



SUSTAINABILITY-HOW THE FACILITIES TEAM CAN CONTRIBUTE

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CHALLENGE:

Sustainability.

Everyone is looking to lower costs and to save money, and many companies are now building LEED certified stores to benefit from long-term savings.

It's everywhere now, taking on many different names and forms. LEED, Energy Star, Green Seal. Almost everywhere there's a product touting a greener version available. There are many websites and magazine articles that speak to sustainability opportunities, and many highlight the main LEED categories and point out key areas to address.

Many are items that a facilities team may not have much control over, or have input on, and likely lie with new store construction departments. However, a facilities department can help drive changes through partnership and education with other groups, in the areas that they may not have direct control over.

Even if a company is not building LEED certified stores, there are still many ways the company's facilities department can participate in sustainability efforts, which contribute toward costs savings and reduce the carbon footprint. Some may not seem like they provide a cost saving benefit, but when looking at things holistically, it's still the right thing to do. The key stance in sustainability is Reduce, Reuse, Recycle.

The examples noted in this paper are a compilation of the many programs and standards modifications that were executed over the years in efforts to become more sustainable, energy efficient and more recently to earn LEED credits in conjunction with new store construction.

BEST PRACTICE:

Here are examples of changes to standard specifications that contribute toward sustainability, energy efficiency and/or earning LEED credits:

- **Convert neon exterior signage to LED.**

The company's store development department changed the standard years ago for new store construction, and facilities followed suit, utilizing LED for all signage upgrade projects from then on. LED is more energy efficient, resulting in lower utility costs, and a noticeable reduction in signage repair work requests has been realized.

- **Look for recycled content or renewable resources in flooring materials.**

While factory stores had always used 'Re-Grind' (a rubber type flooring made from recycled shoes), there were additional flooring materials elsewhere in the store providing more areas for improvement. The facilities team partnered with the store development department and worked toward replacing the carpet standard in the offices with one with a much higher recycled content (this carpet can also be recycled through the manufacturer when replaced in the future). Polished concrete became the new sales floor standard, replacing the old epoxy type, providing a longer lasting and more durable surface. Store personnel are able to clean and maintain the polished floors much easier and quicker than the epoxy flooring, and the janitorial cost per square foot is lower on the polished flooring and requires less effort, time and material to maintain.

- **Specify environmentally friendly cleaning chemicals and floor care products.**
(see 2011 PRSM Best Practices book, page 52)

Additionally, a third party vendor, GBS (Green Building Solutions), reviewed the company's cleaning chemicals and janitorial program (as well as our Pest Control program) and confirmed they are compliant and contribute toward earning LEED credits. At the time of the change stores were in the habit of purchasing ready-to-use products as needed locally, and the biggest learning curve to navigate was getting them to stop purchasing at local stores and to utilize the mixing stations installed in the janitor closet. By purchasing product in concentrate a significant savings was realized--purchasing at pennies per ounce. One call-out on converting to different cleaning products: a partnership with the store personnel is important. Some 'green' chemicals may not clean as well as their less-environmentally-friendly counterparts, and stores may simply continue to purchase what they feel works best for them. The company received negative feedback a few times and worked to resolve concerns on quality of the chemicals specified. In a couple instances, the dilution rate of the chemicals needed to be adjusted, as they were too watered down, and that resolved the issue.

- **Switch to low- or no-VOC paints or finishes.**

In addition to helping earn LEED credits, the no-VOC paint specification could also help diffuse any complaints that can occur when painting in an open store environment.

- **Upgrade to longer lasting and/or more energy efficient lamps.**
(see 2011 PRSM Best Practices book, page 35)

Changing a lamp specification can be as simple as installing CFLs in place of incandescent, or as in this case, switching to lower wattage, more energy efficient T8s and T5s over the existing fixture. Keeping the same fixture but improving the energy efficiency without sacrificing CRI or Lumen output was a slam dunk. Looking to convert lighting types and fixtures is a bigger hurdle and would likely involve more data and buy-in from other groups. The biggest challenge on this project was in determining what was actually in place. If accurate drawings are available and changes haven't been made over the years, then it should be much easier. Examples were found where the fixture and ballast were for T12s and somewhere along the line T8 lamps had been installed. Looking at what lamp came out of the fixture isn't a fool proof process for determining the replacement lamp.

- **Implement lamp recycling programs/policies.**
(see 2011 PRSM Best Practices book, page 36)

Lamp recycling goes without saying. Some malls provide drop points for these, but if they don't, they shouldn't be thrown in the trash. A simple recycle box can sit on-site until it is full and then be shipped to a recycle center for proper processing, all for a minimal charge. The company receives a receipt from the vendor once they receive the box and inventory and recycle the lamps. This provides documentation showing a cradle-to-grave, or in sustainability terms, a cradle-to cradle timeline. The company's corporate responsibility group wants to make sure it can be shown that if 100 lamps are purchased, documentation is available showing the recycling of those 100 lamps, and this program is a company's first step in closing that loop.

On a much larger scale, these changes and programs required a lot more effort and financial support. But they also have significant benefits.

- **Specify energy efficient HVAC units with more environmentally friendly refrigerant.**
(see 2010 PRSM Best Practices book, page 35)

Though R-22 units were still available it was decided to begin the conversion to R410a when replacing our HVAC units. Utilizing the equipment list and long-term replacement program, the number of units to be purchased over the next few years was identified. With that information one brand of unit was chosen, and bulk pricing through a National Accounts type program was negotiated. Higher efficiency units, which qualify for rebates in some locations as well as contribute towards earning LEED credits, were specified. When not replacing like for like, a couple of instances occurred where structural engineering studies needed to be performed, and in one location additional

structural supports were installed to accommodate the increased weight on the units. Curb adapters are also needed in most applications when changing from brand to brand.

- **Install an EMS (energy management system) to control HVAC and lighting.**
(see 2010 PRSM Best Practices book, page 10)

There are many solutions, small to large, to fit a company's needs, from simple motion detector light switches, time clocks and programmable thermostats, to full blown EMS programs. The key is to ensure that when HVAC and lights should be off, they are off, and are only on when they need to be. Lighting schedules can be adjusted remotely as well as HVAC set points. If the HVAC equipment isn't operating as called for, an alert is sent, which allows the remote monitoring vendor to investigate. Significant savings have been realized in reduced energy consumption and avoiding charges from rolling trucks to address issues when repairs are made remotely. Results have been very promising.

There were many learning curves in this project, as there are with most large projects, mainly around planning and communication. The timelines should be built around how long the project should take to be implemented successfully, rather than around fiscal year or budget deadlines. Multiple issues were discovered after the fact as a result of rushing crews from site to site on tight deadlines, issues which could have been avoided given sufficient time on site.

Another call-out would be around the timing of the project. Modifications to the HVAC system during summer months create additional pain points should issues arise with the system. Ideally, implementation should occur during winter/summer shoulder seasons when possible, to avoid the extreme seasonal temperatures where the HVAC is most needed.

Recycling/Waste management should be put in place (whether through the Landlord or mall, or through an internal team) to divert materials that can be recycled away from the landfills.

This is a program that a major retailer is currently in progress of developing; partnering with landlords and malls to determine what is provided and where, what they are planning to implement, building a gap analysis, and looking for ways to ensure that all the waste that can be recycled will be.

RESULTS:

All the examples mentioned above were either implemented by or driven through a partnership with the facilities department over recent years. Most of them required little, if any, review or approval from other internal groups and were implemented under typical process and program improvement exercises. For some, the purpose was cost savings; others were to reduce future calls, and almost all contribute towards earning LEED credits.

Each company has its own unique hierarchy and politics to manage through, and many may find it difficult to implement changes or receive approvals to deviate from existing programs or standards. However, whether it is under an official LEED moniker or simply the efforts of all becoming more aware of the environment and conscious of the need for sustainability, these changes will become standards in the future.

Even when changes cannot be made, it is still important to identify opportunities and to document and present them. Changes which may not be considered at the present time may be more attractive in the future. Events outside of anyone's vision can turn things upside down quickly. The recent announcement of a reduction in mining of earth materials has resulted in a shortage of and cost increases on certain lamp types. Many leaders may be interested in alternate options which weren't considered previously.

Many of the projects and programs above were easily implemented, and others took much partnering. A major retailer's EMS system, which has the greatest potential of all the projects for savings to the company's bottom line, took three years and repeated efforts before convincing leaders that energy management was at the heart of facilities core competencies, and finally gained funding and approval to proceed.

Another call-out, as the utility bills come from a separate bucket, the facilities budget was not the recipient of the savings from many of the energy-efficient programs (EMS, lighting, HVAC); however, when viewing the projects holistically it becomes obvious it is still the right thing to do.

If it is a LEED certified building that is being maintained, the facilities department is crucial in keeping that building operating as designed. As with everything, “Inspect what you Expect!” building systems, set points and time clocks should all be monitored to ensure they do not ‘drift’ from the designed parameters. Vendors and techs should be informed that they are maintaining a LEED certified building and should be made aware of the benchmarks and expectations. When parts are repaired or replaced, it must be stressed that it should be with like-for-like materials.