

GOING GREEN

These Procedures Lead to LEED-EB Credits

BY CHUCK RESTIVO

It is now a given that environmentally preferable cleaning and maintenance will become the norm.

The U.S. Green Building Council (www.usgbc.org) has been showing the way with performance standards for sustainable building operations. Until recently, it concentrated on new construction with its Leadership in Energy and Environmental Design (LEED-NC) program. This program has been quite effective. A recent check of the LEED website, www.usgbc.org/leed/project/stats/index.asp, showed a total of 167 Certified Projects and 1835 Registered Projects representing, conservatively, 221,993,353 gross square feet.

This is an impressive result, especially considering that it represents only new construction. Now, the USGBC has taken on a much bigger universe with the potential to have much greater results. Last fall it launched the LEED-EB program designed to establish performance standards for existing buildings. The potential impact of this new initiative is mind boggling.

The LEED-EB certification process requires certain prerequisites and awards points for specific performance measures for optional requirements within the categories. LEED has four certification levels for EB status. In addition to the

prerequisites, the levels require: certified, 32-39 points; silver, 40-47 points; gold, 48-63 points; and platinum: 64-85 points.

We are seeing results already. Many forward-looking commercial, industrial, government and non-profit organizations are looking at the guidelines and are either seeking LEED certification for their buildings or are preparing for certification later.

As an outsource cleaning company that has made a commitment to Green Cleaning, we at UNICCO have also carefully studied the guidelines and discovered that cleaning practices and technologies play an important part in the certification process. Fourteen points, almost half of the discretionary points, can be gained through cleaning or cleaning-related categories. The cleaning items on the LEED-EB checklist are relatively inexpensive, easy to implement and easy to measure, so they make logical first steps in any LEED-EB certification process.

LEED-EB CLEANING-RELATED STEPS

The purpose of this article is to gather the cleaning criteria into a single place and demonstrate

how they can be met. It will examine each of these criteria by outlining the requirement and discussing how it can be implemented. It is built on a key source document for LEED-EB published by USGBC, the "Green Building Rating System for Existing Buildings

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Upgrades, Operations and Maintenance - Version 2," which can be found on the Internet at: www.usgbc.org/Docs/LEEDdocs/EB-final_20content_20Version.pdf. I will discuss each topic from a practical implementation standpoint and will reference the specific pages in the LEED document so you can easily review the specific intent, requirements and submittal guidelines.

The USGBC has established six major categories for LEED-EB. They are: sustainable sites, water efficiency, energy and atmosphere, materials and resources, indoor environmental quality, and innovation in operation, upgrades and maintenance.

Cleaning affects operations in three of the categories: sustainable sites, materials and resources, and indoor environmental quality.

Sustainable Sites — Plan For Green Site And Building Exterior Management (2 Points), Page 12

There are several choices to be made in relation to building exteriors and grounds. One of the most basic is plantings. Many property owners/managers invest heavily in outdoor plantings since they give a first impression. Often, this means that managers invest in exotic species that require greater maintenance, including watering and fertilizers. More effort should be put into finding natural or, at least, compatible plantings that require less upkeep and still project the desired image.

Parking lot and walkway maintenance and snow removal are large environmental considerations, also. There

are several variables from scheduling to the choice of equipment that can be looked at for efficiencies. Certainly, the energy efficiency of cleaning and maintenance should be considered when upgrading or reconfiguring parking lots, walkways and stairs. In fact, all of the exterior maintenance equipment from lawn mowers to sweepers should be considered. There are now energy efficient and environmentally preferable products that either cost the same or require a minimal premium.

Materials and Resources — Sustainable Cleaning Products and Materials (1-3 Points), Page 75

The use of sustainable cleaning products and materials can, at first glance, seem difficult to manage.

Building owners/managers and even outsourced cleaning companies do not control the manufacturing of the products they use in cleaning. This is complicated by the fact that many suppliers make environmental claims that are not based on science. Furthermore, in order to truly comply with environmentally preferential guidelines the entire manufacturing process, from the extraction of materials to the manufacturing process, including the amount of energy consumed, the types and quantities of manufacturing waste and the means of their disposal, all have to be considered.

There has been quite a bit of progress made in chemicals with environmentally preferable substitutes for most chemicals that use citrus bases rather than petroleum, for instance. There are also industry resources. The LEED-EB document cites a few that offer guidance on janitorial products. Green Seal (www.greenseal.org) certifies products in over 30 categories, including industrial and institutional cleaners, industrial and institutional floor care products, degreasers, paper towels and paper napkins, and tissue paper.

In addition, LEED-EB cites the Environmental Protection Agency's "Comprehensive Procurement Guidelines," available at www.epa.gov/epaoswer/non-hw/procure/index.htm, which specifies post-consumer waste standards for sanitary tissue products, office and writing papers and other papers. These resources can help you become educated on the choices available.

Materials and Resources — Occupant Recycling (3 Points), Page 77

Recycling is a difficult challenge for owners and managers of multi-tenant buildings and for jan/san contractors because they exercise limited control over the recycling process. LEED-EB has a sliding scale for recycling — awarding one point for diverting or recycling 30% of the total waste stream by weight or volume, two points for 40%, and three points for 50%. In addition, 95% of the fluorescent lights and batteries must be recycled. This second part is, in many ways, easier since these products tend to be handled by the building maintenance personnel so a program can be defined and put into practice.

Once again, the bigger challenge is the general waste stream with office waste being most problematic. We won't discuss industrial waste here since that is on another level and is largely driven by regulations. Office waste requires education programs to make building occupants aware of both the need and the opportunity to recycle. It is best to have an advocate in each tenant company to help coordinate the efforts with the employee groups.

A successful program also requires the placement of convenient recycling receptacles for paper, plastics, glass and metals. Further, receptacle monitoring and emptying have to become part of the regular cleaning operations program. Finally, proper disposal of the collected materials must be arranged.

There are other issues, such as shredding of confidential materials, lease terms specifying trash collection and other issues that have to be addressed. Recycling is as much a business issue as it is an operations issue.

Indoor Environmental Quality — Green Cleaning: Entryway Systems (1 Point), Page 109

This one is relatively easy since most well-maintained buildings already have entryway systems in place. This category specifically refers to internal and external mats, grills and grates to mitigate dirt, dust, pollens and chemicals from being tracked into a building. This step may include some installations of grates but, for the most part, the change that will be required will be to maintain the systems — make sure mats are changed frequently and catch trays under grates are frequently cleaned. It is also important that the floors around the entryways are also frequently cleaned and maintained. This requires

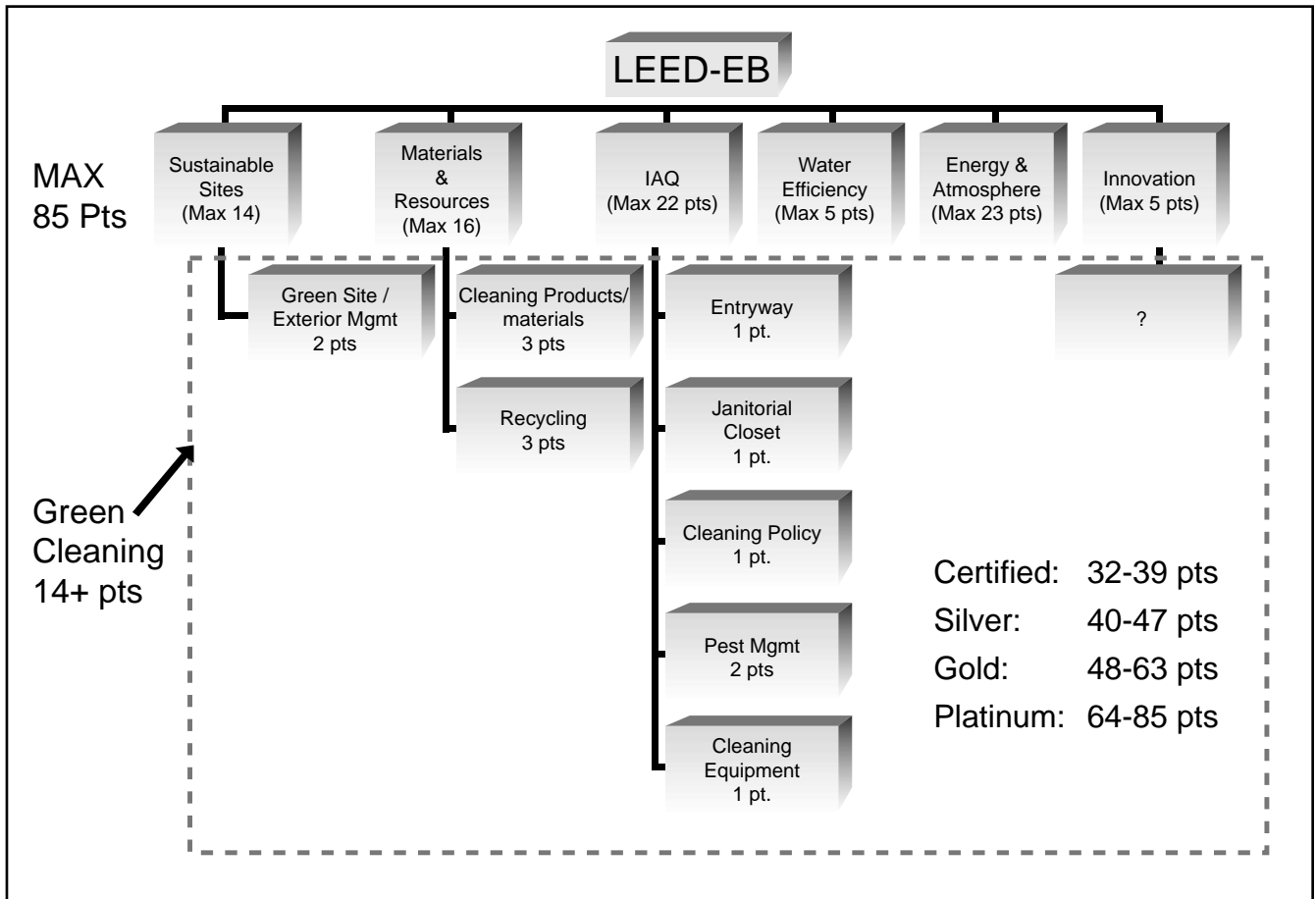
operational directives for cleaning and maintenance staffs.

The other aspect of entryway systems is what happens beyond the entryway. Sand, salt, fertilizers, and other chemicals should all be considered when

In this case, you will be forced to look at the number of janitorial closets that have to be built/upgraded and the optimal number for cleaning efficiency. This will be a capital budget item that requires a management decision. For the

fication, offer training programs for supervisory and cleaning staff.

However, it is up to on-site supervisors to keep green cleaning procedures at the forefront with the cleaning staff. Successful programs go beyond training



thinking about the entryways. Controlling the application of these products in terms of product selection, quantities and scheduling should be coordinated with the service providers that handle these outdoor tasks.

Indoor Environmental Quality — Green Cleaning: Isolation Of Janitorial Closets (1 Point), Page 111

This requirement can be a major challenge in existing buildings that were not properly designed. The LEED-EB requirement is quite specific and stipulates “deck-to-deck partitions with separate outside exhausting, no air re-circulation and negative pressure in all janitorial closets. Provide hot and cold water and drains plumbed for appropriate disposal of liquid waste in areas where janitorial equipment and chemicals are stored and/or water and cleaning chemical concentrate mixing occurs.”

most part, it makes sense for companies that are going for LEED-EB certification to make the investment up front. However, for building managers who want to move toward environmentally preferable practices but are not seeking LEED-EB certification for their buildings over the short term, janitorial closet upgrades during office renovations make the most sense.

Indoor Environmental Quality — Green Cleaning: Low Environmental Impact Cleaning Policy (1 Point), Page 113

This requires the use of sustainable cleaning products, which were discussed above and systems, such as mixing stations. More importantly, it requires staff training in environmentally preferable cleaning techniques. This is an ongoing process. Several of the more advanced jan/san chemical vendors, and certainly the ones that carry the Green Seal certi-

and include education on the importance of green cleaning. It is only through education that the cleaners understand the benefits of the new procedures for the health of the building occupants and for their own health, as well as the environmental benefits. At UNICCO, we’ve found that once workers understand the impacts of the new procedures, they are more likely to follow them. Obviously, with turnover being what it is in the cleaning industry, frequent introductory and refresher sessions are required.

To my mind, regardless of the fact that only one point is awarded for this category, cleaning policy is the linchpin for overall LEED-EB success.

Indoor Environmental Quality — Green Cleaning: Low Environmental Impact Pest Management Policy (2 Points), Page 115

Pest management is a particularly difficult

area. The most effective approach is to prevent pests in the first place. A best-practices methodology has developed, called Integrated Pest Management (IPM), which takes a holistic view of the problem. Low environmental impact IPM generally includes a written pest management plan which details overall strategies for the specific techniques that are used in pest control. It also includes product Material Safety Data Sheets and Technical Bulletins on all pest control products. The plan discusses establishing barriers, setting traps, the use of baits and chemical application techniques. A key part of the plan is the schedule which not only balances frequency with risk but enforces the timely application of preventive measures. A comprehensive log must also be kept of all pest management activities.

Beyond the plan, it is, of course, necessary to handle, store and register all toxic materials. It is also necessary to establish and implement ongoing training for all personnel.

Indoor Environmental Quality — Green Cleaning: Low Environmental Impact Cleaning Equipment Policy (1 Point), Page 117

As with chemicals, there has been tremendous progress made with environmentally preferable cleaning equipment. The Carpet and Rug Institute (www.carpet-rug.com) “Green Label” and “Green

Label Plus” programs provide guidance on floor vacuuming and extraction equipment. LEED-EB requirements specify not only particulate size that must be captured but also set an upper limit of 70 dBA for sound, as well as ergonomic design and limits on vibrations, in order to protect workers and decrease fatigue.

From an administrative standpoint, the specification also requires that a full maintenance log be kept for each piece of equipment to ensure that it is maintained according to manufacturer specifications.

ADDING UP TO A CLEAN ENVIRONMENT

These 14 points represent almost half of the points required for basic LEED-EB certification. An additional point can be gained by having a LEED Accredited Professional on staff. There is no question that LEED certification is desirable but even more important is that these cleaning techniques and technologies provide a safe working environment for cleaners and building occupants while contributing to a sustainable environment.

Each of these requirements may seem to be independent or peripherally related but there is a management oversight theme that runs through all of the cleaning-related LEED-EB requirements. Any successful green cleaning program requires constant

oversight and the vision of middle and upper management who want to implement environmentally preferable practices and are willing to invest the time and, in some cases, money to make it work.

Not every building will become LEED certified — probably only a small percentage of existing buildings will ever achieve that designation — but the effect will be that every building will become less of an environmental burden because environmentally preferable products will become more available and sustainable operational procedures will become more prevalent.

The threshold has been crossed. It is now a given that environmentally preferable cleaning and maintenance will become the norm. Now is the time to become educated and to begin making the transition.

Chuck Restivo is director of operations for UNICCO Service Co. (www.unicco.com) He is a leader in green cleaning practices and has worked with The National Geographic Society and businesses to implement programs based on the procedures outlined in this article.

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