% over the time period described above. Buildings having occupied floor area above 90% are deemed fully occupied and need not follow the technical guidance.

Generally, for partially occupied buildings LEED project teams document the performance of the entire building, as is done for 100% occupied buildings. What differs for partially occupied buildings is that some of the space – the completely vacant or unused space – has no activity, which for some LEED EB: O&M credits changes the way the performance is documented. The guidance below provides further details on how this is done for any affected credits. All fully or partially occupied spaces use the normal LEED documentation procedures.

Generally, a LEED EB: O&M certification focuses on activity that occurred during the performance periods for the various credits; i.e., the certification is “backward-looking”. As such, for almost all credits the program includes no “forward-looking” requirements that apply in the future (EA credit 4 is one example of an exception). Likewise, the prerequisites and credits listed below that have special requirements for vacant spaces include no forward-looking requirements. However, the basic goal of the LEED EB: O&M program is to promote high performance operations that continue over time. As such, USGBC recommends and expects that project teams will follow all the applicable guidance below to all spaces that become newly occupied over time. Note that a LEED EB: O&M certification is valid for 5 years at most, and that this compliance for newly occupied spaces **MUST** occur in order for the prerequisites and credits to remain eligible for future recertification.

LEED EB: O&M v2008 and v2009 allow a standard exemption of up to 10% of the building’s floor area for spaces under separate management and control (see the Reference Guide for more details). In such cases up to 10% of the building can be excluded from the LEED EB: O&M application entirely. This standard exemption can be used whether the building is 100% occupied or partially occupied. However, if the exemption is used it raises the required minimum occupancy level in the remaining space that is part of the LEED EB: O&M application. *A minimum of 50% of the entire building’s floor area must be fully occupied and included in the scope of the LEED EB: O&M application.*

Implementation Guidance

For buildings with partial or fluctuating occupancy during the performance period, project teams must track the performance of any occupancy-sensitive LEED elements over time and correlate them properly with any significantly varying occupancy conditions. For example, although ventilation systems in a space may be operated in a reduced-flow mode while the occupancy is low, it must be raised to the proper levels once the occupancy is high. Similarly, in rating a building’s energy efficiency performance, for some building types the actual occupancy levels must be entered into the ENERGY STAR Portfolio Manager tool in order to properly normalize the building’s energy use; such information must be kept up to date to reflect current average occupancy conditions.

Projects teams shall summarize any applicable partial occupancy conditions in the proper summary forms in LEED Online. For LEED EB: O&M v2009 projects (LEED Online v3), this is done in the project information forms; for LEED EB: O&M v2008 (LEED Online v2) this is done in the general submittals form. USGBC will be updating selected LEED Online credit forms over time to incorporate more specific occupancy-related guidance where needed. In the meantime project teams shall use the optional special circumstances (v2009) or alternative compliance (v2008) section in all applicable LEED Online credit forms to explain how varying occupancy was tracked and accounted for over time. Project teams may also upload any additional calculations or documentation to the applicable credit forms as needed.

Technical Guidance for Selected Credits

The guidance below explains how to account for reduced occupancy conditions in all affected LEED EB: O&M credits. If a credit or credit category is not shown, that means “no change” – the credit scope applies to the entire project building (or in the case of MRp1, MRp2, and EQp3, the portion of the building not under separate management and control), and project teams use normal LEED documentation procedures for that credit.

For all rows in the table, the credit scope applies to the entire project building unless otherwise stated.

Water Efficiency		
Credit	Title	Reduced Occupancy Guidance
Prerequisite 1 and Credit 2	Minimum Indoor Plumbing Fixture and Fitting Efficiency And Additional Indoor Plumbing Fixture and Fitting Efficiency	<p>To determine the annual usage of each plumbing fixture type use the following rules:</p> <ul style="list-style-type: none"> For floors or separate tenant spaces that are fully occupied or partially occupied during some portion of the performance period, use the normal procedures for this prerequisite. Assume any partial-year numbers apply on an annual basis as well unless circumstances justify an adjustment. For floors or separate tenant spaces that are completely vacant or unused throughout the entire performance period, use the default values for occupancy listed in ASHRAE standard 62.1 for the given space type (this maintains consistency with EQp1). Distribute the default occupants reasonably to the various fixture types present in the building. Create usage groups in the WEp1 calculator to account for the vacant areas. These rules apply to both base building/core fixtures and tenant space fixtures. If fixture upgrades are required to achieve compliance, USGBC recommends that project teams focus first on base building/core fixtures.
Energy and Atmosphere		
Credit	Title	Reduced Occupancy Guidance
Prerequisite 1	Energy Efficiency Best Management Practices	<p>Ensure the building operating plan, sequence of operations, and preventive maintenance plan include all completely vacant space within their scope, and that they call out any practices that differ for vacant space vs. occupied space.</p> <p>Ensure the proper practices were all followed in the building during the performance period for vacant space as well as occupied space.</p>
Prerequisite 2 and Credit 1	Minimum Energy Efficiency Performance And Optimize Energy Efficiency Performance	<p>In order to get an accurate ENERGY STAR rating, project teams must use the following guidance. (This guidance is identical to that listed on ENERGY STAR Portfolio Manager.)</p> <p>Office buildings:</p> <ol style="list-style-type: none"> Completely vacant or unused space must be entered separately from fully occupied or partially occupied space Completely vacant or unused space must be entered with zero workers, zero operation hours (even if the space is conditioned), and zero personal computers. Fully occupied and partially occupied spaces are entered using normal procedures. If occupancy conditions change over time during the performance period, average occupancy levels of all spaces must be kept up to date in Portfolio Manager <p>For all other space types, no other changes are required for this credit.</p>
Indoor Environmental Quality		

Credit	Title	Reduced Occupancy Guidance
Prerequisite 1 and Credit 1.3	Minimum IAQ Performance And Increased Ventilation	<p>MECHANICALLY VENTILATED SPACES:</p> <p>All ventilation systems and exhaust fans in the building must be measured and/or tested according to the requirements of the prerequisite. To determine the minimum outside air volumes required for each air-handling unit use the following rules:</p> <ul style="list-style-type: none"> • For ventilation zones that are fully occupied or partially occupied during some portion of the performance period, use the normal procedures for this prerequisite. • For ventilation zones that are completely vacant or unused throughout the entire performance period, calculate the required CFM using the default values for occupancy listed in ASHRAE standard 62.1 for the given space type. <p>LEED EB: O&M does not require that ventilation systems be run for vacant or unused space; only that the systems be proven to be capable of delivering the proper ventilation air when needed. This is done by verifying ASHRAE 62.1 compliance by conducting outside air measurements under assumed normal 100% building occupied conditions.</p> <p>For actual operation, project teams should consider appropriately reducing the amount of ventilation air supplied to vacant space.</p> <p>NATURALLY VENTILATED SPACES:</p> <p>No change – entire project building using normal procedures.</p>
Credit 1.4	IAQ Best Management Practices – reduce Particulates in Air Distribution	<p>Use the following rules to demonstrate credit compliance:</p> <ul style="list-style-type: none"> • Air delivery systems must be physically capable of delivering MERV 13 or better filtration throughout the entire building according to the normal credit requirements. • In actual use the building is permitted to employ lower MERV filters for any completely vacant or unused spaces while they are vacant. All fully occupied and partially occupied portions of the building must use MERV 13 or better filtration in actual use.
Credit 2.1	Occupant Comfort – Occupant Survey	The credit performance threshold is based on the fully occupied and partially occupied portions of the building. Any spaces completely vacant or unused at the time of the survey make no contribution to the results and may be excluded.
Credit 2.2	Controllability of Systems – Lighting (or “Occupant comfort – occupant-controlled lighting” in v2008)	<p>The credit performance threshold is based on the fully occupied and partially occupied portions of the building. Any spaces completely vacant or unused throughout the entire performance period make no contribution to the results and may be excluded.</p> <p>Additionally, any base building/core systems in place that support lighting controls for the occupied portion (i.e., a building automation system) must be capable of supporting similar functions for all vacant space.</p>
Credit 2.3	Occupant Comfort – Thermal Comfort	The credit requirements apply to all the fully occupied and partially occupied portions of the building. Any spaces completely vacant or unused throughout the entire performance period make no contribution to the results and may be

	Monitoring	<p>excluded.</p> <p>Additionally, any base building/core systems in place that support thermal comfort monitoring for the occupied portion (i.e., a building automation system) must be capable of supporting similar functions for all vacant space.</p>
Credit 2.4 (and 2.5 in v2008)	Daylight and Views	The credit performance threshold is based on the fully occupied and partially occupied portions of the building. Any spaces completely vacant or unused throughout the entire performance period make no contribution to the results and may be excluded.
Innovation in Operations		
Credit 3	Documenting Sustainable Building Cost Impacts	Include the building's average occupancy level (% of total floor area fully occupied) for each period with cost data. For example, if the data are listed yearly, and the occupancy level is 85% when averaged over a given year, show that number in the data table for that year.