



Errata Sheet

for the document titled:

**LEED for Existing Buildings
Version 2.0
Reference Guide
First/Second Edition
October 2006**

Note: updates to this document are posted on the Reference Guide electronic access Web page (via www.usgbc.org/myUSGBC)

Errata posted June 13, 2008

Credit	Page	Erratum
EQc3	371	Under the heading "Requirements" , in the first bullet point, the referenced standard has been updated to the "SMACNA IAQ Guidelines for Occupied Buildings under Construction, Second Edition-November 2007, chapter 3"

Errata posted September 28, 2007

Credit	Page	Erratum
Intro	13	Under II. LEED for Existing Buildings (LEED- EB), before LEED-EB Registration, add "LEED-EB is targeted at single buildings that are 100% owner-occupied, though multiple-building projects and single multi-tenant buildings can potentially qualify under certain conditions (see the USGBC Web site for more information). LEED-EB is a whole-building rating system; individual tenant spaces are ineligible."
Intro	13	Under LEED-EB registration change the third sentence to "This connection allows the project to receive periodic errata, other updates, access to LEED Online, and access to the LEED-EB Version 2.0 project resource page on the USGBC website."
Intro	13	Add "and the Certification Application" to end of the title LEED-EB Submittals" title
Intro	13	Under LEED-EB Submittals and the Certification Application, replace all text with "Submittal documentation should be gathered throughout the process. To earn LEED-EB certification, the applicant project must satisfy all of the prerequisites and a minimum number of points to attain the established LEED-EB project ratings as listed below. LEED-EB projects will need to comply with the version that is current at the time of project registration (version 2.0 as of this writing). LEED-EB Certification Levels:

		<ul style="list-style-type: none"> ▪ Certified 32-39 points ▪ Silver 40-47 points ▪ Gold 48-63 points ▪ Platinum 64-85 points <p>Project teams apply for certification using one of two methods. All projects that registered for LEED after November 2005 are required to use the USGBC's LEED Online Web-based project management and documentation system. Teams that registered before November 2005 may optionally use the older method, which requires sending USGBC two copies of project documentation either in one three-ring binder with a CD-ROM, or entirely on CD-ROM (note: please check the USGBC's Web page describing the certification process for the most up to date instructions). Regardless of which method is used, all certification applications must include the following:</p> <ul style="list-style-type: none"> ▪ The completed LEED-EB Version 2.0 spreadsheet Letter Templates (old method) or Submittal Templates (LEED Online) ▪ Overall project narrative including all requirements listed below ▪ LEED-EB Project Scorecard indicating projected prerequisites and pursued credits and the total desired score for the project ▪ Drawings and photos illustrative of the project: <ul style="list-style-type: none"> ○ Site plan ○ Typical floor plan ○ Typical building section ○ Typical or primary elevation ○ Photo or rendering of project <p>To begin the certification process, the project team submits a complete application to the USGBC for review that includes all of the above items. The review process cannot begin until the application is complete and the project has paid the certification fees."</p>
Intro	14	<p>After the LEED-EB Submittals and the Certification Application section, add the following text:</p> <p>"Project Narrative</p> <p>LEED for Existing Buildings v2.0 requires the submission of an overall project narrative with the completed Submittal Templates. The outline below is intended as a guide for project teams in compiling this brief description of the organization, building, site, and team. This narrative will assist the LEED for Existing Buildings Review Team in understanding core elements of the project and building performance, and will also aid the USGBC in highlighting aspects of projects in future communications efforts. Project teams must address all the required elements listed below, providing details and clarifications where appropriate, and may include any of the optional elements that are helpful in telling the project's story.</p>

		<p>Required Elements</p> <ol style="list-style-type: none"> 1. LEED: <ol style="list-style-type: none"> a. Is this project a LEED for Existing Buildings initial certification or recertification? b. Does this building have any LEED certifications or registrations other than EB (NC, CI, or CS) for the whole building or part of the building? If so, provide the other LEED project name(s) as they appeared in the other LEED registrations. c. Provide a brief description of key factors motivating LEED for Existing Buildings implementation and certification for this building. d. Estimate the number of months elapsed from the LEED for Existing Buildings project kickoff meeting until the certification application was completed. 2. Project Scope: <ol style="list-style-type: none"> a. Is the LEED for Existing Buildings project a single building, more than one building, or an entire campus/neighborhood? b. Did any of the building space undergo a major renovation as part of the LEED for Existing Buildings project? If yes, provide the total renovated floor area and specify which spaces were renovated. c. Briefly describe any major capital purchases, replacements, or equipment upgrades that were performed as part of the LEED for Existing Buildings project. 3. Building & Site: <ol style="list-style-type: none"> a. Location, including a brief description of the building context, basic setting, and surrounding area b. Floor area – footprint, number of floors, total conditioned square feet, total square feet c. Description of major HVAC equipment & systems d. Total area of site, and footprint of vehicle parking area, if any e. If part of a multi-building site or campus, brief description of surrounding buildings and setting 4. Occupancy & Usage: <ol style="list-style-type: none"> a. Percentage of total floor area currently occupied or being used. b. Number of persons who are full-time occupants, part-time occupants, and transient visitors. Provide both design (peak) and typical levels. c. Major space usage types in the building, and percentage of total floor area for each. d. Does the owner occupy 100% of building? If not, provide the percentage of total floor area occupied by the owner and tenants and the total number of tenants. 5. Project Highlights - Describe three or more major
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		<p>accomplishments or highlights of the building’s sustainability performance. These highlights should emphasize performance elements that your team would most like to share with both the LEED for Existing Buildings reviewers and the public.</p> <p>Optional Elements</p> <p>Applicant Organization</p> <ul style="list-style-type: none"> • Identification, description and general mission/function of ownership organization, institution or firm • Organization total employees (all facilities) • Organization buildings – number and total floor area • Organization buildings previously certified under LEED – number, rating systems, and certification levels <p>Building History</p> <ul style="list-style-type: none"> • Construction and occupancy dates • Building uses over lifetime • Brief description of any major upgrades to the building over its life <p>Applicant Project Team</p> <ul style="list-style-type: none"> • Description of how the certification process was led and managed • Description of how personnel involved in the ongoing management of the building, including internal staff and external contractors, were engaged in the LEED for Existing Buildings implementation and documentation process • Description of the level of management buy-in and how this buy-in was achieved. <p>Project Challenges – Describe any notable obstacles that were overcome in the process of preparing for LEED for Existing Buildings certification, the reasons these obstacles arose, and the team’s method of overcoming them.”</p>
Intro	14	<p>Insert the following text below the erratum above (Applicant Project Team)</p> <p>“LEED-EB Initial Certification vs. Recertification</p> <p>Any first-time certification application to the LEED-EB program is considered an initial LEED-EB certification. This includes both applications for buildings never LEED certified and buildings previously certified under LEED-NC. Any LEED-EB application for a building previously certified using LEED-EB is considered a LEED-EB recertification. These buildings can apply for recertification as frequently as annually and must file for recertification at least once every 5 years to maintain their LEED-EB status.”</p>
Intro	14	<p>Under Performance Period for LEED –EB Applications, replace the text with:</p> <p>“Documentation required for LEED-EB Certification Applications include performance data for the building and site over the performance period.</p>

The LEED for Existing Buildings Performance Period is the period during which building performance data is collected for inclusion in a LEED for Existing Buildings certification application. The Performance Period may not have any “gaps”; it must be a continuous interval of time.

Requirements for Initial Certifications

Duration

For initial LEED for Existing Buildings certifications the Performance Period must be at least three months long. In some situations, specific prerequisites or credits may require more than three months of data, in which case historical data can be used to supplement the Performance Period data, or the three months of Performance Period data can be extrapolated to annual data following the guidelines in the LEED for Existing Buildings Reference Guide. The maximum Performance Period duration for any prerequisite or credit in an initial LEED for Existing Buildings application is two years.

Consistency across Prerequisites and Credits

Consistent start times and durations for the Performance Periods for each prerequisite and credit are preferred but not strictly necessary. However, all performance periods must end within a shared sixty-day window, as illustrated in the example below. For this example, the shared window extends from October 30 to December 30.

Performance Period – Example			
	Start	End (all performance periods must end within a common sixty-day window)	Duration (at least 3 months)
SSp1: Erosion and Sedimentation Control	July 15, 2005	December 15, 2005	5 months
SSc1: Plan for Green Site and Building Exterior Management	May 30, 2005	October 30, 2005	5 months
WEp1: Minimum Water Efficiency	September 30, 2005	December 30, 2005	3 months
WEc1: Water Efficient Landscaping	December 1, 2004	December 1, 2005	12 months

The certification application must be submitted to USGBC within 90 days of the end of the shared sixty-day window.

Performance Period Best Practices

Duration

Though the Performance Period can be as short as three months for initial LEED for Existing Buildings applicants, consider a longer Performance Period as it will provide a more robust picture of the

		<p>building's performance. A full year of data, for example, will reflect seasonal variations in resource consumption (irrigation rates, heating and cooling loads, etc.) and occupant behavior (commuting choices). In any case, the maximum Performance Period duration for any prerequisite or credit in an initial LEED for Existing Buildings application is two years.</p> <p>Timing</p> <p>Ideally, the Performance Period should be identical across all prerequisites and credits, and all policy, operations and equipment changes undertaken to meet LEED for Existing Buildings requirements should be fully implemented BEFORE the start of this universal Performance Period, as the building performance data collected should reflect those changes. If major changes to building operating procedures or equipment occur during the Performance Period, it is best to collect at least three months of data after such changes to help identify any new trends in the performance results."</p>
Intro	14	Delete the "Performance Period for First Time LEED-EB Applications" section
Intro	14	Replace "Performance Period for Recertification Under LEED-EB" for Buildings Previously Certified Under LEED-EB with "Requirements for Recertification"
Intro	14	Delete the first bullet of "Requirements for Recertification"
Intro	15	Delete the "Certification" section
Intro	15	Under the second sentence "III. LEED-EB Reference Guide" replace "assist" with "help"
Intro	16	Under "Prerequisite and Credit Format" revise to read "Each prerequisite and credit is organized in a standardized format for simplicity and quick reference. The first section summarizes the key points regarding the green measure and includes the intent, requirements, required submittals for certification, and a summary of any referenced industry standard. The subsequent sections provide supportive information to help interpret the measure and offer links to various resources and examples. The sections for each credit are described in the following paragraphs."
Intro	16	Under "Requirements and Submittals" add a second paragraph that reads "Some multiple-point credits (e.g., MRc1 - Construction Waste Management) require that a green operations policy be put in place and also award points based on how much of the associated activity within the building conforms to the policy. The higher the fraction of conformance, the more points are awarded. Note that for these credits, only 1 point will be awarded for a green policy in the absence of any associated activity (i.e., for MRc1, in the absence of any construction waste generation)."
	16	Change "Summary of Referenced Standards" to "Summary of Referenced Industry Standards"
SSp1	21	Under Requirements, line 10, change the word "Sedimentation" in "Chapter 3: Sedimentation and Erosion Control" to "Sediment".
SSc2	43	Add " Congress for New Urbanism www.cnu.org "

		to the Other Resources" category in the same format as the other resources after "Changing Places" and "Density by Design"
SSc3.2	49	Delete the "s" on the end of "buildings" in last line of last paragraph of Requirements section.
SSc3.2	55	In Table 2 title, change "Quarterly" to "Quarterly".
SSc3.3	57	Under Submittals – Initial Certification Option B, add space between "lease" and "agreement".
SSc3.3	61	Replace "designate" with "offer" in the first sentence of the first paragraph under Option B.
SSc3.3	61	Replace the first sentence of the second paragraph under Option B to "Incentive programs for encouraging alternative vehicle ownership might include monetary grants to assist in purchasing alternative vehicles or preferred parking for alternative vehicle users (required by this credit).
SSc3.3	61	Replace the paragraph under Option C with "Provide preferred parking for AFV or ATV users equal to or greater than 3 percent of the total vehicle parking capacity on the site. Use employee newsletters, postings, signs or other forms of communication to inform occupants about the preferred parking program. Perform quarterly checks of the total vehicle parking capacity to verify that preferred parking program is offered for at least 3 percent of the total vehicle parking capacity. Expand the preferred parking program to meet demand until 10 percent or more of vehicle parking capacity serves preferred parking users."
SSc3.3	61	Replace the first paragraph of the Synergies & Tradeoffs section with "Earning this credit might involve installing refueling stations, designating spaces proximate to the building or covered spaces, providing discounted parking passes or guaranteeing parking access for AFV/ATV users. Adding designated parking or refueling stations may difficult at building sites with limited parking space. Expanding lot size to accommodate these facilities may affect other LEED-EB credits, including SS credit 4: Reduced Site Disturbance; SS Credit 5: Stormwater Management; and SS credit 6: Heat Island Reduction."
SSc3.3	62	Replace the sentence under Option B with "To calculate the number of alternative fuel or hybrid vehicles, multiply the total number of building occupants by 3 percent (see equation 2).
SSc3.3	62	Replace Equation 2 with "Number of alternative fuel/hybrid vehicles = Total number of building occupants x 0.03."
SSc3.3	62	Replace Equation 3 with "Required number of vehicle users offered preferred parking is the greater of: Total number of vehicle parking spaces x 0.03 OR Peak number of alternative vehicle users x 1.25."
SSc3.3	62	Replace the paragraph under Option C with "The number of alternative vehicle users that must be offered preferred parking is equal to the greater of: (a) the total number of vehicle parking spaces multiplied by 0.03 or (b) the number of alternative vehicle users x 1.25."
SSc3.3	63	Replace the second bullet and sub-bullet under Option B to "(Bullet) Preferred parking (Sub-bullet) Describe the type of preferred parking that serves alternative vehicle users (Sub-bullet) If the preferred parking program includes designated parking, provide drawings illustrating the location and number of spaces devoted to alternative fuel vehicles
SSc3.3	63	Replace the first bullet and all sub-bullets under Option C with "(Bullet) Preferred parking (Sub-bullet) Describe the type of preferred parking that serves alternative vehicle users (Sub-bullet) If the preferred parking program includes designated parking, provide drawings illustrating the location and number of spaces devoted to alternative fuel vehicles (Sub-

		bullet) Calculations must identify the total number of parking spaces and the number of vehicles served by the preferred parking program (Sub-bullet) As-necessary increases should be documented by submitting summaries of quarterly monitoring and findings by a responsible officer of the organization about the need for addition preferred parking."
SSc3.3	64	Add " Electric Drive Transportation Association www.electricdrive.org This industry association promotes electric vehicles through policy, information, and market development initiatives." to the Other Resources category in the same format as the other resources as a separate definition after "Electric Auto Association" and before "Electric Vehicle Association of the Americas"
SSc3.3	65	Replace definition of "Preferred Parking" with " Preferred Parking is parking that is preferentially available to particular users. Preferred parking-related incentives might include designated spaces proximate to the building, designated covered spaces, discounted parking passes, guaranteed pass availability (for buildings that allot parking passes with a lottery system), etc."
SSc3.4	69	Replace the first sentence of the second paragraph in the Economic Issues section with "The minimum costs of implementing an organization carpool program might include program promotion, employee incentives, using signs to designate parking spaces, or offering discounted parking passes to carpoolers."
SSc3.4	70	Under Calculations, replace the paragraph under Option A with "To calculate the number of vehicles that the preferred parking program must have the capacity to serve, multiply the number of building occupants by 5 percent and divide by the number of occupants per carpool vehicle (see Equation 1). Assume that the Average Number of Occupants per Carpool Vehicle is equal to 2 unless documentation can be provided showing a carpool vehicle occupancy rate greater than 2."
SSc3.4	71	Replace "Identify preferred parking" with "Describe the preferred parking program" in the second sentence of the sub-bullet of the first bullet under Option A.
SSc3.4	71	Replace Equation 1 with "Preferred parking program capacity [vehicles] = (Number of building occupants x 0.005 / Average number of occupants per carpool vehicle)"
SSc3.4	72	Replace definition of "Preferred Parking" with " Preferred Parking is parking that is preferentially available to particular users. Preferred parking-related incentives might include designated spaces proximate to the building, designated covered spaces, discounted parking passes, guaranteed pass availability (for buildings that allot parking passes with a lottery system), etc."
SSc4	76	Insert "Monoculture plantings such as turf grass do not meet the criteria for conserving or restoring natural areas, and should not be considered natural area." to follow the sentence listed as step 1 under Option A: Calculate Percent Onsite Natural Area.
SSc7	109	Add " California Energy Commission (CEC) - 2005 California Energy Efficiency Building Standards – Lighting Zones www.energy.ca.gov/title24/2005standards/ o u t d o o r _ l i g h t i n g / 2 0 0 4 - 0 9 - 3 0 _

		<p>LIGHTING_ZONES.PDF</p> <p>Provides a description of the outdoor lighting zones developed for use in the 2005 California Energy Efficiency Building Standards (Title 24)."</p> <p>to the Other Resources category in the same format as the other resources as a separate definition before the "Illuminating Engineering Society of North America" text</p>																											
WEp1	118	<p>Replace Table One with the following table (to keep existing format & size)</p> <p>Table 1: Energy Policy Act of 1992 Standards for Plumbing Fixture Water Usage</p> <table><tr><th>Fixture</th><th>Energy Policy Act of 1992 Standards for Plumbing Fixture Water Use</th></tr><tr><td>Water Closets [gpf]</td><td>1.60</td></tr><tr><td>Urinals [gpf]</td><td>1.00</td></tr><tr><td>Shower Heads [gpm]*</td><td>2.50</td></tr><tr><td>Lavatory Faucets & Aerators [gpm]**</td><td>2.20</td></tr><tr><td>Kitchen & Janitor Sink Faucets</td><td>2.20</td></tr><tr><td>Metering Faucets [gal/cycle]</td><td>0.25</td></tr></table> <p>* When measured at a flowing water pressure of 80 pounds per square inch (psi).</p> <p>** When measured at a flowing water pressure of 60 pounds per square inch (psi).</p>	Fixture	Energy Policy Act of 1992 Standards for Plumbing Fixture Water Use	Water Closets [gpf]	1.60	Urinals [gpf]	1.00	Shower Heads [gpm]*	2.50	Lavatory Faucets & Aerators [gpm]**	2.20	Kitchen & Janitor Sink Faucets	2.20	Metering Faucets [gal/cycle]	0.25													
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WEp1	120	<p>Under High-Efficiency Plumbing Fixtures line 11, change “in available plumbing fixtures.” to “for high-efficiency plumbing fixtures.”</p>																											
WEp1	120	<p>Combine Table 2 & Table 3 to reflect the following (keep format & size if possible):</p> <p>Table 2: Example Flush and Flow Fixtures – Performance Case</p> <table><tr><th>Flush Fixture</th><th>Flowrate [GPF]</th><th>Flow Fixture</th></tr><tr><td>High-Efficiency Water Closet*</td><td>Below 1.3</td><td>High-Efficiency Lavatory Faucet</td></tr><tr><td>Low-Flow Water Closet</td><td>1.1</td><td>Low-Flow Lavatory Faucet</td></tr><tr><td>Ultra Low-Flow Water Closet</td><td>0.8</td><td>Ultra Low-Flow Lavatory Faucet</td></tr><tr><td>Dual-Flush Water Closet (Average-Flush)**</td><td>1.2</td><td>High-Efficiency Kitchen Sink Faucet</td></tr><tr><td>Composting Toilet</td><td>0.0</td><td>Low-Flow Kitchen Sink Faucet</td></tr><tr><td>High-Efficiency Urinal***</td><td>0.5</td><td>High-Efficiency Showerhead</td></tr><tr><td>Non-Water Urinal***</td><td>0.0</td><td>Low-Flow Showerhead</td></tr><tr><td></td><td></td><td>Low-Flow Janitor Sink Faucet</td></tr></table>	Flush Fixture	Flowrate [GPF]	Flow Fixture	High-Efficiency Water Closet*	Below 1.3	High-Efficiency Lavatory Faucet	Low-Flow Water Closet	1.1	Low-Flow Lavatory Faucet	Ultra Low-Flow Water Closet	0.8	Ultra Low-Flow Lavatory Faucet	Dual-Flush Water Closet (Average-Flush)**	1.2	High-Efficiency Kitchen Sink Faucet	Composting Toilet	0.0	Low-Flow Kitchen Sink Faucet	High-Efficiency Urinal***	0.5	High-Efficiency Showerhead	Non-Water Urinal***	0.0	Low-Flow Showerhead			Low-Flow Janitor Sink Faucet
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		High-Efficiency Self Closing Faucet	0.2 gpc & below																																																							
		<p>* High-efficiency toilets (HETs) include dual-flush toilets, 1.0-gpf pressure-assist toilets and 1.3-gpf gravity-fed single-flush toilets.</p> <p>** Dual-flush toilets have an option of full flush (1.6 gal) or liquid-only flush (ranging between 0.8 gpf and 1.1 gpf, depending upon design). When calculating water use reductions from installation of these fixtures, use a composite (average) flush volume of 1.2 gpf.</p> <p>***High-efficiency urinals are currently available at 0.5 gpf and 0.0 gpf. Urinals at 0.25 gpf will be available in 2005.</p>																																																								
WEp1	120	Under High-Efficiency Plumbing Fixtures, change “Tables 2 and 3” to “Table 2”																																																								
WEp1	121	Insert “The following assumptions must be followed in performing these calculations unless the applicant can provide justification explaining the need to deviate from them and prove the accuracy of the substituted values.” before “Frequency data...” in the Calculations section.																																																								
WEp1	121	<p>Add Table 3 (this is Table 2 from NCc3 page 141 and should look identical):</p> <p>Table 3: Standard Fixture Uses by Occupancy Type</p> <table><tr><th>Fixture Types</th><th>FTE</th><th>Student/ Visitor Uses/Day</th><th>Retail Customer</th><th>Residential</th></tr><tr><td>Water Closet</td><td></td><td></td><td></td><td></td></tr><tr><td>female</td><td>3</td><td>0.5</td><td>0.2</td><td>5</td></tr><tr><td>male</td><td>1</td><td>0.1</td><td>0.1</td><td>5</td></tr><tr><td>Urinal</td><td></td><td></td><td></td><td></td></tr><tr><td>female</td><td>0</td><td>0</td><td>0</td><td>n/a</td></tr><tr><td>male</td><td>2</td><td>0.4</td><td>0.1</td><td>n/a</td></tr><tr><td>Lavatory Faucet (duration 15 sec; 12 sec with autocontrol)</td><td>3</td><td>0.5</td><td>0.2</td><td>5</td></tr><tr><td>Shower (duration 300 sec)</td><td>0.1</td><td>0</td><td>0</td><td>1</td></tr><tr><td>Kitchen Sink, non-residential (duration 15 sec)</td><td>1</td><td>0</td><td>0</td><td>n/a</td></tr><tr><td>Kitchen Sink, residential (duration 60 sec)</td><td>n/a</td><td>n/a</td><td>n/a</td><td>4</td></tr></table>	Fixture Types	FTE	Student/ Visitor Uses/Day	Retail Customer	Residential	Water Closet					female	3	0.5	0.2	5	male	1	0.1	0.1	5	Urinal					female	0	0	0	n/a	male	2	0.4	0.1	n/a	Lavatory Faucet (duration 15 sec; 12 sec with autocontrol)	3	0.5	0.2	5	Shower (duration 300 sec)	0.1	0	0	1	Kitchen Sink, non-residential (duration 15 sec)	1	0	0	n/a	Kitchen Sink, residential (duration 60 sec)	n/a	n/a	n/a	4	
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WEp1	121	<p>Add the following text after “Calculations and Documentation” title, before “Calculations” subtitle:</p> <p>“Occupancy</p> <p>Calculate the Full-Time Equivalent (FTE) building occupants based on a standard 8-hour occupancy period. An 8-hour occupant has an FTE value of 1.0 while a part-time occupant has an FTE value based on their hours per day divided by 8. (Note that FTE calculations for the project must be used consistently for all LEED-NC credits.) In buildings with multiple shifts, use the number of FTEs from all shifts, since this credit is based on annual water consumption. Estimate the Transient building occupants, such as students, visitors, and customers. Since this credit is based on annual water consumption, use a transient occupancy number that is a representative daily average. If the building has both FTE and Transient occupants, calculate the water use for each fixture separately for each occupancy type. This separation is necessary to represent the unique use patterns. For residential projects, the number of residents is used as the occupancy number.</p> <p>Table 3 provides default fixture use values for different occupancy types. These values should be used in the calculations for this credit unless special circumstances exist within the project to require modification. The FTE uses are identical to those used in LEED-NC v2.1. The uses for the other occupancy types are provided as compromise default values based on v2.1 projects. Note that most buildings with Student/Visitor and Retail Customer occupants will also have FTE occupants. The Student/Visitor category is intended for college buildings, libraries, museums, and similar building types. 50% of all Student/Visitor occupants are assumed to use a flush fixture and a lavatory faucet in the building and are not expected to use a shower or kitchen sink. 20% of Retail Customer occupants are assumed to use a flush and a flow fixture in the building and no shower or kitchen sink. The default for Residential occupants is 5 uses per day of flush and flow fixtures, 1 shower, and 4 kitchen sink uses. For consistency across LEED projects, the calculations require the use of a balanced, one-to-one gender ratio unless specific project conditions warrant an alternative. For these special situations, the project team will need to provide a narrative description to explain the unique circumstances. The total fixture uses by all occupants must be consistent in the design and baseline cases.”</p>
WE p1	124	In Table 6, add vertical lines under “Flow Fixture”
WEp1	124	In the first paragraph below Table 6, change “below” to “above”.
WEp1	125	The first part of Equation 6 should read, “Fixture Water Use [gal] per Occupant”.
WEp1	125	The first part of Equation 7 should read, “Fixture Water Use [gal] per Square Foot”.
WEp1	125	<p>Add all of the following Resources:</p> <p>"American Rainwater Catchment Systems</p>

		<p>Association www.arcsa-usa.org Includes a compilation of publications, such as the Texas Guide to Rainwater Harvesting.</p> <p>Choosing a Toilet www.taunton.com/finehomebuilding/pages/h00042.asp An article in <i>Fine Homebuilding</i> that includes several varieties of water efficient toilets.</p> <p>Composting Toilet Reviews www.buildinggreen.com/features/mr/waste.html (802) 257-7300 An <i>Environmental Building News</i> article on commercial composting toilets.</p> <p>National Climatic Data Center www.ncdc.noaa.gov/oa/climate/aasc.html Useful site for researching local climate data, such as rainfall data for rainwater harvesting calculations. Includes links to state climate offices.</p> <p>Rocky Mountain Institute www.rmi.org/sitepages/pid15.php This portion of RMI's website is devoted to water conservation and efficiency. The site contains information on commercial, industrial and institutional water use, watershed management, and articles on policy and implementation."</p> <p>to the Other Resources category in the same format as the other resources and as a separate resource before the "Smart Communities Network " text</p>
WEp1	125	Replace "All information needed to successfully document this credit can be found in the Submittals section of the LEED-EB Rating System and the LEED-EB Letter Templates." with " (Bullet) Fixture Water Use (Sub-bullet) For WE Prerequisite 1 and Credit 3.1, calculated water use based on fixture flow rates is adequate documentation. For WE Credit 3.2, you must submit fixture meter data to demonstrate the percent reduction from the baseline." in the Documentation section.
WEp1	125	Add "Terry Love's Consumer Toilet Reports www.terrylove.com/crtoilet.htm This website offers a plumber's perspective on many of the major toilets used in commercial and residential

		applications." to the Other Resources category in the same format as the other resources and as a separate resource after "Smart Communities Network" text and before "Water Closet Performance Testing"
WEc1.1&1.2	138	Under Table 1 notes, insert space between "Notes:" and "Annual".
WEc1	140	Add "Texas Water Development Board Website" www.twdb.state.tx.us This website provides data from the state of Texas regarding water resources and services, such as groundwater mapping and water availability modeling. The site also provides published brochures regarding indoor and outdoor water efficiency strategies." to the Other Resources category in the same format as the other resources and as a separate definition before "Turf Irrigation Manual, Fifth Edition" and after "Texas Evaporation Website"
WEc3.1-3.2	151	Insert paragraph break before this text under "requirements": "To earn WE 3.2, measured fixture water use demonstrating required level of efficiency must be provided."
EAp1	163	Under Economic Issues, middle of last paragraph, remove extra period after "ten thousand per year. ⁷ ."
EAp1	163	Replace the paragraph under Strategies & Technologies with "This prerequisite can be met by completing the entire commissioning process within the past three years of the end the LEED-EB performance period window, or by developing a 1- to 5- year Plan for completing the commissioning process. Project teams that have completed the commissioning process should document that all five actions listed in the Requirements section have been completed. For other buildings, a 1- to 5-Year Plan for completion of the commissioning requirements is necessary. The 1- to 5-Year Plan should include, at a minimum, the following items: <ul style="list-style-type: none"> • list of the commissioning team members (names and job titles) • comprehensive summary of building systems covered by the commissioning plan • description of the current status of the commissioning process for each building system, noting any milestones or relevant achievements to date • detailed schedule of actions, deadlines and project milestones, including anticipated month/year of completion"
EAp1	164	Insert "The existing building commissioning process starts with the preparation of a building operation plan that specifies the current

		operation needs of the building and how to meet them, followed by testing and repairing the buildings systems and equipment as necessary to ensure that they meet the plan.” in front of the first paragraph in the Overall Strategy section.
EAp1	170	<p>Add “Building Commissioning Association (BCxA) www.bcxa.org (877) 666-BCXA (2292) Promotes building commissioning practices that maintain high professional standards and fulfill building owners’ expectations. The association offers a five-day intensive course focusing on how to implement the commissioning process, intended for Commissioning Authorities with at least two years’ experience.”</p> <p>to the Other Resources category in the same format as the other resources and as a separate resource after “ASHRAE Guidelines and before “California Commissioning Collaborative”</p>
EAp1	170	<p>Add “Cx Assistant Commissioning Tool www.ctg-net.com/edr2002/cx/ This web-based tool provides project-specific building commissioning information to design teams and enables users to evaluate probable commissioning cost, identify an appropriate commissioning scope, and access sample commissioning specifications related to their construction project.</p> <p>Department of Engineering Professional Development University of Wisconsin, Madison www.engr.wisc.edu (800) 462-0876 Offers commissioning process training courses for building owners, architects, engineers, operations and maintenance staff, and other interested parties. The program also offers accreditation of commissioning process providers and managers.”</p> <p>to the Other Resources category in the same format as the other resources after "California Commissioning Collaborative" and before "Energy Star Building Manual"</p>
EAp1	170	<p>Add “Portland Energy Conservation Inc. (PECI) www.peci.org PECI develops the field for commissioning services by helping building owners understand the value of commissioning, and producing</p>

		<p>process and technical information for commissioning providers. Their focus includes both private and public building owners, and a wide range of building types. PECI manages the annual National Conference on Building Commissioning.”</p> <p>to the Other Resources category in the same format as the other definitions after "Energy Star Building Manual" and before "A Practical Guide for Commissioning Existing Buildings"</p>
EAp2	175	In the third sentence of Green Building Concerns, add “many energy-saving equipment operation strategies are essentially free to implement, while” between “result,” and “well-planned”
EAp2	175	Under Economic Issues, add “Changing operation strategies to avoid energy waste, such as turning lights and HVAC off when the building is unoccupied, can often be done at zero or very low initial cost and with an extremely rapid payback.” to the beginning of the paragraph before the existing first sentence
EAp2	175	In what is now the second sentence of Economic Issues, add “and maintenance” between “energy” and “savings”
EAp2	176	In the first sentence of Strategies and Technologies, add “energy-saving equipment operation strategies,” between “implement” and “energy”
EAp2	176	<p>Add the following to the end of Calculations under Calculations and Documentation:</p> <p>“The Calculation methods presented below are used for this prerequisite as well as EA Credit 1: Optimize Energy Performance. Knowledge of whole-building energy consumption is required in order to earn EA Prerequisite 2 and EA Credit 1. Generally this information comes from whole-building energy utility meters for each type of fuel used in the building.</p> <p>The energy use data for either method listed below must include energy from all sources, such as electricity, natural gas, fuel oil, diesel fuel, district steam or hot water, district chilled water, propane, liquid propane and wood. The sole exception is that renewable energy generated and consumed on-site should only be included if the project is applying for EA Credit 2: On-Site and Off-Site Renewable Energy, in order to properly define the whole-building energy use. Otherwise on-site renewable energy may be excluded from these calculations.”</p>
EAp2	176	Replace the title “Buildings Covered by Energy Star” with “Buildings Addressed by Energy Star”
EAp2	176-177	<p>Add the following text (originally under Strategies and Technologies) as a replacement to <u>all</u> text under Buildings Addressed by Energy Star:</p> <p>"Use the ENERGY STAR Portfolio Manager on the ENERGY STAR web site (www.energystar.gov/index.cfm?c=evaluate_performance.bus_portfoliomanager) to assess the energy performance of your building:</p> <p>* Enter the requested energy use and other building data</p> <p>* Print out the data entered and the rating received. For covered building types, the impact of factors outside of your control (e.g., location, occupancy, and fuel type) are removed, providing a 1–100 ranking of a building’s energy performance relative to the national building market.</p>

		<p>Input data in the Portfolio Manager for all types of energy used in the building. Based on this information, assess the building's energy performance and produce its Energy Star score. Although not required by LEED-EB, building projects earning a score of 75 or higher can then officially apply for the ENERGY STAR label by completing an Application Letter and having a professional engineer validate the Statement of Energy Performance.</p> <p>The energy use data must contain data from the months covered by the LEED-EB Performance Period. If the Performance Period is less than one year long, add historical data from prior to Performance Period (e.g., Performance Period is from October to November of 2005, so data entered into Energy Star is from January - December of 2005) OR extrapolate Performance Data to annual data. The latter approach is particularly appropriate in situations where energy improvements were made just prior to the Performance Period, and therefore historical data does not accurately reflect current energy consumption patterns. See Step 2 under "Buildings not addressed by Energy Star" below for guidance about extrapolating energy data.</p> <p>The Professional Engineer's Guide to the ENERGY STAR® Label for Buildings, at http://www.energystar.gov/ia/business/evaluate_performance/pm_pe_guide.pdf, explains how to use the Portfolio Manager. As stated in the guide, renewable energy generated on site should not be included in the Portfolio Manager for most projects. However, for LEED-EB purposes, projects applying for EA Credit 2: On-Site or Off-Site Renewable Energy must include renewable energy generated and consumed on site in the ENERGY STAR portfolio (enter this on-site renewable data by adding an "Other" meter type to the portfolio)."</p>
EAp2	177	Replace the title "Buildings Not Covered by Energy Star" with "Buildings Not Addressed by ENERGY STAR - Streamlined Procedure (EA prerequisite 2 only)"
EAp2	177-180	<p>After the title Buildings Not Addressed by Energy Star (p177) and before Documentation (p180), replace current text with the following text between those titles (Keep all locations of tables and equations):</p> <p>"For building usage types not covered by the ENERGY STAR rating tool, LEED-EB has developed a methodology for this prerequisite (and EA Credit 1) that can be used to evaluate improvements in building performance over time within a context of the performance of similar buildings. Because the ENERGY STAR rating system compares building performance with that of other buildings of similar type/climate, LEED-EB has integrated a number of strategies to most accurately model this approach for buildings that are not addressed by ENERGY STAR.</p> <p>To achieve EA Prerequisite 2, at a minimum the applicant must develop and document a building energy baseline from historical energy use data for the project building. The applicant then must document a reduction in annual energy use during the performance period of 10% or greater from the building energy performance baseline using the following process:</p> <p>Step 1: Determine Historical Average Energy Use</p> <p>Average together 3 consecutive years of historical energy use data. The 3 years of data must fall within 6 years of the beginning of the LEED-EB performance period. If major energy efficiency improvements have been made recently, the most advantageous approach is to use the energy use data from the most distant years within the 6-year interval.</p>

	<p>Example: Historical Average Energy Use calculation for a building applying for LEED-EB with a performance period beginning in 2005. In this case the Historical Average Energy Use = 127,458 kBtu</p> <p style="text-align: center;">1999 Energy Use = 127,458 kBtu 2000 Energy Use = 127,478 kBtu 2001 Energy Use = 127,438 kBtu</p> <p>Step 2: Determine Performance Year Energy Use</p> <p>Collect energy consumption data for an entire 12-month performance period. Alternatively, for performance periods of less than one year, extrapolate the partial year energy use to a full year using the following method:</p> <ol style="list-style-type: none"> 1. Calculate historical average energy use on a monthly basis as shown in Table 2. 2. Use Equation 3 to determine the historical part-year ratio of energy use during performance period months to annual energy use. From the example in Table 2, the historical part-year ratio for the months of June, July, and August = $(9,743 + 10,552 + 10,990) / 127,458 = 0.245$. 3. Use Equation 4 to calculate annual energy use from performance period data and the historical ratio. <p>Expanding on the example above, Table 3 provides performance period data from the months of June, July and August. Based on energy use during the performance period of 27,683 kBtu and a historical ratio of 0.245, annual energy use for this example is equal to 112,781 kBtu.</p> <p>Step 3: Determine Reduction in Energy Use Relative to Historical Average</p> <p>Use Equation 1 to compare current annual energy use to historical average energy use. If this reduction is 10% or greater then EA prerequisite 2 is earned, and if no points are being pursued under EA Credit 1, no further calculations are required.</p> <p>If this reduction is less than 10%, or if the project wishes to pursue points under EA Credit 1, then the baseline must be refined further using the complete procedure described below.</p> <p>Buildings Not Addressed by ENERGY STAR - Complete Procedure (EA Prerequisite 2 and EA Credit 1)</p> <p>LEED-EB performance for EA Prerequisite 2 and EA Credit 1 are based on the same building energy baseline, which must, at a minimum, include historical energy use as described above. The baseline must be refined further in order to earn EA Credit 1 points, which are awarded relative to a <i>recalibrated</i> baseline corresponding to Table 1. Either of the following two refinement Options may be chosen: the first is simpler but offers fewer points; the second is more complex but offers more points. The second Option also offers more flexibility in complying with the prerequisite if it cannot be earned based on the building's historical data alone.</p> <p><i>Option A –Energy Baseline Using Only Historical Data (5 EAc1 points possible)</i></p> <p>Build on the analysis performed under the Streamlined Procedure described above by examining the percent reduction calculated in Step 3. If that reduction is 30</p>
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		<p><i>percent or less</i> then no adjustment is needed; the recalibrated building energy baseline is simply the historical average energy use itself.</p> <p>If that reduction is <i>more than 30 percent</i>, the baseline must be recalibrated (lowered) so that current performance period energy use equals a 30 percent reduction from the baseline. In this case the historic annual average is assumed to represent below-average energy performance as compared to similar buildings in a similar climate. Therefore, it is not equivalent to the ENERGY STAR methodology of comparing current energy performance to that of an average, similar building. Use Equation 2 to recalibrate the baseline so that current energy use is equal to a 30 percent reduction from the baseline.</p> <p>Using Option A, a maximum of five points can be awarded even if percentage reductions correspond to higher point totals in Table 1.</p> <p>Example: Current energy use is 70,000 kBTU/yr and the historical average is 110,000 kBTU/yr, resulting in a 36% reduction. Because this reduction exceeds 30% and data from other, similar buildings is not provided, the baseline is not set at the historical average. Instead, the baseline is set at 100,000 kBTU/yr, so that current energy use is equal to a 30% reduction relative to the baseline (70,000 / 0.7 = 100,000).</p> <p><i>Option B –Energy Baseline Using Historical Data plus Comparable Buildings (10 EAc1 points possible)</i></p> <p>In addition to the historical data for the building described in Option A, provide energy use data for at least three other buildings with similar uses over at least an entire 2-year period that convincingly establishes the “average energy performance of a similar building in a similar climate.” A good resource for finding such data is the Commercial Building Energy Consumption Survey (CBECS) published every few years by the Energy Information Administration. Buildings can either be taken from a similar climate as the project building, or their summer and winter energy use can be adjusted using heating degree-days and cooling degree-days.</p> <p>Convert all energy consumption values to energy use index (EUI) values by dividing annual energy use by the floor area of each building. Further normalize the EUI of each building to account for any unusual variances in energy use or any unusual differences among the buildings. Combine the data for comparable buildings with the historical data for the LEED-EB project building to develop the recalibrated building EUI baseline. Calculate the EUI of the project building during the performance period based on the energy use and the floor area. Use Equation 1 to calculate the percentage reduction in EUI, and use Table 1 to determine how many points are earned based on that reduction. Successful completion of this approach allows the applicant to earn up to ten points under EA Credit 1.</p> <p>The same baseline developed in the initial certification application and review process is used as the building energy baseline in the LEED-EB recertification applications.</p>												
EAp2	177	<p>Add a third row so Table 1 looks like:</p> <p>Table 1: Point Scale for Energy Efficiency in Buildings Not Covered by ENERGY STAR</p> <table><tr><td>Reduction</td><td>10</td><td>13</td><td>17</td><td>21</td><td>25</td><td>29</td><td>33</td><td>37</td><td>41</td><td>45</td><td>49</td></tr></table>	Reduction	10	13	17	21	25	29	33	37	41	45	49
Reduction	10	13	17	21	25	29	33	37	41	45	49			

		<p>in Energy Use from the Baseline [%]</p> <p>LEED-EB Points Earned</p> <p>Meet EA Prereq. 2</p> <p>1 2 3 4 5 6 7 8 9 10</p> <p>EAp2 EAc1 Option A or B EAc1 Option B</p>
EAp2	177	Add the following to the end of the table 1 title: “ – EAp2 and EAc1”
EAp2	179	Eqn 2’s left side should read: “Recalibrated Energy Baseline”
EAp2	179	Eqn 3 should read: “Historical Part-Year Ratio = Sum of Energy Use during Performance Period Months of Past Years / Historical Average Energy Use for Whole Year”
EAp2	179	Eqn 4 should read: “Annual Energy Use for Performance Year = Energy Use during Performance Period / Historical Part-Year Ratio”
EAp3	185	Replace “it is not” with “neither replacement nor conversion is” in the third sentence of the first paragraph in Strategies & Technologies.
EAp3	186	Insert “(Bullet) Results of third-party audit demonstrating upgrade is not economically feasible (Sub-bullet) Documentation should show that both replacement AND conversion were considered, but both are infeasible based on simple payback period of greater than 10 years.” As a second bullet item under “Documentation”
EAc1	195	Under the title of the credit “Optimize Energy Performance”, place the text “Two (2) points mandatory for all LEED for New Construction projects registered after June 26, 2007”
EAc2	200	Add “Eligible on-site renewables are listed on Table 1, Table 2 and Table 3.” As a last sentence of the first paragraph of Strategies and Technologies
EAc2	200	In the second line from the bottom of the page, change “Table 2” to “Table 4”
EAc2	200	<p>Add the following tables before On-Site Renewable Technologies (for exact graphics refer to NC 2.2 EAc1 p199):</p> <p>Table 1: EA Credit 2 Eligible On-Site Renewable Energy Systems</p> <ul style="list-style-type: none"> * Photovoltaic systems * Solar thermal systems * Bio-fuel based electrical systems (subject to Table 3) * Geothermal heating systems * Geothermal electric systems * Low-impact hydro electric power systems * Wave and tidal power systems <p>Table 2: EA Credit 2 Ineligible On-Site Renewable Energy Systems</p> <ul style="list-style-type: none"> * Architectural features * Passive solar strategies * Daylighting strategies * Geo-exchange systems (Ground Source Heat Pumps) * Renewable or Green-power from off-site sources

EAc2	200	<p>Add the following table under the tables in the above errata (remove gray lines. for exact graphics refer to NC 2.2 EAc1 p199):</p> <table><tr><td>Table 3: EA Credit 2 Eligible & Ineligible Bio-Fuels</td></tr><tr><td>For the purposes of EA Credit 2, energy production using the following bio-fuels shall be considered renewable energy:</td></tr><tr><td><ul style="list-style-type: none">• Untreated wood waste including mill residues• Agricultural crops or waste• Animal waste and other organic waste• Landfill gas</td></tr><tr><td>Energy production based on the following bio-fuels are excluded from eligibility for this credit:</td></tr><tr><td><ul style="list-style-type: none">• Combustion of municipal solid waste• Forestry biomass waste, other than mill residue• Wood that has been coated with paints, plastics, or formica• Wood that has been treated for preservation with materials containing halogens, chlorine compounds, halide compounds, chromated copper arsenate (CCA), or arsenic. If more than 1% of the wood fuel has been treated with these compounds, the energy system shall be considered ineligible for EA Credit 2.</td></tr></table>	Table 3: EA Credit 2 Eligible & Ineligible Bio-Fuels	For the purposes of EA Credit 2, energy production using the following bio-fuels shall be considered renewable energy:	<ul style="list-style-type: none">• Untreated wood waste including mill residues• Agricultural crops or waste• Animal waste and other organic waste• Landfill gas	Energy production based on the following bio-fuels are excluded from eligibility for this credit:	<ul style="list-style-type: none">• Combustion of municipal solid waste• Forestry biomass waste, other than mill residue• Wood that has been coated with paints, plastics, or formica• Wood that has been treated for preservation with materials containing halogens, chlorine compounds, halide compounds, chromated copper arsenate (CCA), or arsenic. If more than 1% of the wood fuel has been treated with these compounds, the energy system shall be considered ineligible for EA Credit 2.
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EAc1	201	Change the title of “Table 2” to “Table 4”					
EAc2	204	<p>Add “Clean Energy Union of Concerned Scientists www.ucsusa.org/clean_energy (617) 547-5552 UCS is an independent nonprofit that analyzes and advocates energy solutions that are sustainable both environmentally and economically. The site provides news and information on research and public policy. to the Other Resources Category in the same format as the other definitions before "Database of State Incentives for Renewable Energy":</p>					
EAc2	204	<p>Add “Green-e Program www.green-e.org (888) 634-7336 See the Summary of Referenced Standard for more information.” to the Other Resources Category in the same format as the other resources after "ENERGY Guide" and before "Green Power Network”</p>					
EAc5.1-5.3	227						

	<p>Insert the following text after the existing paragraph in Strategies & Technologies:</p> <p>"Lighting Systems and Controls</p> <p>Lighting systems and controls include electric lighting fixtures hard-wired to the building infrastructure and any systems operating to manage lighting electricity use. At least 90% of the installed built-in lighting capacity must be metered to earn this item.</p> <p>Aggregation of all process electric loads</p> <p>Meter electricity consumption for all end uses other than space heating, space cooling, ventilation, domestic water heating, and built-in lighting. Examples of process electric loads include plug loads, manufacturing processes, and kitchen refrigeration or cooking equipment. This item may also be earned by deducting all non-process electric energy use from building total electricity use.</p> <p>Aggregation of all process natural gas loads</p> <p>Meter natural gas consumption for all gas end uses except space heating, space cooling, and domestic water heating. Examples of process natural gas loads include manufacturing processes, laundry equipment, and kitchen refrigeration or cooking equipment. This item may also be earned by deducting all non-process natural gas use from building total natural gas use.</p> <p>Separate meters that allow aggregation of all indoor occupants' related water use for required fixtures</p> <p>Metering for this item provides data specific to fixture water use consumption as required for Water Efficiency Credit 3.2. See that credit's section for further guidance.</p> <p>Separate meters for all indoor process water use</p> <p>Indoor process water use includes all water end uses serving activities within the building structure except plumbing fixtures (toilets, urinals, showers, lavatories, etc.) and drinking water fountains. Examples of indoor process water use include cooling towers, laundering, dishwashing, indoor decorative water fountains, or manufacturing processes. This item may also be earned by deducting all non-process indoor water use from building total indoor water use.</p> <p>Separate meters for all outdoor irrigation water use</p> <p>Outdoor irrigation water use includes any water use outside the building structure for the purpose of promoting growth or health of plants, lawns, or similar functions. Operations like fountains or outdoor cleaning activities and other water applications should not be included unless they serve an irrigation function.</p> <p>Chilled water system efficiency at variable loads (kW/ton) or cooling loads (for non-chilled water systems)</p> <p>Chilled water systems - meter the whole-system electricity input and cooling tonnage output over time to derive the whole-system efficiency over time. Electricity input must be whole-system, including not only the chiller itself but also the chilled water pumps and, if applicable, the</p>
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	<p>condenser water pumps and cooling tower and all associated controls. All chilled water systems in the building must be metered.</p> <p>Direct-expansion systems - Meter the total cooling load (tons) experienced over time by each cooling system exceeding 5 tons of rated output capacity. Systems smaller than 5 tons may be excluded, provided that all such systems in aggregate constitute no more than 10% of the building's total installed cooling capacity.</p> <p>Cooling load</p> <p>Meter the total cooling load (tons) experienced over time by each cooling system exceeding 5 tons of rated output capacity. Systems smaller than 5 tons may be excluded, provided that all such systems in aggregate constitute no more than 10% of the building's total installed cooling capacity.</p> <p>Air and water economizer and heat recovery cycle operation</p> <p>Metering these devices must provide data contributing to an assessment of either the amount of heating/cooling provided by the device or the amount of energy saved by the device's operation.</p> <p>Boiler efficiencies</p> <p>Metering of boiler (or furnace or heat pump) efficiencies may entail either annual spot measurement of the combustion efficiency of the boiler or the ongoing measurement of fuel use and heat output to determine the overall efficiency of the boiler. To earn this item all large boilers, furnaces, and heat pumps providing space heating to the building must be included. Systems smaller than 60,000 BTU/hr of rated heat output may be excluded, provided that all such systems in aggregate constitute no more than 10% of the building's total installed space heating capacity.</p> <p>Building specific process energy systems and equipment efficiency</p> <p>Metering energy use of a specific type of process electric load or process gas load within the building. To achieve this item, at least 90% of the total input energy capacity of the specific process or equipment type within the building must be metered (e.g., if the building contains 100 kBTU/hour of laundry equipment capacity, at least 90 kBTU/hr must be metered).</p> <p>Constant and variable motor loads</p> <p>Metering of electricity use of a specific application of stand-alone motors that are not tightly integrated within a larger system (i.e., air-handler fan motors, pump motors, or escalator/elevator motors qualify, but compressor motors, cooling tower fan motors, or laundry equipment motors do not). To achieve this item, at least 90% of the total input energy capacity of the specific process or equipment type within the building must be metered (e.g., if the building contains 100 kW of ceiling fan capacity, at least 90 kW must be metered). Also, the total metered use for this item must constitute at least 10% of the building's total electricity use.</p> <p>Variable frequency drive (VFD) operation</p> <p>Metering of electricity use of all motors controlled by variable-frequency drives. To achieve this item, at least 90% of the total input energy capacity of the motors controlled by VFDs must be metered (e.g., if the building contains 100 kW of motors controlled by VFDs, at least 90 kW</p>
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		<p>must be metered). Also, the total metered use for this item must constitute at least 10% of the building's total electricity use.</p> <p>Air distribution, static pressure and ventilation air volumes</p> <p>Air distribution entails measurement of air flow to each heating/cooling zone via monitors in all the main building distribution ducts. Static pressure entails measurement of air distribution duct pressures at appropriate locations downstream of each air-handler supply fan (according to guidance published by ASHRAE) to ensure adequate air flows to all discharge registers. Ventilation air volumes measure the volume of outside air entering the building at each air-handler via mechanical ventilation. This item may be earned by implementing any one of these three measurement schemes."</p>
MRp1.1	247	<p>Delete first paragraph under Calculations section and replace with "A waste stream audit is the process by which the contents of the building waste stream is sorted and analyzed. The purpose of the audit is to evaluate and improve existing waste management programs, and identify additional source reduction, reuse and recycling opportunities. The "waste stream" should be considered all waste leaving the building site and directed to landfill, incineration, recycling, composting or resale facilities, as well as items identified for reuse within the building that would otherwise have been considered waste. Auditing the waste stream involves separating the waste stream into its component parts. For most buildings, this will involve integrating data from recycling hauler reports with data obtained from the actual sorting and weighing of, at a minimum, landfill/incineration-directed waste."</p>
MRp1.2	257	<p>Add "California Integrated Waste Management Board www.ciwmb.ca.gov/WasteChar/Solid Waste Characterization Database, Estimated Solid Waste Generation Rates</p> <p>California Statewide Solid Waste Characterization Study www.ciwmb.ca.gov/Publications/default.asp?pubid=1097 Alternative Waste Calculations California Integrated Waste Management Board's (CIWMB) Statewide Waste Characterization Study in which the waste disposal rates of businesses are measured."</p> <p>to the Other Resources category in the same format as other resources after "Business Resource Efficiency & Waste Reduction" & before "City of Seattle Bills & Ordinances"</p>
MRp1.2	257	<p>Add "Waste at Work Inform: Strategies for a Better Environment</p>

		<p>www.informinc.org/wasteatwork.php (212) 361-2400 An online document from Inform, Inc., and the Council on the Environment of New York City on strategies and case studies to reduce workplace waste generation."</p> <p>to the Other Resources category in the same format as the other resources after "US EPA Waste Wise Program":</p>
MRp2	263	In the second paragraph of Strategies and Technologies, delete "purchased during the performance period" from the end of the first sentence.
MRp2	263	In the second sentence of the second paragraph of Strategies and Technologies, replace "purchase" with "specify the procurement of"
MRp2	263	In the third paragraph of Strategies and Technologies, delete "to" in "comparable to mercury-containing light bulbs."
MRp2	263 264	<p>Replace all text of items 1-7 under Develop and Implement a Plan for Achieving Targeted Picogram per Lumen Hour Levels and replace with</p> <ol style="list-style-type: none"> 1. Identify the total number and type of mercury-containing bulbs that are currently in the building. This inventory should be based on bulbs currently installed in fixtures, not stocks of surplus bulbs in storage. 2. Obtain mercury content, lumen output and bulb life data for the bulb types identified in Step 1. Use these values to calculate the average picograms per lumen hour of the existing bulbs (see Table 1, or use the calculator included in the LEED-EB Submittal Template). If the average picogram per lumen hour of existing bulbs is below the targeted level, simply show that new bulbs purchased during the Performance Period have picogram per lumen hour values less than or equal to the bulbs they are replacing. Calculations and supporting documentation showing mercury content, lumen output and bulb life for existing bulbs should be included in the application submittal, as well as purchasing information for any new bulbs acquired over the Performance Period. 3. If the existing bulbs do not meet the target level, identify light bulb replacement options that fit the existing fixtures and have lower picogram per lumen hour values. Consider different combinations of bulbs and/or suppliers until you have identified a purchasing scheme that yields an average picogram per lumen hour that meets the targeted level. Please note that the purchasing plan should include a bulb replacement specification for each lighting fixture in the building (e.g., if there are 100 fixtures in the building, the purchasing plan must specify 100 bulbs). This purchasing plan should be developed prior to the start of the Performance Period, and included in the application submittal. 4. If any mercury-containing bulbs are purchased over the Performance Period, demonstrate that they are consistent with the plan established in Step 3 and include purchasing information in the application submittal. Please note that existing bulbs do not need to be replaced before their normal end of life, so purchases of new bulbs during the Performance Period should reflect normal purchase/replacement schedules."
MRp2	264	Under Calculations paragraph one, sentence two, replace "detailed calculation spreadsheet" with "calculator in the form of a sample LEED

		Online Submittal Template for MRp2”
MRp2	264	Under Calculations paragraph one, sentence three should read “The completed calculation should contain either an inventory of bulbs currently installed OR a purchasing plan for future bulb replacement.”
MRp2	264	After the first paragraph in Calculations, insert this separate paragraph: “Successfully completing the picogram per lumen hour calculations requires information about the mercury content in milligrams per bulb for each type of mercury-containing bulb in the building. This information should be obtained from MSDSs or other public literature from the manufacturer, or by directly contacting the manufacturer/vendor and requesting a written statement reporting mercury content values. Please note that mercury values generated by TCLP (Toxicity Characteristic Leaching Procedure) tests do not reflect total mercury content or mercury concentration in the bulb, and therefore are not appropriate for use in the LEED-EB calculations. These values are reported in mg of mercury per liter of test solution, and cannot be converted to total mercury content through calculations.”
MRp2	265	Replace link to Inform Fact Sheet: Mercury-Containing Lamps under Other Resources to “ http://www.informinc.org/fact_P3mercury_lamps.php ”
MRp2	265	Add the following to the end of the first paragraph under Documentation: “The purchasing policy should include a commitment to following a purchasing plan that meets the picogram per lumen hour target set by the organization, as well as guidance for tracking purchases and obtaining mercury-content data from manufacturers.”
MRp2	265	Under the third bulleted item in Documentation, the first sentence should read “Provide manufacturer documentation that designates the mercury content (in milligrams), lumen output and bulb life for each type/model of light bulb.”
MRp2	266	Delete Sample Organization Policy Addressing Mercury in Lighting.
MRc1	273	Calculations section, insert new paragraph after para. 1: “Note that if no construction activity relevant to this credit has taken place during the performance period, only one credit may be earned based upon the submission of a Waste Management Policy alone. No more than 1 credit may be earned from a policy without relevant construction activity, regardless of the percentage of construction waste for diversion to which the policy commits.”
MRc1	275	Add a third sub-bullet under the “Documentation of policy compliance” bullet that reads “If no construction activity relevant to this credit has taken place during the performance period, one credit may be earned based upon the submission of a Waste Management Policy. No more than 1 credit may be earned from a policy without relevant construction activity, regardless of the percentage of construction waste for diversion to which the policy commits.”
MRc1.1 & 1.2	275	Add “Construction Materials Recycling Association www.cdrecycling.org (630) 585-7530 A nonprofit dedicated to information exchange within the North American construction waste and demolition debris processing and recycling industry.” to the Other Resources category in the same format as the other

		resources after ""Construction and Demolition Waste Recycling Information" and before "Construction Waste Management Handbook"
MRc1.1 & 1.2	275	<p>Add "Environmental Specifications for Research Triangle Park U.S. Environmental Protection Agency www.epa.gov/rtp/new-bldg/environmental/specs.htm Waste management and other specifications.</p> <p>Recycling and Waste Management During Construction King County, OR www.metrokc.gov/procure/green/wastemgt.htm Specification language from city of Seattle and Portland Metro projects on construction waste management.</p> <p>A Sourcebook for Green and Sustainable Building www.greenbuilder.com/sourcebook/ConstructionWaste.html A guide to construction waste management from the Sourcebook for Green and Sustainable Building." to the Other Resources in the same format as the other resources after "Construction Recycling and Waste Management" and before "US EPA Construction and Demolition Debris Web Site".</p>
MR c2.1-2.5	277	Under Intent, add an "s" to the end of "building".
MRc2	285	Insert "If no purchases of relevant materials have occurred over the Performance Period, this credit cannot be earned." between the first and second sentence in the Calculations section.
MRc2	287	Add a third sub-bullet under the "Calculations" bullet that reads "If no purchases relevant to this credit have taken place during the performance period, no points can be earned."
MRc2.1-2.5	287	Under Table 9, the second and third lines should not be divided by a line – they are part of a single item.
MRc2	287	<p>Add "GreenSpec Building Green, Inc. www.buildinggreen.com/menus/index.cfm (802) 257-7300 Detailed listings for more than 1,900 green building products, including environmental data, manufacturer information and links to additional resources.</p> <p>Guide to Resource-Efficient Building Elements www.crbt.org/index.html The Center for Resourceful Building Technology Directory of environmentally responsible building products. This</p>

		<p>resource provides introductory discussions per topic and contact information for specific products, including salvaged materials. (The CRBT project is no longer active, and the CRBT website is no longer updated. The National Center for Appropriate Technology is providing this website for archival purposes only).</p> <p>Materials Exchanges on the Web Industrial Materials Exchange (IMEX) Local Hazardous Waste Management Program in King County, OR www.govlink.org/hazwaste (206) 296-4899 A listing of materials exchanges on the Web.</p> <p>Oikos www.oikos.com A searchable directory of resourceefficient building products and sustainable design educational resources."</p> <p>Recycled Content: What is it and What is it Worth?" <i>Environmental Building News</i>, February 2005. www.buildinggreen.com/auth/article.cfm?filename=140201a.xml to the Other Resources in the same format as the other resources after "Forest Stewardship Council" and before "Recycled Content Product Directory".</p>
MRc2	288	<p>Add "Reuse Development Organization (ReDO)" www.redo.org (410) 669-7245 A national nonprofit located in Indianapolis, Indiana, that promotes reuse as an environmentally sound, socially beneficial and economical means of managing surplus and discarded materials. See the List of ReDO Subscribers for contacts around the United States."</p> <p>to the Other Resources in the same format as the other resources after "The Recycler's Exchange" and before "Salvaged Building Materials Exchange"</p>
MRc3.1-3.2	291	Replace "2 Points" with "1-2 Points" in upper right corner of page
MRc3.1 & 3.2	291	Under Requirements, item e., change "add" to "added".
MRc3.1 &	293	Under Table 3, delete second "80" from bottom right line.

3.2		
MRc3	296	Insert "If no purchases of relevant materials have occurred over the Performance Period, this credit cannot be earned." after the bulleted list and directly before the sentence that reads "The following calculation..."
MRc3	297	Add a fourth sub-bullet under the "Documentation of purchases" bullet that reads "If no purchases relevant to this credit have taken place during the performance period, no points can be earned."
MRc4.1-4.3	301	Replace "www.greanseal.com" with "www.greenseal.org".
MRc5.1-5.3	309	Under Submittal – Recertification, second bullet item, insert "of" between "type waste".
MRc5.1-5.3	313	In Table 2 and Table 3, delete rows "Auto batteries".
MRc5.1-5.3	314	Table 5 title should read "Battery and Mercury-Containing Light Bulbs Recycling Rate"
MRc5.1-5.3	314	Under Table 5, replace Column A reading "Florescent Lamps" with "Mercury-Containing Light Bulbs".
MRc5.1-5.3	315	Under Table 6, item 8, replace "Mercury Containing Light Bulbs" with "Batteries"
MRc5.1-5.3	315	Under Table 6, item 9, should read "Mercury-Containing" instead of "Mercury Containing".
MRc6	319	Delete "The spreadsheet should contain both the plan for achieving reduced mercury content and the mercury content of all light bulbs purchased during the performance period." from the Calculations section.
MRc6	320	Delete all text in the Documentation section and replace with "See MR-Prerequisite 2.0".
EQp1	327	Reformat "Submittals – Recertification" to match format of "Submittals – Initial Certification".
EQp1	330	Replace first paragraph under Calculations with: "The ASHRAE Ventilation Rate Procedure has recently been revised. The updated version redefines an occupied zone as a breathing zone and defines required outside air (OA) ventilation rates, CFM, depending on both per-person and per-unit floor area parameters. Thus, unlike the 1999 version of the standard, in the 2004 version the total ventilation CFM required per zone depends on <i>both</i> design occupancy levels <i>and</i> zone floor area. For many space types the resulting overall <i>effective</i> ventilation CFM/person remains similar in the 1999 and 2004 versions, but for some densely occupied spaces the 2004 version lowers the total CFM requirements."
EQp1	330	Change the first bullet under Documentation to read: "One-time or ongoing measurements by a technically qualified party showing that each AHU actually supplies the OA CFM required by ASHRAE 62.1-2004 under design-case operating conditions, during both heating and cooling seasons (as applicable):"
EQp1	330	Add a new bullet in front of the existing first bullet under Documentation that reads: "Calculation of the OA CFM required by ASHRAE 62.1-2004 to be supplied at each air-handling unit (AHU) based on current conditions in the occupied zones (current conditions may differ from conditions assumed at the original design). This requires specifying each zone's current space type, floor area, peak occupancy, and the proper CFM/person and CFM/sq ft coefficients from the standard. For multi-zone AHUs, the total AHU CFM must be built up from the characteristics of

		each zone. ASHRAE has introduced a spreadsheet, 62n-VRP.xls, that can be used to calculate the required ventilation rate. In addition to showing the required OA CFM for each AHU, it is also suggested that the applicant calculate the <i>effective</i> OA CFM/person required (based on the calculated total CFM and the design occupancy) for ease of comparing to conventional historical ventilation requirements."
EQp1	330	In the second sentence of the first sub-bullet of the now second bulleted item under Documentation, change "should" to "must"
EQp1	330	<p>Replace the second sub-bullet item of the now second bullet item under Documentation with the first starred item, and add all of the rest as additional sub-bullets:</p> <ul style="list-style-type: none"> "* Specify the total number of AHUs serving occupied zones of the building, and if available, their total design capacities for supply air and ventilation air. If any system is variable-air-volume (VAV), also specify its designed minimum flow rates for supply air and ventilation air. * Explicitly define design-case operating conditions at which OA compliance must be verified, as described in ASHRAE 62.1-2004. Generally this occurs when system supply airflows are at the minimum values expected to occur during the year, typically during the swing seasons (e.g., zone or OA dampers at their minimum expected settings, VAV at their minimum speeds, VAV dampers at their minimum settings, etc.). * Measure the OA supplied by each AHU; no sampling among AHUs is permitted. * The OA testing must be done in such a way that compliance is assured during both the cooling season and heating season. For most systems heating and cooling operation are substantially the same for ventilation purposes, so this requires merely a declaration by the testing party that system operation is similar enough in both modes that testing in only one mode is sufficient to assure performance year-round. In unusual cases, e.g., heating and cooling systems using different distribution methods, or cooling-only buildings with no conditioning during winter, separate testing may be required. * If any AHU is physically incapable of providing the OA required by the reference standard, documentation should reference and reflect adherence to the 10 CFM/person minimum, and must demonstrate that the AHU was not designed to supply the CFM required by ASHRAE 62.1-2004 even when in proper working order. This analysis must be done per AHU: if some AHUs can comply with the reference standard and some cannot, the former must be shown to comply and the latter can use the 10 CFM/person exemption."
EQp2	337	<p>Add</p> <p>"What You Can Do About Secondhand Smoke as Parents, Decision Makers, and Building Occupants</p> <p>U.S. Environmental Protection Agency</p> <p>www.epa.gov/smokefree/pubs/etsbro.html</p>

		<p>(800) 438-4318</p> <p>An EPA document on the effects of ETS and measures to reduce human exposure to it."</p> <p>to the Other Resources in the same format as the other resources as its own resource after "the Smoke-Free Guide...":</p>
EQp3	339	Under Requirements, third bullet, take out extra space between "building" and the comma.
EQp3	339	Under Requirements, third bullet, delete extra period at end of paragraph.
EQc1	353	<p>Add</p> <p>"ASHRAE 62.1-2004 Users Manual</p> <p>Appendix A</p> <p>www.ashrae.org</p> <p>Provides information on CO2 sensors including demand control ventilation."</p> <p>to the Other Resources in the same format as the other resources as its own resource before "ASHRAE "</p>
EQc3	367	<p>Add</p> <p>"Controlling Pollutants and Sources</p> <p>U.S. Environmental Protection Agency</p> <p>www.epa.gov/iaq/schooldesign/controlling.html</p> <p>Detailed information on exhaust or spot ventilation practices during construction activity can be found toward the end of the webpage at the abovementioned URL address."</p> <p>to the Other Resources in the same format as the other resources as its own resource before "EPA Fact Sheet: Ventilation and Air Quality in Offices".</p>
EQc3	367	<p>Add</p> <p>"Indoor Air Pollution Report (July, 2005)</p> <p>California Air Resources Board</p> <p>www.arb.ca.gov/research/indoor/ab1173/finalreport.htm</p> <p>The State of Washington (SOW) Program and IAQ Standards</p> <p>www.aerias.org/kview.asp?DocId=85&spaceid=2&subid=13</p> <p>This IAQ standard for the state of Washington was the first state-initiated program to ensure the design of buildings with acceptable indoor air quality.</p> <p>Sheet Metal and Air Conditioning Contractors' National Association, Inc. (SMACNA)</p> <p>www.smacna.org</p> <p>(703) 803-2980</p> <p>SMACNA is a professional trade association</p>

		<p>that publishes the referenced standard as well as Indoor Air Quality: A Systems Approach, a comprehensive discussion of the sources of pollutants, measurement, methods of control, and management techniques."</p> <p>to the Other Resources in the same format as the other resources as its own resource after "EPA Fact Sheet: Ventilation and Air Quality in Offices".</p>
EQc4.1	371	<p>Add</p> <p>“Do Green Buildings Enhance the Well-being of Workers? Yes” <i>Environmental Design + Construction</i> www.edcmag.com/CDA/ArticleInformation/coverstory/BNPCoverStory-Item/0,4118,19794,00.html This article by Judith Heerwagen, PhD in the July/August 2000 edition of <i>Environmental Design + Construction</i>, quantifies the effects of green building environments on productivity."</p> <p>to the Other Resources in the same format as the other resources as its own resource before "Health and Productivity Gains from Better Indoor Environments and Their Relationship with Building Energy Efficiency"</p>
EQc4.2	376	<p>Add</p> <p>“Do Green Buildings Enhance the Well-being of Workers? Yes” <i>Environmental Design + Construction</i> www.edcmag.com/CDA/ArticleInformation/coverstory/BNPCoverStory-Item/0,4118,19794,00.html This article by Judith Heerwagen, PhD in the July/August 2000 edition of <i>Environmental Design + Construction</i>, quantifies the effects of green building environments on productivity."</p> <p>to the Other Resources in the same format as the other resources as its own resource before "Indoor Health & Productivity (IHP) Project" and after "Daylighting in Schools..."</p>
EQc6	389	<p>Add</p> <p>"A Field Study of PEM (Personal Environmental Module) Performance in Bank of America's San Francisco Office Buildings www.cbe.berkeley.edu/research/pdf_files/bauman1998_bofa.pdf This University of California, Berkeley Center for Environmental Design Research provides information on lighting quality, underfloor air distribution technologies and other topics."</p>

		to the Other Resources in the same format as the other resources as its own resource before "Controls and Automation for Facilities Managers..."
EQc7.1	403	<p>Add</p> <p>"Enhance Indoor Environmental Quality (IEQ), The Whole Building Design Guide</p> <p>www.wbdg.org/design/ieq.php</p> <p>The Indoor Environmental Quality section provides a wealth of resources including definitions, fundamentals, materials and tools."</p> <p>to the Other Resources in the same format as the other resources as its own resource before "ISO Standard 7726-1998" and after "Center for the Built Environment"</p>
EQc7.1	403	<p>Add</p> <p>"The Usable Buildings Trust</p> <p>www.usablebuildings.co.uk/</p> <p>The Usable Buildings Trust promotes better buildings through the more effective use of feedback. Home of the PROBE studies includes an occupant survey that addresses thermal comfort along with other indoor environmental quality issues."</p> <p>to Other Resources in the same format as the other resources as its own resource after "ISO Standard 7730-1994"</p>
EQc8.1-8.2	409	Replace "2 Points" with "1-2 Points" in upper right corner of page
EQc8.1 & 8.2	414	<p>Add</p> <p>"The Art of Daylighting</p> <p>www.edcmag.com/CDA/ArticleInformation/features/BNP__Features__Item/0,4120,18800,00.html</p> <p>This Environmental Design + Construction article provides a solid introduction to daylighting."</p> <p>to Other Resources in the same format as the other resources as its own resource after "Analysis of the Performance of Students in Daylit Schools" and before "California Energy Commission Public Interest Energy Research (PIER) Program"</p>
EQc8.1 & 8.2	414	<p>Add</p> <p>"New Buildings Institute's Productivity and Building Science Program</p> <p>www.newbuildings.org/downloads/Final-</p>

		<p>Attachments/PIER_Final_Report(P500-03-082).pdf Provides case studies and report on the benefits of daylighting.</p> <p>Radiance Software http://radsite.lbl.gov/radiance/ Free daylighting simulation software from the Lawrence Berkeley National Laboratory"</p> <p>To the Other Resources in the same format as the other resources as its own resource after "Daylighting Performance and Design" and before "Tips for Daylighting with Windows"</p>
EQc8.3-8.4	417	Replace "1 Point" with "1-2 Points" in upper right corner of page
EQc8.3 & 8.4	422	<p>Add</p> <p>"Analysis of the Performance of Students in Daylit Schools www.innovativedesign.net/studentperformance.htm Nicklas and Bailey's 1996 study of three daylit schools in North Carolina.</p> <p>The Art of Daylighting www.edcmag.com/CDA/ArticleInformation/features/BNP__Features__Item/0,4120,18800,00.html This Environmental Design + Construction article provides a solid introduction to daylighting."</p> <p>to Other Resources in the same format as the other resources as its own resource before "Efficient Windows Collaborative"</p>
EQc8.3 & 8.4	422	<p>Add</p> <p>"New Buildings Institute's Productivity and Building Science Program www.newbuildings.org/downloads/Final-Attachments/PIER_Final_Report(P500-03-082).pdf Provides case studies and report on the benefits of daylighting.</p> <p>Radiance Software http://radsite.lbl.gov Free daylighting simulation software from the Lawrence Berkeley National Laboratory"</p> <p>to Other Resources in the same format as the other resources as its own</p>

		resource after "Efficient Windows Collaborative" and before "Tips for Daylighting with Windows"
UI-overview	461	In the second sentence, replace "design" with "maintenance"
UI-overview	461	In the third sentence, replace "features/practices" with "features or practices"
UI-overview	461	In the third sentence, replace "which generate increased environmental benefits" to "that generate increased environmental benefits"
Ulc1	463	Under Intent, replace "building operation and upgrade teams" with "building operation, maintenance, and upgrade teams"
Ulc1	464	Under Green Building Concerns, add "ongoing operations and upgrades of" between "related to" and "existing buildings"
Ulc1	464	In the first sentence of Environmental Issues, replace "design" with "operations, maintenance, and upgrades"
Ulc1	464	In the first sentence in Economic Issues, add "or management procedure" after "technology" at the end
Ulc1	464	<p>Under Strategies and Technologies, change it to read:</p> <p>"Credits in this section may be earned by documenting increased benefits to the environment in one of two ways:</p> <p>Option 1 - Exemplary performance strategy. A building strategy or measure resulting in building performance that greatly exceeds the performance level required by an existing LEED-EB prerequisite or credit. For credits with mathematical metrics, teams must meet the performance tier defined by the next step in the mathematical progression listed in the credit, e.g., for EAc2 the team needs to provide at least 15% of building energy from an on-site renewable system or 75% from off-site purchases. If the next step in the progression requires 100% performance on a LEED-EB metric, then an innovation point can be earned by achieving 95% performance; if the next step in the progression requires greater than 100% performance then no innovation point can be earned. For credits with more than one compliance path, an IU point can also be earned by satisfying more than one compliance path, provided that doing so provides significant extra environmental benefits compared to satisfying a single compliance path.</p> <p>Option 2 - Non-LEED-EB strategy. Sustainability strategies or measures that produce environmental benefits by different means than those addressed by any LEED-EB prerequisite or credit, or strategies that produce different environmental benefits not captured by LEED-EB at all.</p> <p>Regardless of which Option the project team chooses, the team is encouraged to investigate opportunities for innovative actions that will be particularly meaningful to the surrounding community in terms of their environmental benefit. For example, buildings located in an area with water shortages might take measures to significantly exceed the water efficiency requirements of LEED-EB.</p> <p>Stringency Requirements</p> <p>Only those strategies and measures that have significant environmental benefits are applicable to this credit, and the standard for earning IU credits is high. The strategy must be comprehensive, thorough, and effective, i.e., installing a single green product or addressing a single aspect of a sustainability issue is not a sufficient level of effort. Strategies</p>

		<p>that integrate building operations practices across technical categories are favored and are especially encouraged. The strategy must be applicable to other buildings, and must rise significantly above standard building operations and maintenance practices. The strategy must not contribute to earning any existing LEED-EB prerequisite or credit.</p> <p>For example, an environmental educational program consisting of simple signage in a building would not by itself be considered a significant benefit. Conversely, a visitor's center and interactive display, coupled with a web site and video would be an appropriate level of effort for earning an innovation credit.</p> <p>IU credits can be earned for strategies that have already been done in other buildings; it is not necessary that its implementation in the LEED-EB project building be the first time the strategy has been done. However, regardless of the performance level achieved, no more than one IU point can be earned by any single sustainable operations, maintenance, or upgrade strategy."</p>
UIc1	464	In the last sentence of Economic Issues, change "cost" to "initial cost"
UIc1	464-465	Delete the entire first paragraph of Suggested Topics of Innovation Credits
UIc1	465	<p>The last part of the first bullet item of Suggested Topics of Innovation Credits should read:</p> <p>"The program must be <i>actively</i> instructional, and must include at least two of the following three elements:</p> <ol style="list-style-type: none"> 1. A comprehensive signage program built into the building's spaces to educate the occupants and visitors on the benefits of green buildings. For example, this element may include windows to view energy-saving mechanical equipment or signs to call attention to water-conserving landscape features. 2. The development of a manual, guideline or case study to inform the operations practices of other buildings based on the successes of the LEED-EB project. This manual must be made available to the USGBC for sharing with other projects. 3. An educational outreach program or guided tour focusing on sustainable operations, using the project as an example."
UIc1	465	In the third bullet item of Suggested Topics of Innovation Credits, replace "any" with "a substantial quantity", and add a comma (,) after "material being used"
UIc1	465	<p>The Calculations and Documentation section should read:</p> <p>"Calculations</p> <p>Option 1 - calculations based on the same methodology required for the exceeded LEED-EB credit must be included.</p> <p>Option 2 - develop calculations based on a performance metric that captures the</p>

		<p>environmental benefits of the proposed operations strategy. Generally the applicant defines both the performance metric and the supporting calculations.</p> <p>Documentation</p> <p>Documentation submitted in support of an Option 1 credit should correspond to documentation submitted by the LEED-EB credit it is based on.</p> <p>Documentation supporting Option 2 credits must be detailed, and include the following at a minimum:</p> <ul style="list-style-type: none"> * A complete description of the measure that fully defines the extra sustainability operations & maintenance practices taken by the project team * A clear explanation of the type of extra environmental benefits delivered by the measure and how the team's actions cause them to occur * A definition of the performance metrics that quantify the extra environmental benefits, and the corresponding amount of benefits delivered over the performance period because of the team's actions <p>A separate set of detailed submittals is required for each point pursued. No more than one IU point can be earned for any single strategy."</p>
UIc1	465	In the second to last bullet item of Suggested Topics for Innovation Credits, replace "that" with "who"