



Book Review Editor: Theodore J. Weidner, Ph.D., P.E., CEFP, AIA

**Facility officers are a busy bunch and often don't have time** to read lengthy books even if they contain valuable information. This month, the focus is on meaningful material that doesn't require a significant commitment of time. So as the end of the academic year comes into view and time is short as you prepare for summer projects, consider these two options.

### WHAT IS SIX SIGMA?

Pete Pande and Larry Holpp,  
McGraw-Hill, 2002, 86 pp.,  
Softcover \$16.

There is no shortage of books about Six Sigma. A recent search identified over 80,000 publications, although there may have been some duplicates. I followed a colleague's recommendation to use *What is Six Sigma?* for my library.

First, for those not familiar with Six Sigma, it is a process that looks for potential errors in a customer service delivery mechanism and works to eliminate errors to nearly zero (3.4 per one million). Why is it important to drive errors to nearly zero? Because every error has the potential to make a customer dissatisfied, and every dissatisfied customer tells nine or ten people about their bad experience. Even with Six Sigma results there are going to be over 30 people who are dissatisfied or are no longer potential customers because of the ratio between errors and people who are turned-off as a result of those errors.

The challenge is to count the number of places where errors could occur and then devise methods to eliminate those errors. Take the typical work request on a campus where someone calls the facilities organization and asks for some kind of service. Errors can occur when the request is transcribed into the CMMS 1) when it is reviewed to become an actual work order, 2) when a person is



assigned, 3) to do the work (they might not have the correct skill set to complete the work), when the work is done, 4) whether or not the work is done to the requestor's satisfaction 5) and, in some cases the charge to the requestor for the work. All of a sudden, it's no longer one million work requests, it's fewer than 200,000. Many facility organizations never see 50,000 work requests in a year, which translates down to less than one

error every year for a Six Sigma organization. Are you there yet?

A lot of people make the Six Sigma process difficult. Certainly, there are difficulties when trying to implement the process due to human nature. It is also difficult if the teams have not been appropriately trained; one typical problem is short-cutting to a solution once the perceived problem is identified. But the concepts of Six Sigma are not difficult. That's probably why so many books have been written about it.

Although it is not the only reference that should be in your library if you want to pursue Six Sigma, it's definitely a good book to have if elimination of errors is your goal and you're unsure if the Six Sigma approach is right for your setting. It's a small investment of time to get a good understanding of the subject. I'm happy to have *What is Six Sigma?* in my library.

### TO OWN OR LEASE SOLAR: UNDERSTANDING COMMERCIAL RETAILERS' DECISIONS TO USE ALTERNATIVE FINANCING MODELS

by David Feldman and Robert Margolis,  
National Renewable Energy Laboratory,  
Golden, CO, 2014, 32 pp., Technical  
Report, NREL/TP-6A20-63216, available  
at [www.nrel.gov/publications](http://www.nrel.gov/publications), no cost.

The pressure to be more sustainable is not going to stop and neither will financial pressures on higher education. When I teach colleagues prior to their taking APPA's certification exam, I always point out that *energy, utilities, and sustainability* are "where the money is" because the campus CFO will always pay the utility bill. Capital renewal will be deferred, cleaning frequencies may be reduced, and staff downsized, but the utility bill will always get paid. So any facility officer who can find a way to

reduce the utility bill *ought to have found* some money.

Twenty years ago, many of us worked with an ESCO (energy service company) to provide guaranteed reductions to the campus utility bill and perhaps to address some deferred maintenance needs. These goals were often accomplished by replacing old, energy-gulping equipment with new, energy-sipping equipment. Campus CFOs liked the deal because someone else was on the hook for the work and savings. Life was simpler then; we had to deal with energy, deferred maintenance, and savings.

Now, we have to add sustainability, reducing the carbon footprint, and renewable resources. *To Own or Lease Solar* is a short study of two options to acquire solar energy for your campus or business. It looks at two businesses with facilities across the United States, analyzing the

hows and whys of their financial decisions.

The cost of solar photovoltaics, has dropped since it became a popular renewable alternative. When I installed solar at my home it cost about \$8/watt. I knew the payback would be about 20 or more years, but determined it was a good investment due to lower maintenance costs as compared to other renewable options. Costs are now less than \$2.50/watt, so the payback is better.

The companies studied in the pamphlet are taxable, so they were able to take advantage of several incentives to improve their payback. Although educational facilities can't get these tax benefits directly, they may be able to structure a deal allowing an indirect benefit. However, when combined with lower utility costs and carbon footprint reductions, the tax benefits may not be as large an issue for some institutions.

Though dense in some financial topics and structures, the pamphlet is an easy read. It identifies many metrics that are valuable in decision making. There's also good discussion about the sensitivity of the payback due to several potential risks. The approaches used and factors considered by the two businesses are not unique—they are factors we should all consider. Facility officers looking for a quick discussion and analysis of solar issues and options should grab this free resource to address their next set of challenges. 💰

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