



DOCUMENT ADDENDA

For the documents titled: **LEED Reference Guide for Green Building Operations and Maintenance, 2009 Edition** (*second edition, updated April 2010*)

Note: This document contains addenda to the reference guide listed above and will be published on a quarterly basis beginning in April 2010. For more information, visit the USGBC website <http://www.usgbc.org/leed/tools/interpretations>.

Note: This document contains addenda pertaining to the LEED 2009 Alternative Compliance Paths for Projects Outside the U.S. This language was released in October, 2011 and was not reflected in the Reference Guide addenda. The 2009 Alternative Compliance Paths for Projects Outside the U.S. have been integrated into the rating system language as of the July 6, 2012 addenda release and all previous versions of these paths are no longer valid.

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| viii | Water Efficiency (WE) | n/a | n/a | To the far right of the line for "Credit 4.2," insert "115" | 7/19/2010 |
| xiv* | Minimum Program Requirements | n/a | n/a | Replace the last sentence of the first paragraph with "To view the MPRs and the MPR Supplemental Guidance, visit the LEED Resources and Tools section of www.usgbc.org/projecttools ." | 11/3/2010 |
| xiv | Above Registration section | n/a | n/a | <p>Insert the following text:</p> <p>Multiple Buildings and On-Campus Projects The 2010 LEED Application Guide for Multiple Buildings and On-Campus Building Projects (available at www.usgbc.org/campusguidance) provides guidance on applying the LEED rating systems to multiple-building and on-campus projects that are on a shared site under the control of a single entity; for example, a corporate or educational campus or government installation. The 2010 LEED Application Guide for Multiple Buildings and On-Campus Building Projects provides guidance for the certification of projects under the Design and Construction and Interior Design and Construction rating systems as well as the LEED for Existing Buildings: Operations & Maintenance rating system. The guidance does not create a new rating system. Users may follow this guidance and apply it to existing rating system requirements for projects on a campus.</p> | 11/3/2010 |
| xv | Paragraph at top of page ("Registration" section) | n/a | n/a | In the second line of the paragraph, replace "errata" with "addenda" | 11/3/2010 |

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| xv | Credit Interpretation Requests and Rulings | n/a | n/a | <p>Replace the section with the following:</p> <p>In some cases, a LEED project team may encounter challenges when interpreting the requirements of a Minimum Program Requirement (MPR), prerequisite or credit for their project because a specific issue, situation, or a conflict is not addressed by available materials. To address such issues, two processes have been established for each LEED rating system: Project Credit Interpretation Rulings (Project CIR) and LEED Interpretations. See the USGBC and GBCI websites for more information, at www.usgb.org and www.gbci.org.</p> <p>Project CIRs and LEED Interpretations must be submitted online. Provide a brief but clear description of the challenge encountered, refer to the MPR, prerequisite or credit information found in the rating system, reference guide, or supporting documentation and emphasize the intent of the MPR, prerequisite or credit. If possible, the project team should offer potential solutions to the problem or a proposed interpretation.</p> <p>All communications related to Project CIRs and LEED Interpretations will be in electronic format.</p> | 5/9/2011 |
| xvii | V. INITIAL CERTIFICATION VS. RECERTIFICATION | n/a | n/a | <p>In the second paragraph, remove the following text:</p> <p>There is no registration fee for registering a recertification project, but recertification project teams must contact GBCI to ensure that the registration fee is waived. The recertification fee is 50% of the fee for the project's LEED for Existing Buildings: Operations & Maintenance initial certification. This fee is due when the application for recertification review is submitted.</p> | 11/3/2010 |
| xvii | V. INITIAL CERTIFICATION VS. RECERTIFICATION | n/a | n/a | <p>Delete: "The recertification fee is 50% of the fee for the project's LEED for Existing Buildings: Operations & Maintenance initial certification."</p> <p>Replace with: "For recertification fee pricing, please check the GBCI web site or contact Customer Service."</p> | 1/1/2013 |
| xvii | V. INITIAL CERTIFICATION VS. RECERTIFICATION | n/a | n/a | <p>Delete: "This fee is due when the application for recertification review is submitted. For more information on how to begin recertification, contact LEED Customer Service."</p> | 1/1/2013 |
| xviii | V. INITIAL CERTIFICATION VS. RECERTIFICATION | n/a | n/a | <p>Delete: "For more information on recertification, please e-mail LEED Customer Service."</p> <p>Replace with: "For more information on recertification, please see the LEED EB Recertification Guidance."</p> | 1/1/2013 |

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| xxii | Above the section "VIII. MULTITENANT BUILDING" | n/a | n/a | <p>Add the following section:</p> <p>Units of Measurement Guidance</p> <p>In order to facilitate certification review by U.S.-based reviewers, it is necessary to submit pertinent aspects of review-related documentation in English and convert units to U.S. Standard (i.e. Imperial) units of measure, unless noted otherwise in the credit or prerequisite description. It is not necessary to translate every aspect of every construction document into English and imperial units, but only those necessary for evaluation of LEED criteria. The project team should be prepared to provide additional translation(s) if requested by the reviewer in their preliminary review comments.</p> | 11/3/2010 |
| xxv | XIII. TOOLS FOR REGISTERED PROJECTS | n/a | n/a | <p>Replace the first paragraph with the following:</p> <p>LEED offers additional resources for LEED project teams on the USGBC website, at www.usgbc.org/projecttools. The LEED Resources and Tools website provides resources for starting the project, including rating system addenda, documentation requirements, and referenced industry standards.</p> | 11/3/2010 |
| xxv | XIII. TOOLS FOR REGISTERED PROJECTS | n/a | n/a | <p>Make the first sentence of the second, third, and fourth paragraphs bold so it becomes "Minimum Narrative Requirements, Policy, Program, and Plan Models, and Declarant Definitions and Other Definitions," respectively</p> | 11/3/2010 |
| xxvi | XIII. TOOLS FOR REGISTERED PROJECTS | n/a | n/a | <p>At the end of the last line of the fifth paragraph, remove the quotations</p> | 7/19/2010 |
| 5* | Requirements | SSc1 | LEED Certified Design and Construction | <p>Add the following text after OPTION 3:</p> <p>"OR</p> <p>OPTION 4</p> <p>Show that the building has been previously certified under LEED for Retail: New Construction and Major Renovations.</p> <p>OR</p> <p>OPTION 5</p> <p>Show that the building has been previously certified under LEED for Healthcare New Construction and Major Renovations.</p> <p>OR</p> <p>OPTION 6</p> <p>Show that the building has previously been certified under any version of LEED for Existing Buildings and that ongoing performance has been tracked during the entire recertification period (from initial certification until the recertification application)."</p> | 11/1/2011 |

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| 5* | Requirements | SSc1 | LEED Certified Design and Construction | Below Option 6, add a 7th option: "OR OPTION 7 Show that the building has been previously certified under LEED for Homes." | 4/2/2014 |
| 6 | 4. Implementation | SSc1 | LEED Certified Design and Construction | Replace the section's first paragraph with the following text: "Buildings that have been previously certified for LEED for New Construction, LEED for Schools, LEED for Retail: New Construction, or LEED for Healthcare (rating systems that address design and construction activities for both new buildings and major renovations of existing buildings) can easily achieve this credit. If the building is not currently LEED certified for New Construction, Schools, Retail, or Healthcare, consider pursuing certification under the appropriate rating system during any major renovations to the HVAC system, envelope, or interior." | 11/1/2011 |
| 6 | 4. Implementation | SSc1 | LEED Certified Design and Construction | Add the following paragraph after the second paragraph (before the last paragraph): "This credit is available to LEED for Existing Buildings projects that recertify using data from the entire recertification period (the period from initial certification until recertification application). It is not available to projects that certify once, stop tracking performance, then certify again with a new, three-month performance period." | 11/1/2011 |
| 7 | 7. Documentation Guidance | SSc1 | LEED Certified Design and Construction | Add the following as a third bulleted item under the second bulleted item: "For projects pursuing Option 6 (recertification of LEED for Existing Buildings projects), please provide with the application a narrative describing the measures that have been in place for ongoing tracking and any lapses in this tracking during the performance period." | 11/1/2011 |
| 23* | Requirements | SSc4 | Alternative Commuting Transportation | Revise the second sentence of the first paragraph to read: "For the purposes of this credit, alternative transportation includes at a minimum, telecommuting; compressed workweeks; mass transit; rideshare options ¹ human-powered conveyances; carpools; vanpools; and low-emitting, fuel-efficient ² or alternative-fuel vehicles; walking or bicycling." | 7/6/2012 |
| 23* | Footnotes | SSc4 | Alternative Commuting Transportation | Insert footnote 1 and change footnote 1 to footnote 2, "1. Rideshare is a transit service that involves sharing a single vehicle with multiple people, excluding large-scale vehicles such as buses and trains. The rideshare transit facility must include a signed stop and a clearly defined waiting area. Additionally, the rideshare must include an enclosed passenger seating area, fixed route service, fixed fare structure, continuous daily operation, and the ability to pick up and drop off multiple riders." | 7/6/2012 |
| 28 | APPROACH 1 | SSc4 | Alternative Commuting Transportation | Replace section with that of the supplementary document: https://www.usgbc.org/ShowFile.aspx?DocumentID=9315 | 5/9/2011 |

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| 29-30 | Accounting for Diverse Modes and Populations | SSc4 | Alternative Commuting Transportation | <p>Replace text starting from "Accounting for Diverse Modes and Populations" on page 29 of Reference Guide up to (stopping before) "7. Documentation Guidance" on page 30 of Reference Guide with the following:</p> <p>Accounting for Diverse Modes and Populations</p> <p>For non-residential projects (i.e. those using calculations based on the annual nonhome-based commuting trips per employee), only regular building occupants can be included in the occupant commute survey. Those who are absent on 1 or more days of the survey period because they telecommute or work a compressed workweek must be listed as making zero trips for the day (or using zero vehicles, per the SCQAMD metric). Employees who walk, cycle, tele-commute, use public transit, or use a fuel-efficient vehicle (as defined in this credit) are counted as making zero conventional commute trips or using zero vehicles. Those who carpool or ride-share for more than 50% of their commuting trip distance are counted according to the number of other commuters in the vehicle. For example, if 2 people carpool to work together for most of the distance to the building, each is counted as making half a trip; 3 carpoolers are counted as making 33.3% of a trip each. Employees who report vacation or sick leave days should be noted but not included in the results.</p> <p>Example 4 Building D has 100 regular occupants, 25 of whom use alternative transportation for their daily commute. To determine the AVR for the building, divide total occupancy (100) by the number of conventional single-occupancy vehicles used for occupants' daily commute (75). In this instance the ARV is 1.3. To calculate the RCCT, divide the number of trips avoided or reduced by the use of alternative transportation (50) by the total commuting trips (200). The RCCT is 25%.</p> <p>For residential projects (i.e. those using calculations based on the annual home-based commuting trips per capita), residents' commute patterns only should be included in the occupant commute survey. For residential calculations, assign a value of zero to a trip in which a resident carpools.</p> <p>Example 5 Apartment building E provided a survey to its 10 occupants. After a preferred parking and transit voucher program was started, seven residents commute to work only using a single occupancy vehicle in both directions, 1 resident carpools to work but drives alone on the return trip, another resident carpools to work but takes transit home and a final resident takes transit in both directions. This building is considered to have reduced its</p> | 4/1/2012 |

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| | | | | number of regular commuting trips by 25% since 5 of the 20 commute trips used alternative transportation. Projects containing both residential and nonresidential occupants should use a combination of the approaches listed above if the majority building occupancy type (residential or employee) comprises less than 90% of the total building occupancy. | |
| 31 | Second paragraph (above "9. Exemplary Performance" section) | SSc4 | Alternative Commuting Transportation | In the fifth line, replace "4" with "5" so the text becomes "(100 occupants x 2 trips per day x 5 days per week)" | 7/19/2010 |
| 31 | 9. Exemplary Performance | SSc4 | Alternative Commuting Transportation | Replace 95% with 80% and remove "trips equivalent to an average vehicle ridership (as defined by SCAQMD) of 20" | 5/9/2011 |
| 32 | 11. Resources | SSc4 | Alternative Transportation | Change the California Air Resources Board, Certified Vehicles List website from " http://www.arb.ca.gov/msprog/ccvl/ccvl.htm " to " http://www.arb.ca.gov/ ". | 8/1/2011 |
| 32 | 11. Resources | SSc4 | Alternative Transportation | Change the California Air Resources Board (CARB), Cleaner Car Guide website to " http://www.driveclean.ca.gov/ " | 11/1/2011 |
| 38 | Equation 2 | SSc5 | Site Development – Protect or Restore Open Habitat | Replace with "Natural Vegetated Roof Area \geq 0.05 (Total Site Area)" | 11/3/2010 |
| 40 | 12. Definitions | SSc5 | Site Development-Protect or Restore Habitat | Revise the text for "Building footprint" to be " Building footprint is the area on a project site used by the building structure, defined by the perimeter of the building plan. Parking lots, parking garages, landscapes, and other nonbuilding facilities are not included in the building footprint." | 8/1/2011 |
| 41* | Requirements | SSc6 | Stormwater Quantity Control | Add "OPTION 1" before first paragraph | 7/6/2012 |
| 41* | Requirements | SSc6 | Stormwater Quantity Control | Add the following after the second paragraph: OR OPTION 2 Use Low Impact Development (LID) practices to capture and treat water from 25% of the impervious surfaces for the 95th percentile of regional or local rainfall events. | 7/6/2012 |

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| 41* | Footnotes | SSc6 | Stormwater Quantity Control | Add the following footnotes to the bottom of the page: 1. The baseline condition is the site condition prior to LEED registration. 2. low impact development (LID) is an approach to managing stormwater runoff that emphasizes on-site natural features to protect water quality by replicating the natural land cover hydrologic regime of watersheds and addressing runoff close to its source. Examples include better site design principles such as minimizing land disturbance, preserving vegetation, minimizing impervious cover, and design practices like rain gardens, vegetated swales and buffers, permeable pavement, rainwater harvesting, and soil amendments. These are engineered practices that may require specialized design assistance. | 7/6/2012 |
| 46 | 8. Examples | SSc6 | Stormwater Quantity Control | Revise the third equation box to: $Q_r = (800 \text{ cf} / 259,200 \text{ sec}) = (0.003 \text{ cfs or } 1.35 \text{ gpm})$ | 11/1/2011 |
| 52 | Table 1 | SSc7.1 | Heat Island Effect, Non-Roof | Replace SRI for "Typical new gray concrete" with 38 | 5/9/2011 |
| 55 | 12. Definitions | SSc7.1 | Heat Island Effect, Non-Roof | For heat island effect , in the second sentence, delete "Particularly in urban areas"; revise the last clause so that it reads, "Other sources may include vehicle exhaust, air-conditioners, and street equipment. Reduced airflow because of tall buildings and narrow streets exacerbate the effect." | 10/1/2012 |
| 56 | 12. Definitions | SSc7.1 | Heat Island Effect, Non-Roof | Replace the definition of " solar reflectance, albedo " with "the fraction of solar energy that is reflected by a surface on a scale of 0 to 1. Black paint has a solar reflectance of 0; white paint (titanium dioxide) has a solar reflectance of 1. The standard technique for its determination uses spectrophotometric measurements, with an integrating sphere to determine the reflectance at each wavelength. The average reflectance is then determined by an averaging process, using a standard solar spectrum, as documented by ASTM Standards E903 and E892." | 10/1/2012 |
| 57* | OPTION 1 | SSc7.2 | Heat Island Effect-Roof | Below equation, add the text and equation: Alternatively, the following equation may be used to calculate compliance: (see https://www.usgbc.org/ShowFile.aspx?DocumentID=9758) | 8/1/2011 |
| 57* | OPTION 3 | SSc7.2 | Heat Island Effect-Roof | Below equation, add the text and equation: Alternatively, a weighted average approach may be used to calculate compliance for multiple materials: (see https://www.usgbc.org/ShowFile.aspx?DocumentID=9759) | 8/1/2011 |
| 61 | STEP 2 | SSc7.2 | Heat Island Effect-Roof | Add "skylights" to the list of things deducted from the roof area so that the sentence reads, "Determine the area of the roof covered by mechanical equipment, solar energy panels, skylights, and other appurtenances, and deduct these areas from the total roof surface area." | 8/1/2011 |

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| 62 | 9. Exemplary Performance | SSc7.2 | Heat Island Effect-Roof | Replace the term "photovoltaic panels" with "solar energy panels" and add "other appurtenances" to the list of things deducted from the roof area so that the sentence reads "Projects may earn an Innovation in Operations (IO) credit for exemplary performance by demonstrating that 95% of the project's roof area (excluding any mechanical equipment, solar energy panels, skylights, and other appurtenances) consists of a vegetated roof system." | 8/1/2011 |
| 63 | 12. Definitions | SSc7.2 | Heat Island Effect-Roof | In alphabetical order, add the term "An appurtenance is any built-in, nonstructural portion of a roof system, such as skylights, ventilators, mechanical equipment, partitions, and solar energy panels." | 8/1/2011 |
| 63 | 12. Definitions | SSc7.2 | Heat Island Effect-Roof | In alphabetical order, add the term, " Roof area is the area of the uppermost surface of the building which covers enclosed Gross Floor Area, as measured when projected onto a flat, horizontal surface (i.e. as seen in Roof Plan view). 'Roofs', or portions of roofs, covering unenclosed areas (e.g. roofs over porches and open covered parking structures) are not included in the areas used to evaluate compliance with SSc7.2, though they may be applicable to SSc7.1." | 8/1/2011 |
| 63 | 12. Definitions | SSc7.2 | Heat Island Effect-Roof | For heat island effect , in the second sentence, delete "Particularly in urban areas"; revise the last clause so that it reads, "Other sources may include vehicle exhaust, air-conditioners, and street equipment. Reduced airflow because of tall buildings and narrow streets exacerbate the effect." | 10/1/2012 |
| 63 | 12. Definitions | SSc7.2 | Heat Island Effect-Roof | Replace the definition of " solar reflectance, or albedo " with "the fraction of solar energy that is reflected by a surface on a scale of 0 to 1. Black paint has a solar reflectance of 0; white paint (titanium dioxide) has a solar reflectance of 1. The standard technique for its determination uses spectrophotometric measurements, with an integrating sphere to determine the reflectance at each wavelength. The average reflectance is then determined by an averaging process, using a standard solar spectrum, as documented by ASTM Standards E903 and E892." | 10/1/2012 |
| 69 | Rule 3 | SSc8 | Light Pollution Reduction | Replace the second to last sentence to read, "Finally, measure the angle between this fixture line of sight and the perpendicular with the vertex located at the fixture edge." | 8/1/2011 |
| 69 | Figure 3 | SSc8 | Light Pollution Reduction | See revised image: https://www.usgbc.org/ShowFile.aspx?DocumentID=9760 | 8/1/2011 |
| 70 | OPTION 2 | SSc8 | Light Pollution | At end of the second paragraph, add the sentence "Lighting of flags must also meet the shielding requirements." | 11/3/2010 |
| 75 | Definitions | SSc8 | Light Pollution | In alphabetical order, insert the term "emergency lighting" with the text "Emergency lighting as defined by the Illuminating Engineering Society of North America is lighting designed to supply illumination essential to the safety of life and property in the event of failure of the normal supply." | 5/9/2011 |
| 81* | Requirements | WEp1 | Minimum Indoor Plumbing Fixture and Fitting Efficiency | In the section, replace the three instances of "1993" with "1994" | 7/19/2010 |

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| 81* | Requirements, Potential Technologies & Strategies | WEp1 | Minimum Indoor Plumbing Fixture and Fitting Efficiency | <p>Reduce potable water use of indoor plumbing fixtures and fittings to a level equal to or below the LEED 2009 for Existing Buildings: Operations & Maintenance baseline, calculated assuming 100% of the building's indoor plumbing fixtures and fittings meet the plumbing code requirements as stated in the 2006 editions of the Uniform Plumbing Code (UPC) or International Plumbing Code (IPC) pertaining to fixture and fitting performance. Projects in Europe may use the values listed in the table below.</p> <p>Demonstrate fixture and fitting performance through calculations to compare the water use of the as-installed fixtures and fittings with the use of UPC- or IPC-compliant fixtures and fittings, as explained in the LEED Reference Guide for Green Building Operations & Maintenance, 2009 Edition. Projects in Europe may use the values listed in the table below.</p> <p>Europe Standards and Well Standards</p> <table><thead><tr><th>Fixture</th><th>Europe Standards</th><th>Well Standards</th></tr></thead><tbody><tr><td>Water Closets (liters per flush, lpf)</td><td>6</td><td>4 to 5</td></tr><tr><td>Urinals (lpf)</td><td>4</td><td>1</td></tr><tr><td>Showerheads (liters per minute, lpm*)</td><td>10</td><td>4.5 to 9</td></tr><tr><td>Public lavatory faucets and aerators (lpm*)</td><td>1.9</td><td></td></tr><tr><td>Private lavatory faucets** and aerators (lpm*)</td><td>9</td><td>4 to 6</td></tr><tr><td>Public metering lavatory faucets and aerators (liters per metering cycle*)</td><td>1</td><td></td></tr><tr><td>Kitchen and janitor sink faucets (lpm*)</td><td>9</td><td></td></tr></tbody></table> <p>*When measured at a flowing water pressure of 3 bar ** Bidets must meet the baseline for private lavatory faucets The water use requirements listed in this table are based on the following standards: EN 997:2012, EN 1112:1998, EN 246:2003, EN 200:2008, and EN 817:2008.</p> <p>Install, where possible, water-conserving indoor plumbing fixtures and fittings that meet or exceed the UPC 2006 or IPC 2006 fixture and fitting requirements, or the requirements for Europe listed in the table above, in combination with high-efficiency or dry fixture and control technologies.</p> | Fixture | Europe Standards | Well Standards | Water Closets (liters per flush, lpf) | 6 | 4 to 5 | Urinals (lpf) | 4 | 1 | Showerheads (liters per minute, lpm*) | 10 | 4.5 to 9 | Public lavatory faucets and aerators (lpm*) | 1.9 | | Private lavatory faucets** and aerators (lpm*) | 9 | 4 to 6 | Public metering lavatory faucets and aerators (liters per metering cycle*) | 1 | | Kitchen and janitor sink faucets (lpm*) | 9 | | 7/1/2013 |
| Fixture | Europe Standards | Well Standards | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Water Closets (liters per flush, lpf) | 6 | 4 to 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Urinals (lpf) | 4 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Showerheads (liters per minute, lpm*) | 10 | 4.5 to 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Public lavatory faucets and aerators (lpm*) | 1.9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Private lavatory faucets** and aerators (lpm*) | 9 | 4 to 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Public metering lavatory faucets and aerators (liters per metering cycle*) | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Kitchen and janitor sink faucets (lpm*) | 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 81* | Requirements | WEp1 | Minimum Indoor Fixture and Fitting Efficiency | Add the following sentence under the first paragraph: <i>“Projects in Europe may use values defined by European Standards.”</i> | 04/02/2014 | | | | | | | | | | | | | | | | | | | | | | | | |
| 81* | Requirements | WEp1 | Minimum Indoor Fixture and Fitting Efficiency | Revise the second to last paragraphs: <i>“Demonstrate fixture and fitting performance through calculations to compare the water use of the as-installed fixtures and fittings with the use of UPC- or IPC-compliant fixtures and fittings, or alternatives for Europe as explained in the LEED Reference Guide for Green Building Operations & Maintenance, 2009 Edition.”</i> | 04/02/2014 | | | | | | | | | | | | | | | | | | | | | | | | |

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| 82* | Requirements | WEp1 | Minimum Indoor Fixture and Fitting Efficiency | <div>Deleted the following table: Europe Standards and Well Standards</div> <table><thead><tr><th>Fixture</th><th>Europe Standards</th><th>Well Standards</th></tr></thead><tbody><tr><td>Water Closets (liters per flush, lpf)</td><td>6</td><td>4 to 5</td></tr><tr><td>Urinals (lpf)</td><td>4</td><td>1</td></tr><tr><td>Showerheads (liters per minute, lpm*)</td><td>10</td><td>4.5 to 9</td></tr><tr><td>Public lavatory faucets and aerators (lpm*)</td><td>1.9</td><td></td></tr><tr><td>Private lavatory faucets** and aerators (lpm*)</td><td>9</td><td>4 to 6</td></tr><tr><td>Public metering lavatory faucets and aerators (liters per metering cycle*)</td><td>1</td><td></td></tr><tr><td>Kitchen and janitor sink faucets (lpm*)</td><td>9</td><td></td></tr></tbody></table> <div>*When measured at a flowing water pressure of 3 bar ** Bidets must meet the baseline for private lavatory faucets The water use requirements listed in this table are based on the following standards: EN 997:2012; EN 1112:1998; EN 246:2003; EN 200:2008; and EN 817:2008.</div> | Fixture | Europe Standards | Well Standards | Water Closets (liters per flush, lpf) | 6 | 4 to 5 | Urinals (lpf) | 4 | 1 | Showerheads (liters per minute, lpm*) | 10 | 4.5 to 9 | Public lavatory faucets and aerators (lpm*) | 1.9 | | Private lavatory faucets** and aerators (lpm*) | 9 | 4 to 6 | Public metering lavatory faucets and aerators (liters per metering cycle*) | 1 | | Kitchen and janitor sink faucets (lpm*) | 9 | | 04/02/2014 |
| Fixture | Europe Standards | Well Standards | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Water Closets (liters per flush, lpf) | 6 | 4 to 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Urinals (lpf) | 4 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Showerheads (liters per minute, lpm*) | 10 | 4.5 to 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Public lavatory faucets and aerators (lpm*) | 1.9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Private lavatory faucets** and aerators (lpm*) | 9 | 4 to 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Public metering lavatory faucets and aerators (liters per metering cycle*) | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Kitchen and janitor sink faucets (lpm*) | 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 82* | Potential Technologies & Strategies | WEp1 | Minimum Indoor Fixture and Fitting Efficiency | Revise: “or the requirements for Europe listed in the table” to: “or the alternatives for Europe as listed above.” | 04/02/2014 | | | | | | | | | | | | | | | | | | | | | | | | |
| 82 | Environmental Issues | WEp1 | Minimum Indoor Plumbing Fixture and Fitting Efficiency | In the section, remove both instances of “potable” | 7/19/2010 | | | | | | | | | | | | | | | | | | | | | | | | |
| 84 | Table 1 | WEp1 | Minimum Indoor Plumbing Fixture and Fitting Efficiency | In the fourth row of the table in the “EPA WaterSense Standards” column, replace "1.5 - 2.0^b" with “2.0^b” | 7/19/2010 | | | | | | | | | | | | | | | | | | | | | | | | |
| 84 | Table 1 | WEp1 | Minimum Indoor Plumbing Fixture and Fitting Efficiency | In footnote “b,” replace "2.0 gmp" with "2.0 gpm" | 7/19/2010 | | | | | | | | | | | | | | | | | | | | | | | | |
| 84 | Paragraph below table | WEp1 | Minimum Indoor Plumbing Fixture and Fitting Efficiency | <div>Replace the paragraph with the following:</div> <div>In certain cases, faucets with low-flow rates are not appropriate. For example, in kitchen sinks, faucets are used to fill pots and buckets. Using a low-flow rate for tasks where the volume of water is predetermined does not save water and will likely cause user dissatisfaction and inefficiencies. Consider alternative strategies to reduce water use, such as installing special-use pot fillers and faucets or foot pedal–operated faucets.</div> | 7/19/2010 | | | | | | | | | | | | | | | | | | | | | | | | |
| 84 | Second paragraph below Table 1 | WEp1 | Minimum Indoor Plumbing Fixture and Fitting Efficiency | Remove the paragraph beginning with, "Although water-efficient dishwashers..." | 5/9/2011 | | | | | | | | | | | | | | | | | | | | | | | | |

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| 84 | 4. Implementation | WEp1 | Minimum Indoor Plumbing Fixture and Fitting Efficiency | <p>Insert the following paragraph at the bottom of the page:</p> <p>“For hospitality projects, commercial kitchen sinks and bar sinks including pot sinks, prep sinks, wash down, and cleaning sinks are considered process water and are not included in the water use calculations. Hand washing sinks located in commercial kitchen areas that do not pass through a grease interceptor should be included in the water use calculations under the kitchen sink category.”</p> | 11/1/2011 |
| 85 | Fixture Usage Groups | WEp1 | Minimum Indoor Plumbing Fixture and Fitting Efficiency | <p>At the end of the section, insert the following text as a new paragraph:</p> <p>“For hospitality projects, fixture usage groups generally include a usage group for guest rooms and a usage group for common areas and back of house. For the purposes of the credit calculations, assume that hotel guests use the fixtures and fittings in their room, employees use back of house and / or common areas, and transient guests use common area restrooms.”</p> | 11/1/2011 |
| 85 | Occupancy | WEp1 | Minimum Indoor Plumbing Fixture and Fitting Efficiency | <p>After the first paragraph, insert the following text as a new paragraph:</p> <p>“For lodging projects, FTE and transient occupants are calculated per the typical methodology for the respective occupancy types. Hotel guests may be determined based on the number and size of guest room units in the project. Generally, assume 1.5 occupants per guest room and multiply the resulting total by 60% (average hotel occupancy per American Hotel & Lodging Association information) to determine the total number of hotel guests. Alternatively, occupants may be derived from actual historical occupancy numbers.</p> <p>Fixture use assumptions for hotel guests follow the fixture assumptions for residential occupants. Accordingly, lavatories located in guest rooms are considered to be private lavatories. Additionally, day use guests at the hotel should be included in the value for transient / visitor occupants and are assumed to use common area restrooms. Per typical fixture use assumptions, this category of occupants assumes zero shower uses throughout the day.</p> <p>Example: 123 room hotel Total Hotel Guests = 123*1.5 * 60% Total Hotel Guests = 111”</p> | 11/1/2011 |
| 87 | Table 3a | WEp1 | Minimum Indoor Plumbing Fixture and Fitting Efficiency | In the sixth row (“Lavatory Faucet”), replace the duration (sec) of 15 with 30 | 2/2/2011 |
| 87 | Table 3a | WEp1 | Water Use Reduction | Replace the baseline in the related note below table with “Default duration for the metering type / autocontrol lavatory faucet is 0.25 gallons per cycle (gpc) for the baseline case and 12 seconds for the design case.” | 4/1/2013 |

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| 87 | Table 4 | WEp1 | Minimum Indoor Plumbing Fixture and Fitting Efficiency | In the fifth row of the table in the column "Flow rate," replace "1.8 gpm" with " ≤ 2.2 gpm" | 7/19/2010 |
| 87 | Table 4 | WEp1 | Minimum Indoor Plumbing Fixture and Fitting Efficiency | In the seventh row of the table in the "Flow Fixture" column, replace "Low-flow shower" with "WaterSense shower" | 7/19/2010 |
| 87 | Table 4 | WEp1 | Minimum Indoor Plumbing Fixture and Fitting Efficiency | In the seventh row of the table in the "Flow Rate" column, replace "1.8 gpm" with " ≤ 2.0 gpm" | 7/19/2010 |
| 88 | First paragraph on page (above "Baseline Case Water Consumption" section) | WEp1 | Minimum Indoor Plumbing Fixture and Fitting Efficiency | Replace the first sentence with "Private or private use applies to plumbing fixtures in residences, apartments, and dormitories, to private (non-public) bathrooms in transient lodging facilities (hotels and motels), and to private bathrooms in hospitals and nursing facilities." | 7/19/2010 |
| 88 | Below "Baseline Case Water Consumption" | WEp1 | Minimum Indoor Plumbing Fixture and Fitting Efficiency | <p>Add in the following section:</p> <p>Eligible Fixtures</p> <p>This prerequisite is limited to savings generated by the following water using fixtures and fixture fittings as applicable to the project: water closets, urinals, lavatory faucets, showers, kitchen sink faucets and pre-rinse spray valves, as shown in Table 1.</p> <p>The "Kitchen sinks" category encompasses all sinks in public or private buildings that are used with patterns and purposes similar to a sink in a residential kitchen; break room sinks would be included. However professional grade / commercial faucets such as those used in a commercial kitchen would not be included. The "Public lavatory faucets" and "Private lavatory faucets" categories encompass all sinks used primarily for hand-washing regardless of location. Faucets whose usage patterns and flow rates are regulated for medical or industrial purposes (e.g. laboratory sinks) and do not fall under the definition of private or public use are not included. Faucets used exclusively for filling operations (e.g. pot-filler) can be excluded. All other fixtures and fixtures fittings must be included in the calculations unless there are special circumstances that justify excluding them.</p> | 2/2/2011 |
| 90 | 11. Resources | WEp1 | Minimum Indoor Plumbing Fixture and Fitting Efficiency | <p>In alphabetical order, insert the following text:</p> <p>Alliance for Water Efficiency http://www.allianceforwaterefficiency.org/ The Alliance for Water Efficiency provides information and assistance on water conservation efforts.</p> | 7/19/2010 |

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| 90 | 11. Resources | WEp1 | Minimum Indoor Plumbing Fixture and Fitting Efficiency | Remove the following text: Fine Homebuilding Choosing a Toilet http://www.taunton.com/finehomebuilding/pages/h00042.asp This article includes several varieties of water-efficient toilets. | 7/19/2010 |
| 90 | 11. Resources | WEp1 | Minimum Indoor Plumbing Fixture and Fitting Efficiency | In the resource "Rocky Mountain Institute, Water," replace the text below the resource header with the following: http://www.rmi.org/rmi/pid172 This portion of RMI's website is devoted to water resource efficiency. | 7/19/2010 |
| 90 | 11. Resources | WEp1 | Minimum Indoor Plumbing Fixture and Fitting Efficiency | In the resource "U.S. EPA, Watersense," underline the website "http://www.epa.gov/watersense/." | 7/19/2010 |
| 91 | 11. Resources | WEp1 | Minimum Indoor Plumbing Fixture and Fitting Efficiency | Remove the following text: U.S. EPA, Water Use Efficiency Program http://www.epa.gov/owm/water-efficiency This website provides an overview of EPA's Water Use Efficiency Program and information about using water more efficiently. | 7/19/2010 |
| 91 | 11. Resources | WEp1 | Minimum Indoor Plumbing Fixture and Fitting Efficiency | Replace the resource "Water Closet Performance Testing," with the following: Water Studies http://www.ebmud.com/resource-center/publications/studies The site provides a variety of studies related to water. | 7/19/2010 |
| 91 | 12. Definitions | WEp1 | Minimum Indoor Plumbing Fixture and Fitting Efficiency | Blackwater: replace the first sentence with, " Blackwater is wastewater containing urine or fecal matter that should be discharged to the sanitary drainage system of the building or premises in accordance with the International Plumbing Code." | 10/1/2012 |
| 91 | 12. Definitions | WEp1 | Minimum Indoor Plumbing Fixture and Fitting Efficiency | Replace the definition of "graywater" with " Graywater is untreated household waste water which has not come into contact with toilet waste. Graywater typically includes used water from bathtubs, showers, bathroom wash basins, and water from clothes-washer and laundry tubs, though definitions may vary. Some states and local authorities also allow kitchen sink wastewater to be included in graywater. Project teams should comply with the graywater definition established by the authority having jurisdiction in the project area." | 10/1/2012 |

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| 99* | Requirements, Potential Technologies & Strategies | WEc2 | Additional Indoor Plumbing Fixture and Fitting Efficiency | Specify water-conserving indoor plumbing fixtures and fittings that exceed the Uniform Plumbing Codes 2006 or International Plumbing Codes 2006 fixture and fitting requirements, , or the requirements for Europe listed in WEp1, in combination with ultrahigh-efficiency or dry fixture and fitting and control technologies. | 7/1/2013 |
| 101* | Option 1 | WEc3 | Water Efficient Landscaping | Delete mid-summer from the first sentence; add "using the mid-summer baseline case or the month with the highest irrigation demand" after "region" in the first sentence. | 7/6/2012 |
| 101* | Option 2 | WEc3 | Water Efficient Landscaping | Delete mid-summer from the first sentence; add "using the mid-summer baseline case or the month with the highest irrigation demand" after "use" in the first sentence. | 7/6/2012 |
| 101* | Option 3 | WEc3 | Water Efficient Landscaping | Insert the word "provincial," between "regional" and "state"; insert the word "territorial" between "state" and "national" | 7/6/2012 |
| 105 | Project Site Viability Calculation | WEc3 | Water Efficient Landscaping | Replace the second and third sentences of the paragraph with "A site without vegetation or ecologically appropriate features on the grounds is eligible for this credit if its roof and/or courtyard garden space or outdoor planters constitute at least 5% of the total area. Project site viability is determined by calculating the portion of the total building site area covered with planters and/or gardens." | 7/19/2010 |
| 105 | Irrigation Water Use Calculation | WEc3 | Water Efficient Landscaping | At the end of the third paragraph, add the following text: Additionally the credit can be met when landscape irrigation is provided by raw water (excluding naturally occurring surface bodies of water, streams, or rivers, and ground water) that would otherwise be treated specifically for nonpotable uses. Only ponds designed solely for the purposes of stormwater retention or detention can be used for this credit. | 2/2/2011 |
| 109 | Equation 5 | WEc3 | Water Efficient Landscaping | Replace "CE" with "(1 – CE)" | 2/2/2011 |
| 115* | Intent | WEc4.1 WEc4.2 | Cooling Tower Water Management | Add "or evaporative condenser" after "cooling tower" | 7/6/2012 |
| 115* | Option 1 WE Credit 4.1 | WEc4.1 WEc4.2 | Cooling Tower Water Management | Add "or evaporative condenser" after "cooling tower" in the first sentence. | 7/6/2012 |

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| 141* | CASE 2, OPTION 1 | EAp2 | Minimum Energy Efficiency Performance | Replace the paragraph with the following text: Demonstrate energy efficiency performance that is better than 69% of similar buildings (69th percentile or better) by benchmarking against national source energy data provided in the Portfolio Manager tool as an alternative to energy performance ratings. Follow the detailed instructions in the LEED Reference Guide for Green Building Operations & Maintenance, 2009 Edition. | 11/3/2010 |
| 141* | Case 2 | EAp2 | Minimum Energy Efficiency Performance | Add "with a primary space type" after "For buildings" | 7/6/2012 |
| 141* | Option 1 | EAp2 | Minimum Energy Efficiency Performance | Option 1 should read: "OPTION 1. Adjusted Benchmark Score" | 7/6/2012 |
| 141* | Option 1 | EAp2 | Minimum Energy Efficiency Performance | Add the following sentence between the two existing sentences in the option: "Projects outside the U.S. may use a local benchmark based on source energy from their country's national or regional energy agency." | 7/6/2012 |
| 141* | Option 2 | EAp2 | Minimum Energy Efficiency Performance | Option 2 should read: "OPTION 2. Alternative Score" | 7/6/2012 |
| 141* | Option 2 | EAp2 | Minimum Energy Efficiency Performance | Remove the first sentence for this option. | 7/6/2012 |

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| 141* | Option 2 | EAp2 | Minimum Energy Efficiency Performance | <p>Add the following before AND: "Demonstrate energy efficiency performance by determining an alternative rating score using the Portfolio Manager tool to report the building's energy use data from the performance period. Follow the detailed instructions in the LEED Reference Guide for Green Building Operations & Maintenance, 2009 Edition.</p> <p>OPTION 2a. Streamlined Baseline (EAp2 only – 0 points) Enter energy use data during the performance period for at least 1 year into Portfolio Manager to determine the "weather-normalized source energy intensity". Use this value in the offline calculator to determine the percent reduction from the streamlined baseline.</p> <p>OPTION 2b. Energy Baseline Including Historical Data (up to 9 points) Enter at least 3 consecutive years of historical energy use data into Portfolio Manager in addition to the current year's data to determine the "weather-normalized source energy intensity" for each year. Use these values in the offline calculator to determine a baseline using the historical energy use data of the project building.</p> <p>OPTION 2c. Energy Baseline Including Historical Data plus Comparable Buildings (up to 18 points) In addition to the historical data used in Option 2b, provide energy use data for at least 3 other buildings with similar uses over at least a 2-year period to determine the "average energy performance of a similar building" in Portfolio Manager. Enter this data into the offline calculator."</p> | 7/6/2012 |
| 143 | 3. Summary of Referenced Standards | EAp2 | Minimum Energy Efficiency Performance | Replace the text with "Refer to the Summary of Referenced Standards section in EA Credit 1." | 11/3/2010 |
| 146 | 4. Implementation | EAp3 | Fundamental Refrigerant Management | After the first sentence, add, "HCFCs are not part of this prerequisite." | 5/9/2011 |
| 150 | 12. Definitions | EAp3 | Fundamental Refrigerant Management | Replace the definition of " chlorofluorocarbons (CFCs) " with "a compound of carbon, hydrogen, chlorine and fluorine, once commonly used in refrigeration, that depletes the stratospheric ozone layer." | 10/1/2012 |
| 151* | Case 2 | EAc1 | Optimize Energy Efficiency Performance | Add "with a primary space type" after "For buildings" | 7/6/2012 |
| 151* | Option 1 | EAc1 | Optimize Energy Efficiency Performance | Add the following sentence between the two existing sentences in the option: "Projects outside the U.S. may use a local benchmark based on source energy from their country's national or regional energy agency." | 7/6/2012 |

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| 151* | Option 2 | EAc1 | Optimize Energy Efficiency Performance | The first paragraph of this option should read "For buildings not suited for Case 2, Option 1, Demonstrate energy efficiency performance by determining an alternative rating score using the Portfolio Manager tool to report the building's energy use data from the performance period. Follow the detailed instructions in the LEED Reference Guide for Green Building Operations & Maintenance, 2009 Edition." | 7/6/2012 |
| 151* | Option 2 | EAc1 | Optimize Energy Efficiency Performance | <p>Add the following after the first paragraph and before "AND": "OPTION 2a. Streamlined Baseline (EAp2 only – 0 points) This option is only available through EAp2. Enter energy use data during the performance period for at least 1 year into Portfolio Manager to determine the "weather-normalized source energy intensity". Use this value in the offline calculator to determine the percent reduction from the streamlined baseline.</p> <p>OPTION 2b. Energy Baseline Including Historical Data (up to 9 points) Enter at least 3 consecutive years of historical energy use data into Portfolio Manager in addition to the current year's data to determine the "weather-normalized source energy intensity" for each year. Use these values in the offline calculator to determine a baseline using the historical energy use data of the project building.</p> <p>OPTION 2c. Energy Baseline Including Historical Data plus Comparable Buildings (up to 18 points) In addition to the historical data used in Option 2b, provide energy use data for at least 3 other buildings with similar uses over at least a 2-year period to determine the "average energy performance of a similar building" in Portfolio Manager. Enter this data into the offline calculator."</p> | 7/6/2012 |
| 152* | CASE 2, OPTION 1 | EAc1 | Optimize Energy Performance | <p>Replace the paragraph with the following text:</p> <p>Demonstrate energy efficiency performance that is better than 71% of similar buildings (71st percentile or better) by benchmarking against national source energy data provided in the Portfolio Manager tool as an alternative to energy performance ratings. Follow the detailed instructions in the LEED Reference Guide for Green Building Operations & Maintenance, 2009 Edition.</p> | 11/3/2010 |
| 157 | First paragraph on page (begins with "EPA continues") | EAc1 | Optimize Energy Performance | Replace the last sentence of the paragraph with "If the location for an international project is not listed, consult ASHRAE 90.1-2007 Appendices B and D to determine a comparable US city." | 11/3/2010 |
| 159 | 6. Calculations | EAc1 | Optimize Energy Performance | Delete the last sentence in the second paragraph, "Renewable energy generated and consumed on-site is excluded from these calculations." | 4/1/2012 |

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| 160 | CASE 2, OPTION 1: Adjusted Benchmark Score | EAc1 | Optimize Energy Performance | In the fifth line of the first paragraph, replace "average" with "mean" so the text becomes "...better than the national mean to calculate..." | 11/3/2010 |
| 161 | CASE 2, OPTION 2B | EAc1 | Optimize Energy Performance | Remove the last paragraph "If this process results in fewer than 2 points under EA Credit 1, then a refined baseline in Option 2C should be considered." | 8/1/2011 |
| 162 | Recent Energy Efficiency Improvements | EAc1 | Optimize Energy Performance | Remove the last line of the section's paragraph (starts with "If the minimum") | 11/1/2011 |
| 207 | Implementation: Off-site Renewable Energy | EAc4 | On-site and Off-Site Renewable Energy | <p>**Update October 1, 2014: Correction was issued in error and is reversed effective October 1, 2014.</p> <p>Revise first paragraph under "Off site Renewable Energy" to read: "Purchase renewable energy, renewable energy certificates (RECs), to meet some or all of the building's energy requirements. Green power or renewable energy certificate purchases should be used to offset electricity and purchased steam/high temperature hot water and chilled water use only (Scope 2 emissions). Verified by Green e Climate or equivalent, should be used to offset emissions from natural gas, propane, or fuel oil combusted on-site. Determine the annual energy needs of the building to identify the amount of green power necessary to satisfy the credit requirements. Purchase or commit to purchasing enough off-site renewable energy or carbon offsets to satisfy the building's annual energy consumption for 2 years. At the time of application, off-site energy and offsets must have actually been purchased for at least the performance period. Contracts or commitments for future purchases can meet the remainder of the 2-year requirement. Renewable energy and carbon offsets that qualify for this credit must be Green e certified or equivalent."</p> <p>Revise first sentence under number 3. to read: "If Green e certified power cannot be purchased through a local utility, the tenant and project team can purchase Green e certified renewable energy certificates to cover electricity or purchased steam/high temperature hot water and chilled water consumption and/or Green e certified offsets to cover other types of energy consumption (e.g. natural gas, propane, or fuel oil combusted on-site)."</p> | 40/4/2013 10/1/2014 |
| 208 | First paragraph (begins with "can purchase") | EAc4 | On-Site and Off-Site Renewable Energy | In the third line, insert "of" after "purchase" so the text becomes "The purchase of Green-e certified RECs..." | 11/3/2010 |
| 210 | Equation 1 | EAc4 | On-Site and Off-Site Renewable Energy | In the seventh line of the paragraph, replace "(1 MBtus/1,000 MBtus)" with "(10 MBtus/1,000 MBtus)" | 11/3/2010 |

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| 211 | 11. Resources | EAc4 | On-Site and Off-Site Renewable Energy | Add the following resource: Low Impact Hydropower Institute http://lowimpacthydro.org The Low Impact Hydropower Institute is a non-profit organization and certification body that establishes criteria against which to judge the environmental impacts of hydropower projects in the United States. | 5/9/2011 |
| 220 | Table 2 | EAc5 | Enhanced Refrigerant Management | In the column header on the far right, replace "Absorption" with "Centrifugal" so the header becomes "23-Year Life (Screw, Centrifugal Chillers)" | 11/3/2010 |
| 221 | Paragraph that begins with "Refrigerant leakage" | EAc5 | Enhanced Refrigerant Management | Add the following after the first sentence, "If new equipment is being installed, use a default leakage rate of 2%." | 11/1/2011 |
| 221 | Paragraph that begins with "Refrigerant leakage" | EAc5 | Enhanced Refrigerant Management | Remove the last sentence: "Guidance for submitting approval for nondefault leakage rates can be found on the LEED Registered Project Tools page (http://www.usgbc.org/projecttools)." | 11/3/2010 |
| 223 | Sample Calculation 2 | EAc5 | Enhanced Refrigerant Management | In the first line of the first bullet item, replace "absorption" with "centrifugal" | 11/3/2010 |
| 223 | Sample Calculation 3 | EAc5 | Enhanced Refrigerant Management | In the first bullet item, replace "absorption" with "centrifugal" | 11/3/2010 |
| 224 | 12. Definitions | EAc5 | Enhanced Refrigerant Management | Replace the definition of " chlorofluorocarbons (CFCs) " with "a compound of carbon, hydrogen, chlorine and fluorine, once commonly used in refrigeration, that depletes the stratospheric ozone layer." | 10/1/2012 |
| 225* | Requirements | EAc6 | Emissions Reduction Reporting | Add "or carbon offsets" to the end of the second paragraph. | 7/6/2012 |
| 225* | Requirements | EAc6 | Emissions Reduction Reporting | The third paragraph should read: "Report emissions reductions using one of the following:" | 7/6/2012 |
| 225* | Requirements | EAc6 | Emissions Reduction Reporting | Add two bullets below the third paragraph. The first bullet should read: "A third-party voluntary reporting or certification program such as U.S. Environmental Protection Agency (EPA) Climate Leaders, ENERGY STAR, the Carbon Disclosure Project or World Resources Institute / World Business Council for Sustainable Development (WRI/WBCSD) protocols." | 7/6/2012 |
| 225* | Requirements | EAc6 | Emissions Reduction Reporting | The second bullet below the third paragraph should read: "International Organization for Standards (ISO) 14064-1:2006 Greenhouse gases, Part 1, Specification, with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals." | 7/6/2012 |

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| 237 | Table | n/a | n/a | In the fifth row of the "Title" column, insert a dash between "Electric" and "Powered" so the text becomes "Sustainable Purchasing – Electric-Powered Equipment" | 7/19/2010 |
| 241 | 4. Implementation | MRp1 | Sustainable Purchasing Policy | In the second paragraph, replace the third sentence with the following: The sustainable purchasing policy must adhere to the LEED 2009 for Existing Buildings: Operations & Maintenance policy model located in the Introduction section of this Reference Guide. | 7/19/2010 |
| 249 | 11. Resources | MRp2 | Solid Waste Management Policy | Replace "U.S. EPA WasteWise Program" title, website and description with the following: U.S. EPA WasteWise Program www.epa.gov/wastewise WasteWise is a free, voluntary EPA program that U.S. organizations can use to track, manage, and reduce their municipal solid waste and select industrial wastes. | 5/9/2011 |
| 251* | Requirements | MRc1 | Sustainable Purchasing – Ongoing Consumables | In the fifth line of the first paragraph, replace the period after "5" with a colon so the text becomes "...MR Credit 5: Sustainable Purchasing..." | 7/19/2010 |
| 251* | Requirements | MRc1 | Sustainable Purchasing – Ongoing Consumables | The third bullet should read: "Purchases contain at least 50% materials harvested and processed or extracted and processed within a 500 mile (800 kilometer) radius of the project. Building materials or products shipped by rail or water have been extracted, harvested or recovered, as well as manufactured within a 500 mile (800 kilometer) total travel distance of the project site using a weighted average determined through the following formula: (Distance by rail/3) + (Distance by inland waterway/2) + (Distance by sea/15) + (Distance by all other means) ≤ 500 miles [800 kilometers]" | 7/6/2012 |
| 257 | 12. Definitions | MRc1 | Sustainable Purchasing - Ongoing Consumables | Replace the definition of " chain-of-custody (COC) " with "the path taken by raw materials, processed materials, and products from the forest to the consumer, including all successive stages of processing, transformation, manufacturing and distribution. A chain-of-custody certificate number on invoices for nonlabeled products indicates that the certifier's guidelines for product accounting have been followed. A chain-of-custody certification is not required by distributors of a product that is individually labeled with the Forest Stewardship Council logo and manufacturer's chain-of-custody number. Chain of Custody (CoC) certification requirements are determined by Forest Stewardship Council Chain of Custody Standard 40-004 v2-1." | 10/1/2012 |
| 259* | Requirements | MRc2.1 MRc2.2 | Sustainable Purchasing – Durable Goods | Add a third bullet under MRc2.1 that reads: "Projects outside the U.S. may demonstrate the equipment is equal to or more stringent than ENERGY STAR® qualified through use of local equivalencies." | 7/6/2012 |

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| 259* | Requirements | MRc2.1 MRc2.2 | Sustainable Purchasing – Durable Goods | The 6th bullet under MRc2.2 should read: "Purchases contain at least 50% material harvested and processed or extracted and processed within a 500 mile (800 kilometer) radius of the project. Building materials or products shipped by rail or water have been extracted, harvested or recovered, as well as manufactured within a 500 mile (800 kilometer) total travel distance of the project site using a weighted average determined through the following formula: (Distance by rail/3) + (Distance by inland waterway/2) + (Distance by sea/15) + (Distance by all other means) ≤ 500 miles [800 kilometers]" | 7/6/2012 |
| 266 | 12. Definitions | MRc2.1 | Sustainable Purchasing-Durable Goods - Electric | Replace the definition of "chain-of-custody (COC)" with "the path taken by raw materials, processed materials, and products from the forest to the consumer, including all successive stages of processing, transformation, manufacturing and distribution. A chain-of-custody certificate number on invoices for nonlabeled products indicates that the certifier's guidelines for product accounting have been followed. A chain-of-custody certification is not required by distributors of a product that is individually labeled with the Forest Stewardship Council logo and manufacturer's chain-of-custody number. Chain of Custody (CoC) certification requirements are determined by Forest Stewardship Council Chain of Custody Standard 40-004 v2-1." | 10/1/2012 |
| 266 | 12. Definitions | MRc2.1 | Sustainable Purchasing-Durable Goods - Electric | Replace the definition of " postconsumer material " with "waste generated by end users (households or commercial, industrial and institutional facilities) of a product no longer able to be used for its intended purpose that is recycled into raw material for a new product." | 10/1/2012 |
| 269* | Requirements | MRc3 | Sustainable Purchasing – Facility Alterations and Additions | The 6th bullet should read: "Purchases contain at least 50% material harvested and processed or extracted and processed within a 500 miles (800 kilometers) radius of the project. Building materials or products shipped by rail or water have been extracted, harvested or recovered, as well as manufactured within a 500 mile (800 kilometer) total travel distance of the project site using a weighted average determined through the following formula: (Distance by rail/3) + (Distance by inland waterway/2) + (Distance by sea/15) + (Distance by all other means) ≤ 500 miles [800 kilometers]" | 7/6/2012 |
| 269* | Requirements | MRc3 | Sustainable Purchasing – Facility Alterations and Additions | The 9th bullet should read: Noncarpet finished flooring meets one of the following requirements and constitutes a minimum of 25% of the finished floor area:" | 7/6/2012 |
| 269* | Requirements | MRc3 | Sustainable Purchasing – Facility Alterations and Additions | Add three new bullets, indented, after the 9th bullet: | 7/6/2012 |
| 269* | Requirements | MRc3 | Sustainable Purchasing – Facility Alterations and Additions | The first new indented bullet should read: "Is FloorScore-certified." | 7/6/2012 |

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| 269* | Requirements | MRc3 | Sustainable Purchasing – Facility Alterations and Additions | The second new indented bullet should read: "Maximum VOC concentrations are less than or equal to those specified in the California Department of Health Services Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers, including 2004 Addenda, using the office scenario as defined in Table 7.5 within the practice." | 7/6/2012 |
| 269* | Requirements | MRc3 | Sustainable Purchasing – Facility Alterations and Additions | The third new indented bullet should read: "Maximum VOC concentrations meet the California requirements specified above based on the following:" | 7/6/2012 |
| 269* | Requirements | MRc3 | Sustainable Purchasing – Facility Alterations and Additions | Add two new bullets, indented further, after the third new indented bullet: | 7/6/2012 |
| 269* | Requirements | MRc3 | Sustainable Purchasing – Facility Alterations and Additions | The first new indented bullet should read: "California Department of Public Health (CDPH) Standard Method V1.1-2010 using test results obtained at the 14 day time point" | 7/6/2012 |
| 269* | Requirements | MRc3 | Sustainable Purchasing – Facility Alterations and Additions | The second new indented bullet should read: "Projects outside the U.S. may use the German AgBB/DIBt testing method and all testing methods based on AgBB/DIBt method (GUT, EMICODE, Blue Angel) using test results obtained at the 3 day or 7 day or 14 day time point. For caprolactam, if test results obtained at the 3 day or 7 day time point is used, the emission concentration must be less than ½ of the concentration limit specified above because the emission may not have peaked at the measured time points. If a European testing method (AgBB/DIBt GUT, EMICODE, Blue Angel) had used parameters for calculating test results different from those specified in the referenced California method, then the European test results for carpets or floorings need to be converted into California air concentrations by multiplication with 0.7." | 7/6/2012 |
| 269* | Requirements | MRc3 | Sustainable Purchasing – Facility Alterations and Additions | The tenth original bullet should read: "Carpet meets one of the following requirements:" | 7/6/2012 |
| 269* | Requirements | MRc3 | Sustainable Purchasing – Facility Alterations and Additions | Add three new bullets, indented, after the 10th bullet: | 7/6/2012 |
| 269* | Requirements | MRc3 | Sustainable Purchasing – Facility Alterations and Additions | The first new indented bullet should read: "Meets CRI Green Label Plus Carpet Testing Program" | 7/6/2012 |
| 269* | Requirements | MRc3 | Sustainable Purchasing – Facility Alterations and Additions | The second new indented bullet should read: "Maximum VOC concentrations are less than or equal to those specified in the California Department of Health Services Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers, including 2004 Addenda, using the office scenario as defined in Table 7.5 within the practice. The additional VOC concentration limits listed in Section 9.1a must also be met" | 7/6/2012 |

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| 269* | Requirements | MRc3 | Sustainable Purchasing – Facility Alterations and Additions | The third new indented bullet should read: "Maximum VOC concentrations meet the California requirements specified above based on the following:" | 7/6/2012 |
| 269* | Requirements | MRc3 | Sustainable Purchasing – Facility Alterations and Additions | Add two new bullets, indented further, after the third new indented bullet: | 7/6/2012 |
| 269* | Requirements | MRc3 | Sustainable Purchasing – Facility Alterations and Additions | The first new indented bullet should read: "California Department of Public Health (CDPH) Standard Method V1.1-2010 using test results obtained at the 14 day time point" | 7/6/2012 |
| 269* | Requirements | MRc3 | Sustainable Purchasing – Facility Alterations and Additions | The second new indented bullet should read: "Projects outside the U.S. may use the German AgBB/DIBt testing method and all testing methods based on AgBB/DIBt method (GUT, EMICODE, Blue Angel) using test results obtained at the 3 day or 7 day or 14 day time point. For caprolactam, if test results obtained at the 3 day or 7 day time point is used, the emission concentration must be less than ½ of the concentration limit specified above because the emission may not have peaked at the measured time points. If a European testing method (AgBB/DIBt GUT, EMICODE, Blue Angel) had used parameters for calculating test results different from those specified in the referenced California method, then the European test results for carpets or floorings need to be converted into California air concentrations by multiplication with 0.7." | 7/6/2012 |
| 272 | 3. Summary of Referenced Standards | MRc3 | Sustainable Purchasing-Facility Alterations and Additions | Under "Carpet and Rug Institute (RCI) Green Label Plus Testing Program, replace " http://www.carpet-rug.com " with " http://www.carpet-rug.org ." | 10/1/2012 |
| 281 | 12. Definitions | MRc3 | Sustainable Purchasing-Facility Alterations and Additions | Replace the definition of " chain-of-custody (COC) " with "the path taken by raw materials, processed materials, and products from the forest to the consumer, including all successive stages of processing, transformation, manufacturing and distribution. A chain-of-custody certificate number on invoices for nonlabeled products indicates that the certifier's guidelines for product accounting have been followed. A chain-of-custody certification is not required by distributors of a product that is individually labeled with the Forest Stewardship Council logo and manufacturer's chain-of-custody number. Chain of Custody (CoC) certification requirements are determined by Forest Stewardship Council Chain of Custody Standard 40-004 v2-1." | 10/1/2012 |
| 281 | 12. Definitions | MRc3 | Sustainable Purchasing-Facility Alterations and Additions | Replace the definition of " volatile organic compounds (VOC's) " with "a carbon compound that vaporizes (becomes a gas) at normal room temperatures. VOCs contribute to air pollution directly and through atmospheric photochemical reactions (excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides and carbonates, and ammonium carbonate) to produce secondary air pollutants, principally ozone and peroxyacetyl nitrate." | 10/1/2012 |

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| 283* | Requirements | MRc4 | Sustainable Cleaning Products and Materials | Remove the third paragraph. | 8/1/2011 |
| 283* | Requirements | MRc4 | Sustainable Purchasing—Reduced Mercury in Lamps | Projects in Europe may exclude CFLs if they comply with the criteria listed in Annex III of the Restriction of the Use of Certain Hazardous Substances of the European Union Directive (EU RoHS.) Screw-based, integral CFLs that do not comply with the NEMA guidelines (or EU RoHS for projects in Europe) must be included in the purchasing plan and the performance calculation. | 7/1/2013 |
| 291* | Requirements | MRc5 | Sustainable Purchasing - Food | In the first bullet, remove "or" between "Fair Trade" and "Marine Stewardship Council's Blue Eco-Label" | 7/6/2012 |
| 291* | Requirements | MRc5 | Sustainable Purchasing - Food | In the first bullet, add "or are labeled with the European Community Organic Production logo in accordance with Regulations (EC) No 834/2007 and (EC) No 889/2008." after "Marine Stewardship Council's Blue Eco-Label" | 7/6/2012 |
| 304 | 11. Resources | MRc6 | Solid Waste Management – Waste Stream Audit | Replace "U.S. EPA WasteWise Program" title, website and description with the following: U.S. EPA WasteWise Program www.epa.gov/wastewise WasteWise is a free, voluntary EPA program that U.S. organizations can use to track, manage, and reduce their municipal solid waste and select industrial wastes. | 5/9/2011 |
| 309 | 11. Resources | MRc7 | Solid Waste Management – Ongoing Consumables | Replace "U.S. EPA WasteWise Program" title, website and description with the following: U.S. EPA WasteWise Program www.epa.gov/wastewise WasteWise is a free, voluntary EPA program that U.S. organizations can use to track, manage, and reduce their municipal solid waste and select industrial wastes. | 5/9/2011 |
| 315 | 11. Resources | MRc8 | Solid Waste Management – Durable Goods | Replace "U.S. EPA WasteWise Program" title, website and description with the following: U.S. EPA WasteWise Program www.epa.gov/wastewise WasteWise is a free, voluntary EPA program that U.S. organizations can use to track, manage, and reduce their municipal solid waste and select industrial wastes. | 5/9/2011 |
| 329* | Requirements | IEQp1 | Minimum Indoor Air Quality Performance | Case 1 should read: "CASE 1. Projects Able to Meet Standard" | 7/6/2012 |

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| 329* | Case 1 | IEQp1 | Minimum Indoor Air Quality Performance | Add new Option title that reads: "OPTION 1. ASHRAE Standard 62.1-2007 or Non-U.S. Equivalent" | 7/6/2012 |
| 329* | Case 1, Option 1 | IEQp1 | Minimum Indoor Air Quality Performance | "Ventilation Rate Procedure" should be changed to "ventilation rate procedure" | 7/6/2012 |
| 329* | Case 1, Option 1 | IEQp1 | Minimum Indoor Air Quality Performance | Option 1 should include the original paragraph for case 1 with the following sentence at the end: "Projects outside the U.S. may use a local equivalent to ASHRAE Standard 62.1-2007 for breathing zone minimum ventilation rates." | 7/6/2012 |
| 329* | Case 1 | IEQp1 | Minimum Indoor Air Quality Performance | Add new Option title that reads: "OPTION 2. CEN Standard EN 15251: 2007" | 7/6/2012 |
| 329* | Case 1, Option 2 | IEQp1 | Minimum Indoor Air Quality Performance | Option 2 should read: "Projects outside the U.S. may modify or maintain each outside air intake, supply air fan and/or ventilation distribution system to supply at least the outdoor air ventilation rate required by Annex B of Comité Européen de Normalisation (CEN) Standard EN 15251: 2007, Indoor environmental input parameters for design and assessment of energy performance of buildings addressing indoor air quality, thermal environment, lighting and acoustics." | 7/6/2012 |
| 329* | Case 2 | IEQp1 | Minimum Indoor Air Quality Performance | Case 2 should read: "CASE 2. Projects Unable to Meet the Standard" | 7/6/2012 |
| 329* | Case 2 | IEQp1 | Minimum Indoor Air Quality Performance | The first paragraph of case 2 should read: "If meeting the ventilation rates required of the above standards is infeasible because of the physical constraints of the existing ventilation system, modify or maintain the system to supply at least 10 cubic feet per minute (cfm) (5 liters per second) of outdoor air per person under all normal operating conditions. Demonstrate through design documentation, measurements or other evidence that the current system cannot provide the flow rates required by the above standards under any operating condition even when functioning properly." | 7/6/2012 |
| 329* | Case 2 | IEQp1 | Minimum Indoor Air Quality Performance | In the second paragraph of case 2 replace "ASHRAE Standard 62.1-2007 (with errata but without addenda)" with "the above standards" | 7/6/2012 |
| 339* | Case 2 | IEQp2 | Environmental Tobacco Smoke (ETS) Control | Add the following sentence to the end of the 6th bullet: "Projects outside the U.S. may use a local equivalent to ANSI/ASTM-E779-03, Standard Test Method for Determining Air Leakage Rate By Fan Pressurization." | 7/6/2012 |

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| 339* | Case 2 | IEQp2 | Environmental Tobacco Smoke (ETS) Control | The 7th bullet should read: "Use the progressive sampling methodology defined in Chapter 7 (Home Energy Rating Systems, HERS Required Verification and Diagnostic Testing) of the California Residential Alternative Calculation Method Approval Manual. Projects outside the U.S. may use a local sampling methodology, whichever is more stringent. Residential units must demonstrate less than 1.25 square inches of leakage area per 100 square feet (8 square centimeters of leakage area per 10 square meters) of enclosure area (i.e., the sum of all wall, ceiling and floor areas)." | 7/6/2012 |
| 361* | Case 2 | IEQc1.2 | Indoor Air Quality Best Management Practices – Outdoor Air Delivery Monitoring | The final paragraph of Case 2 should read: "CO2 sensors may be used for demand-controlled ventilation provided the control strategy complies with ASHRAE Standard 62.1-2007 Ventilation Rate Procedure (see IEQ Prerequisite 1: Minimum Indoor Air Quality Performance, including maintaining the area-based component of the design ventilation rate)." | 7/6/2012 |
| 365 | Ventilation Airflow Monitoring in Nondensely Occupied Spaces | IEQc1.2 | Indoor Air Quality Best Management Practices – Outdoor Air Delivery Monitoring | Delete the last sentence in the section, "Outdoor air delivery monitoring within nondensely occupied spaces may be counted..." | 5/9/2011 |
| 366 | 6. Calculations | IEQc1.2 | Indoor Air Quality Best Management Practices - Outdoor Air Delivery Monitoring | Replace calculation steps 2 and 3 with the following: 2. For densely occupied spaces, document compliance with Case 2. 3. For all AHUs, document compliance with Case 1. Use Table 2 to identify each AHU, the presence of appropriate monitoring for that unit, and the minimum required outdoor airflow for that unit (as generated via compliance with IEQ Prerequisite 1). Use Equation 2 to calculate the portion of the building's total outdoor air intake flow serving occupied spaces. | 4/1/2013 |
| 369 | 12. Definitions, | IEQc1.2 | Indoor Air Quality Best Management Practices – Outdoor Air Delivery Monitoring | Revise the definition for densely occupied spaces to be, "Densely occupied spaces are areas with a design occupant density of 25 people or more per 1,000 square feet (40 square feet or less per person)." | 11/1/2011 |
| 369 | 12. Definitions, | IEQc1.2 | Indoor Air Quality Best Management Practices – Outdoor Air Delivery Monitoring | In alphabetical order, add the following definition for non-densely occupied space , "Non-densely occupied spaces are areas with a design occupant density of less than 25 people per 1,000 square feet (40 square feet or more per person)." | 11/1/2011 |
| 369 | 12. Definitions, | IEQc1.2 | Indoor Air Quality Best Management Practices – Outdoor Air Delivery Monitoring | In alphabetical order, add the following definition for nonoccupied spaces , "Nonoccupied spaces are defined as spaces designed for equipment and machinery or storage with no human occupancy except for maintenance, repairs, and equipment retrieval." | 11/1/2011 |

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| 369 | 12. Definitions, | IEQc1.2 | Indoor Air Quality Best Management Practices – Outdoor Air Delivery Monitoring | In alphabetical order, add the following definition for occupied spaces , "Occupied Spaces are defined as enclosed spaces that can accommodate human activities. Occupied spaces are further classified as regularly occupied or non-regularly occupied spaces based on the duration of the occupancy, individual or multi-occupant based on the quantity of occupants, and densely or non-densely occupied spaces based upon the concentration of occupants in the space." | 11/1/2011 |
| 371* | Case 1 | IEQc1.3 | Indoor Air Quality Best Management Practices – Increased Ventilation | Add an Option title before the first paragraph that reads: "OPTION 1. ASHRAE Standard 62.1-2007 or Non-U.S. Equivalent" | 7/6/2012 |
| 371* | Case 1, Option 1 | IEQc1.3 | Indoor Air Quality Best Management Practices – Increased Ventilation | Add the following to the end of the first sentence: "as determined by IEQ Prerequisite 1: Minimum Indoor Air Quality Performance." | 7/6/2012 |
| 371* | Case 1, Option 1 | IEQc1.3 | Indoor Air Quality Best Management Practices – Increased Ventilation | After the first sentence, add the following: "Projects outside the U.S. may use a local equivalent to ASHRAE Standard 62.1-2007 if used in IEQ Prerequisite 1: Minimum Indoor Air Quality Performance. Projects pursuing a local equivalent must apply the Ventilation Rate Procedure, as defined by ASHRAE 62.1-2007, to the ventilation values taken from the local equivalent to ASHRAE 62.1-2007." | 7/6/2012 |
| 371* | Case 1 | IEQc1.3 | Indoor Air Quality Best Management Practices – Increased Ventilation | Add an Option title after the first paragraph that reads: "OPTION 2. CEN Standard EN 15251: 2007" | 7/6/2012 |
| 371* | Case 1, Option 2 | IEQc1.3 | Indoor Air Quality Best Management Practices – Increased Ventilation | Option 2 should read: "Projects outside the U.S. may increase breathing zone outdoor air ventilation rates to all occupied spaces by at least 30% above the minimum rates required by Annex B of Comité Européen de Normalisation (CEN) Standard EN 15251: 2007, Indoor environmental input parameters for design and assessment of energy performance of buildings, addressing indoor air quality, thermal environment, lighting and acoustics, determined by IEQ Prerequisite 1, Minimum Indoor Air Quality Performance." | 7/6/2012 |
| 371* | Case 2, Option 1 | IEQc1.3 | Indoor Air Quality Best Management Practices – Increased Ventilation | Case 2, Option 1 should read: "OPTION 1. CIBSE or Non-U.S. Equivalent" | 7/6/2012 |
| 371* | Case 2, Option 1 | IEQc1.3 | Indoor Air Quality Best Management Practices – Increased Ventilation | Add the following sentence to the end of Path 1. "Projects outside the U.S. may use a local equivalent." | 7/6/2012 |
| 371* | Case 2, Option 1 | IEQc1.3 | Indoor Air Quality Best Management Practices – Increased Ventilation | Add the following sentence to the end of Path 2. "Projects outside the U.S. may use a local equivalent." | 7/6/2012 |
| 371* | Case 2, Option 2 | IEQc1.3 | Indoor Air Quality Best Management Practices – Increased Ventilation | Case 2, Option 2 should read: "OPTION 2. Airflow Model" | 7/6/2012 |

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| 371* | Case 2, Option 2 | IEQc1.3 | Indoor Air Quality Best Management Practices – Increased Ventilation | In the first sentence, replace "Chapter" with "section" after "ASHRAE Standard 62.1-2007" | 7/6/2012 |
| 371* | Case 2, Option 2 | IEQc1.3 | Indoor Air Quality Best Management Practices – Increased Ventilation | Add the following sentence to the end of the paragraph. "Projects outside the U.S. may use Annex B of Comité Européen de Normalisation (CEN) Standard EN 15251: 2007 or a local equivalent to section 6 of ASHRAE Standard 62.1-2007 to define the minimum ventilation rates." | 7/6/2012 |
| 379* | Requirements | IEQc1.4 | Indoor Air Quality Best Management Practices – Reduce Particulates in Air Distribution | <p>Replace the paragraph with the following:</p> <p>In mechanically ventilated buildings, each ventilation system that supplies outdoor air shall comply with the following during the performance period:</p> <ul style="list-style-type: none"> • Particle filters or air cleaning devices shall clean the outdoor air at any location prior to its introduction to occupied spaces. • These filters or devices shall be rated a minimum efficiency reporting value (MERV) of 13 in accordance with ASHRAE Standard 52.2 or greater for all outside air intakes and inside air recirculation returns. • Establish and follow a regular schedule for maintenance and replacement of these filtration media according to the manufacturer's recommended interval. | 11/3/2010 |
| 379* | Requirements | IEQc1.4 | Indoor Air Quality Best Management Practices – Reduce Particulates in Air Distribution | The second bullet should read "These filters or devices shall meet one of the following criteria for all outside air intakes and inside air recirculation returns:" | 7/6/2012 |
| 379* | Requirements | IEQc1.4 | Indoor Air Quality Best Management Practices – Reduce Particulates in Air Distribution | Under the second bullet, add three bullets, indented: | 7/6/2012 |
| 379* | Requirements | IEQc1.4 | Indoor Air Quality Best Management Practices – Reduce Particulates in Air Distribution | The first new bullet should read: "Filtration Media is rated a minimum efficiency reporting value (MERV) of 13 in accordance with ASHRAE Standard 52.2 or greater" | 7/6/2012 |
| 379* | Requirements | IEQc1.4 | Indoor Air Quality Best Management Practices – Reduce Particulates in Air Distribution | The second new bullet should read: "Filtration media is Class F7 or higher, as defined by CEN Standard EN 779: 2002, Particulate air filters for general ventilation, Determination of the filtration performance" | 7/6/2012 |

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| 379* | Requirements | IEQc1.4 | Indoor Air Quality Best Management Practices – Reduce Particulates in Air Distribution | The third new bullet should read: "Filtration media has a minimum dust spot efficiency of 80% or higher and greater than 98% arrestance on a particle size of 3–10 µg." | 7/6/2012 |
| 382 | Definitions | IEQc1.4 | Indoor Air Quality Best Management Practices – Reduce Particulates in Air Distribution | In alphabetical order, add the following definition for nonoccupied spaces , "Nonoccupied spaces are defined as spaces designed for equipment and machinery or storage with no human occupancy except for maintenance, repairs, and equipment retrieval." | 11/1/2011 |
| 382 | Definitions | IEQc1.4 | Indoor Air Quality Best Management Practices – Reduce Particulates in Air Distribution | In alphabetical order, add the following definition for occupied spaces , "Occupied Spaces are defined as enclosed spaces that can accommodate human activities. Occupied spaces are further classified as regularly occupied or non-regularly occupied spaces based on the duration of the occupancy, individual or multi-occupant based on the quantity of occupants, and densely or non-densely occupied spaces based upon the concentration of occupants in the space." | 11/1/2011 |
| 383* | Requirements | IEQc1.5 | Indoor Air Quality Best Management Practices - Indoor Air Quality Management for Facility Alterations and Additions | The fourth bullet should read "If permanently installed air-handlers must be used during construction, filtration media must be used at each return air grille and must meet one of the following criteria below. Replace all filtration media immediately prior to occupancy." | 7/6/2012 |
| 383* | Requirements | IEQc1.5 | Indoor Air Quality Best Management Practices - Indoor Air Quality Management for Facility Alterations and Additions | Under the fourth bullet, add four bullets, indented: | 7/6/2012 |
| 383* | Requirements | IEQc1.5 | Indoor Air Quality Best Management Practices - Indoor Air Quality Management for Facility Alterations and Additions | The first new bullet should read: "Filtration media has a minimum efficiency reporting value (MERV) of 8, as determined by ASHRAE Standard 52.2-1999 (with errata but without addenda)." | 7/6/2012 |
| 383* | Requirements | IEQc1.5 | Indoor Air Quality Best Management Practices - Indoor Air Quality Management for Facility Alterations and Additions | The second new bullet should read: "Equivalent filtration media Class F5 or higher, as defined by CEN Standard EN 779–2002, Particulate air filters for general ventilation, Determination of the filtration performance." | 7/6/2012 |

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| 383* | Requirements | IEQc1.5 | Indoor Air Quality Best Management Practices - Indoor Air Quality Management for Facility Alterations and Additions | The third new bullet should read: "Equivalent filtration media with a minimum dust spot efficiency of 30% and greater than 90% arrestance on a particle size of 3–10 µg." | 7/6/2012 |
| 383* | Requirements | IEQc1.5 | Indoor Air Quality Best Management Practices - Indoor Air Quality Management for Facility Alterations and Additions | The fourth new bullet should read: "Replace all filtration media immediately prior to occupancy." | 7/6/2012 |
| 402 | Definitions | IEQc2.2 | Controllability of Systems: Lighting | Revise the definition for individual occupant spaces to be, "In individual occupant spaces, occupants perform distinct tasks from one another. Such spaces may be contained within multi-occupant spaces and should be treated separately where possible. Individual occupant spaces may be regularly or non-regularly occupied spaces." | 11/1/2011 |
| 402 | Definitions | IEQc2.2 | Controllability of Systems: Lighting | In alphabetical order, add the following definition for multi-occupant spaces , "Multi-Occupant Spaces are places of egress, congregation, or where occupants pursue overlapping or collaborative tasks. Multi occupant spaces may be regularly or non-regularly occupied spaces." | 11/1/2011 |
| 403* | Requirements | IEQc2.3 | Occupant Comfort - Thermal Comfort Monitoring | The second sentence should read: "Have a permanent monitoring system to ensure ongoing building performance to the desired comfort criteria as determined by either of the following standards:" | 7/6/2012 |
| 403* | Requirements | IEQc2.3 | Occupant Comfort - Thermal Comfort Monitoring | Add option title that reads: "OPTION 1. ASHRAE Standard 55-2004 or Non-U.S. Equivalent" after the first paragraph. | 7/6/2012 |
| 403* | Option 1 | IEQc2.3 | Occupant Comfort - Thermal Comfort Monitoring | Option 1 should read: "ASHRAE Standard 55-2004, Thermal Comfort Conditions for Human Occupancy (with errata but without addenda). Projects outside the U.S. may use a local equivalent to ASHRAE Standard 55-2004 Thermal Comfort Conditions for Human Occupancy." | 7/6/2012 |
| 403* | Requirements | IEQc2.3 | Occupant Comfort - Thermal Comfort Monitoring | Add option title that reads: "OPTION 2. ISO 7730: 2005 & CEN Standard EN 15251: 2007" | 7/6/2012 |
| 403* | Option 2 | IEQc2.3 | Occupant Comfort - Thermal Comfort Monitoring | Add the following paragraph: "Projects outside the U.S. may earn this credit by meeting the requirements of International Organization for Standardization (ISO) 7730, Ergonomics of the thermal environment, Analytical determination and interpretation of thermal comfort using calculation of the PMV and PPD indices and local thermal comfort criteria; and CEN Standard EN 15251: 2007, Indoor environmental input parameters for design and assessment of energy performance of buildings addressing indoor air quality, thermal environment, lighting and acoustics." | 7/6/2012 |

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| 408 | Definitions | IEQc2.3 | Occupant Comfort – Thermal Monitoring | In alphabetical order, add the following definition for nonoccupied spaces , "Nonoccupied spaces are defined as spaces designed for equipment and machinery or storage with no human occupancy except for maintenance, repairs, and equipment retrieval." | 11/1/2011 |
| 408 | Definitions | IEQc2.3 | Occupant Comfort – Thermal Monitoring | In alphabetical order, add the following definition for occupied spaces , "Occupied Spaces are defined as enclosed spaces that can accommodate human activities. Occupied spaces are further classified as regularly occupied or non-regularly occupied spaces based on the duration of the occupancy, individual or multi-occupant based on the quantity of occupants, and densely or non-densely occupied spaces based upon the concentration of occupants in the space." | 11/1/2011 |
| Entire section | All | IEQc2.4 | Daylight and Views | Replace section with that of the supplementary document: https://www.usgbc.org/ShowFile.aspx?DocumentID=9378 | 5/9/2011 |
| 424 | Definitions | IEQc2.4 | Daylight and Views | In alphabetical order, add the following definition for non-regularly occupied space , "Non-regularly occupied spaces are spaces that occupants pass through, or spaces used in pursuit of focused activities for less than one hour per person per day (on average)." | 11/1/2011 |
| 424 | Definitions | IEQc2.4 | Daylight and Views | In alphabetical order, add the following definition for nonoccupied spaces , "Nonoccupied spaces are defined as spaces designed for equipment and machinery or storage with no human occupancy except for maintenance, repairs, and equipment retrieval." | 11/1/2011 |
| 424 | Definitions | IEQc2.4 | Daylight and Views | In alphabetical order, add the following definition for occupied spaces , "Occupied Spaces are defined as enclosed spaces that can accommodate human activities. Occupied spaces are further classified as regularly occupied or non-regularly occupied spaces based on the duration of the occupancy, individual or multi-occupant based on the quantity of occupants, and densely or non-densely occupied spaces based upon the concentration of occupants in the space." | 11/1/2011 |
| 424 | Definitions | IEQc2.4 | Daylight and Views | Revise the definition for regularly occupied spaces to be, "Regularly occupied spaces are areas where one or more individuals normally spend time (more than one hour per person per day on average) seated or standing as they work, study, or perform other focused activities inside a building." | 11/1/2011 |
| 439* | Requirements | IEQc3.3 | Green Cleaning – Purchase of Sustainable Cleaning Products and Materials | Add the following sentence after the final bullet point and before the final paragraph: "For projects outside the U.S., any Type 1 eco-labeling program as defined by ISO 14024: 1999 developed by a member of the Global Ecolabelling Network may be used in lieu of Green Seal or Environmental Choice standards." | 7/6/2012 |

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| 439* | Requirements | IEQc3.3 | Green Cleaning— Purchase of Sustainable Cleaning Products and Materials | Environmental Protection Agency (EPA) Comprehensive Procurement Guidelines (or local equivalent for projects outside of the U.S.) for Janitorial Paper and Plastic Trash Can Liners. | 7/1/2013 |
| 453* | Requirements | IEQc3.5 | Green Cleaning – Indoor Chemical and Pollutant Source Control | Remove the second paragraph: Provide containment drains plumbed for appropriate disposal of hazardous liquid wastes in places where water and chemical concentrate mixing occurs for laboratory purposes. | 7/19/2010 |
| 455 | Maintenance | IEQc3.5 | Green Cleaning – Indoor Chemical and Pollutant Source Control | Remove the second paragraph: Give special consideration to the location of containment drains to ensure that hazardous waste is disposed of properly and prevent environmental damage or contamination of water systems. | 7/19/2010 |
| 461 | 11. Resources | IEQc3.6 | Green Cleaning – Indoor Chemical and Pollutant Source Control | Revise the entry for Integrated Pest Management Institute of North America, Inc to read: IPM Institute of North America Inc. The IPM Institute is an independent non-profit organization formed in 1998 to foster recognition and rewards in the marketplace for goods and service providers who practice Integrated Pest Management. | 11/1/2011 |
| 467* | Requirements | IOc1 | Innovation in Operations | In the header, change “(1 point)” to “(1 – 4 Points)” | 2/2/2011 |
| 467* | Requirements | IOc1 | Innovation in Operations | Replace the last sentence of the paragraph with “Projects may pursue up to 4 Pilot Credits total.” | 2/2/2011 |
| 487* | Requirements | RPc1 | Regional Priority | In the second paragraph, replace the last sentence with "The USGBC has prioritized credits for projects located in the U.S., Puerto Rico, the U.S. Virgin Islands, and Guam. All other international projects should check the database for eligible Regional Priority credits." | 11/3/2010 |
| 489 | Glossary | n/a | n/a | In alphabetical order, add the term "An appurtenance is any built-in, nonstructural portion of a roof system, such as skylights, ventilators, mechanical equipment, partitions, and solar energy panels." | 8/1/2011 |
| 490 | Glossary, baseline building performance | n/a | n/a | Replace the definition of "baseline building performance" with " Baseline building performance is the annual energy cost for a building design, used as a baseline for comparison with above-standard design." | 10/1/2012 |
| 490 | Glossary, blackwater | n/a | n/a | Replace the first sentence with, " Blackwater is wastewater containing urine or fecal matter that should be discharged to the sanitary drainage system of the building or premises in accordance with the International Plumbing Code." | 10/1/2012 |

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|------|--------------------------------------|--------|--------------|--|-----------|
| 490 | Glossary, breathing zone | n/a | n/a | Make bold the "B" of the first word so the text becomes " Breathing zone is the region..." | 7/19/2010 |
| 491 | Glossary, brownfield | n/a | n/a | Replace "whose use" with "or the expansion, redevelopment, or reuse of which" | 10/1/2012 |
| 491 | Glossary, Building footprint | n/a | n/a | Revise the text for "Building footprint" to be " Building footprint is the area on a project site used by the building structure, defined by the perimeter of the building plan. Parking lots, parking garages, landscapes, and other nonbuilding facilities are not included in the building footprint." | 8/1/2011 |
| 491 | Glossary, chain of custody | n/a | n/a | Replace the definition of " chain-of-custody (COC) " with "the path taken by raw materials, processed materials, and products from the forest to the consumer, including all successive stages of processing, transformation, manufacturing and distribution. A chain-of-custody certificate number on invoices for nonlabeled products indicates that the certifier's guidelines for product accounting have been followed. A chain-of-custody certification is not required by distributors of a product that is individually labeled with the Forest Stewardship Council logo and manufacturer's chain-of-custody number. Chain of Custody (CoC) certification requirements are determined by Forest Stewardship Council Chain of Custody Standard 40-004 v2-1." | 10/1/2012 |
| 491 | Glossary, chlorofluorocarbons (CFCs) | n/a | n/a | Replace the definition of " chlorofluorocarbons (CFCs) " with "a compound of carbon, hydrogen, chlorine and fluorine, once commonly used in refrigeration, that depletes the stratospheric ozone layer." | 10/1/2012 |
| 491 | Glossary | n/a | n/a | Replace the definition of "chain-of-custody (COC)" with "the path taken by raw materials, processed materials, and products from the forest to the consumer, including all successive stages of processing, transformation, manufacturing and distribution. A chain-of-custody certificate number on invoices for nonlabeled products indicates that the certifier's guidelines for product accounting have been followed. A chain-of-custody certification is not required by distributors of a product that is individually labeled with the Forest Stewardship Council logo and manufacturer's chain-of-custody number. Chain of Custody (CoC) certification requirements are determined by Forest Stewardship Council Chain of Custody Standard 40-004 v2-1." | 4/1/2013 |
| 493 | Glossary | n/a | n/a | Revise the definition for densely occupied spaces to be, "Densely occupied spaces are areas with a design occupant density of 25 people or more per 1,000 square feet (40 square feet or less per person)." | 11/1/2011 |
| 494 | Glossary | n/a | n/a | In alphabetical order, insert the term " emergency lighting " with the text "Emergency lighting as defined by the Illuminating Engineering Society of North America is lighting designed to supply illumination essential to the safety of life and property in the event of failure of the normal supply." | 5/9/2011 |

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| 496 | Glossary, graywater | n/a | n/a | Replace the definition of "graywater" with " Graywater is untreated household waste water which has not come into contact with toilet waste. Graywater typically includes used water from bathtubs, showers, bathroom wash basins, and water from clothes-washer and laundry tubs, though definitions may vary. Some states and local authorities also allow kitchen sink wastewater to be included in graywater. Project teams should comply with the graywater definition established by the authority having jurisdiction in the project area." | 10/1/2012 |
| 497 | Glossary | n/a | n/a | In alphabetical order, add the term " Gross floor area (based on ASHRAE definition) is the sum of the floor areas of the spaces within the building, including basement s, mezzanine and intermediate□ floored tiers, and penthouses with headroom height of 7.5 ft (2.2 meters) or greater. Measurements must be taken from the exterior 39 faces of exterior walls OR from the centerline of walls separating buildings, OR (for LEED CI certifying spaces) from the centerline of walls separating spaces. Excludes non□enclosed (or non□enclosable) roofed□ over areas such as exterior covered walkways, porches, terraces or steps, r oof overhangs, and similar features. Excludes air shafts, pipe trenches, and chimneys. Excludes floor area dedicated to the parking and circulation of m otor vehicles. (Note that while excluded features may not be part of the gross floor area, and therefore technically not a part of the LEED project building, they may still be required to be a part of the overall LEED project and subject to MPRs, prerequisites, and credits.)" | 8/1/2011 |
| 497 | Glossary, heat island effect | n/a | n/a | In the second sentence, delete "Particularly in urban areas"; revise the last clause so that it reads, "Other sources may include vehicle exhaust, air-conditioners, and street equipment. Reduced airflow because of tall buildings and narrow streets exacerbate the effect." | 10/1/2012 |
| 498 | Glossary | n/a | n/a | Revise the definition for individual occupant spaces to be, "In individual occupant spaces, occupants perform distinct tasks from one another. Such spaces may be contained within multi-occupant spaces and should be treated separately where possible. Individual occupant spaces may be regularly or non-regularly occupied spaces." | 11/1/2011 |
| 501 | Glossary | n/a | n/a | In alphabetical order, insert the term " movable furniture and partitions " with the text "Movable furniture and partitions are those that can be moved to provide access to the view by the user without the need for tools or assistance from special trades and facilities management." | 5/9/2011 |
| 501 | Glossary | n/a | n/a | Replace the definition for group multioccupant spaces with the following definition for multi-occupant space , "Multi occupant spaces are places of egress, congregation, or where occupants pursue overlapping or collaborative tasks. Multi occupant spaces may be regularly or non-regularly occupied spaces." | 11/1/2011 |

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|------|-------------------|--------|--------------|---|-----------|
| 501 | Glossary | n/a | n/a | In alphabetical order, add the following definition for non-densely occupied space, "Non-densely occupied spaces are areas with a design occupant density of less than 25 people per 1,000 square feet (40 square feet or more per person)." | 11/1/2011 |
| 501 | Glossary | n/a | n/a | Revise the definition for nonoccupied spaces to be, "Nonoccupied spaces are defined as spaces designed for equipment and machinery or storage with no human occupancy except for maintenance, repairs, and equipment retrieval." | 11/1/2011 |
| 501 | Glossary | n/a | n/a | In alphabetical order, add the following definition for non-regularly occupied space , "Non-regularly occupied spaces are spaces that occupants pass through, or spaces used in pursuit of focused activities for less than one hour per person per day (on average)." | 11/1/2011 |
| 501 | Glossary | n/a | n/a | In alphabetical order, add the following definition for occupied spaces , "Occupied spaces are defined as enclosed spaces that can accommodate human activities. Occupied spaces are further classified as regularly occupied or non-regularly occupied spaces based on the duration of the occupancy, individual or multi-occupant based on the quantity of occupants, and densely or non-densely occupied spaces based upon the concentration of occupants in the space." | 11/1/2011 |
| 503 | Glossary | n/a | n/a | Replace the definition of " postconsumer material " with "waste generated by end users (households or commercial, industrial and institutional facilities) of a product no longer able to be used for its intended purpose that is recycled into raw material for a new product." | 4/1/2013 |
| 505 | Glossary | n/a | n/a | Revise the definition for regularly occupied spaces to be, "Regularly occupied spaces are areas where one or more individuals normally spend time (more than one hour per person per day on average) seated or standing as they work, study, or perform other focused activities inside a building." | 11/1/2011 |
| 506 | Glossary | n/a | n/a | In alphabetical order, add the term, " Roof area is the area of the uppermost surface of the building which covers enclosed Gross Floor Area, as measured when projected onto a flat, horizontal surface (i.e. as seen in Roof Plan view). 'Roofs', or portions of roofs, covering unenclosed areas (e.g. roofs over porches and open covered parking structures) are not included in the areas used to evaluate compliance with SSc7.2, though they may be applicable to SSc7.1." | 8/1/2011 |
| 506 | Glossary, sealant | n/a | n/a | Add the following sentence to the end of " sealant " definition, "Sealants are used on wood, fabric, paper, corrugated paperboard, plastic foam and other materials with tiny openings, often microscopic, that may absorb or discharge gas or fluid." | 10/1/2012 |

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| 507 | Glossary, solar reflectance (albedo) | n/a | n/a | Replace the definition of " solar reflectance, albedo " with "the fraction of solar energy that is reflected by a surface on a scale of 0 to 1. Black paint has a solar reflectance of 0; white paint (titanium dioxide) has a solar reflectance of 1. The standard technique for its determination uses spectrophotometric measurements, with an integrating sphere to determine the reflectance at each wavelength. The average reflectance is then determined by an averaging process, using a standard solar spectrum, as documented by ASTM Standards E903 and E892." | 10/1/2012 |
| 509 | Glossary, urea formaldehyde | n/a | n/a | Replace the definition of " urea-formaldehyde " with "a combination of urea and formaldehyde used in some glues and adhesives, particularly in composite wood products. At room temperature, urea formaldehyde emits formaldehyde, a toxic and possibly carcinogenic gas." | 10/1/2012 |
| 509 | Glossary, volatile organic compounds (VOCs) | n/a | n/a | Replace the definition of " volatile organic compounds (VOC's) " with "a carbon compound that vaporizes (becomes a gas) at normal room temperatures. VOCs contribute to air pollution directly and through atmospheric photochemical reactions (excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides and carbonates, and ammonium carbonate) to produce secondary air pollutants, principally ozone and peroxyacetyl nitrate." | 10/1/2012 |

*Shaded rows denote rating system changes. The purpose of these rating system changes within the rating system portions of the *LEED Reference Guide for Green Building Operations and Maintenance* is to align with the LEED Rating System that comprises the guide.

Note: The online version of the rating system takes precedent over the rating system portions of the LEED Reference Guides in project guidance and application; project teams are required to adhere to the rating system and rating system addenda effective at the time of the project's registration date.