



Energy

by Phil Sprague

Straight talk about hotel energy myths

*Another great article from The Rooms Chronicle, the #1 journal for hotel rooms management! ***Important notice: This article may not be reproduced without permission of the publisher or the author.*** College of Hospitality and Tourism Management, Niagara University, P.O. Box 2036, Niagara University, NY 14109-2036. Phone: 866-Read TRC. E-mail: editor@roomschronicle.com*

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Fluorescent lights

Being a veteran energy conservation consultant, I have encouraged people to always turn off fluorescent lights whenever they leave an unattended area or an empty office. Over the years, many people have argued with me because they believe turning fluorescent lights on and off consumes more energy than simply leaving them on continuously. This is absolutely not true. There is no greater energy savings than one hundred percent, which occurs whenever lights are turned off. Turning lights off and on frequently, however, will slightly shorten the life of the lamp.

Magnets and Ozone

As a corporate energy manager for a major hotel corporation, I have frequently been approached by vendors with some unusual products and concepts. One of the most ridiculous was from a vendor that recommended putting magnets in the basin of a cooling tower as a form of water treatment. He also recommended wrapping magnets around water supply pipes to swimming pools. The vendor touted the idea that the polarity of the magnets would perform some magic treatment to the water, therefore eliminating the cost of adding water treatment to the various water systems throughout the hotel such as pool water, laundry water and chilled water for air conditioning.

Over the years, there have been numerous Ozone related products introduced to the market whose worthiness could not be substantiated. Here, again, water treatment was the most common application of Ozone devices. Years ago, Massachusetts Institute of Technology conducted extensive testing on many of these products and energy enhancing concepts. They concluded that, in general, most Ozone products did not work. Today, Ozone products have been developed to replace laundry detergent and to provide fresh air to guest rooms and public spaces. Some of these products are much improved over the older varieties. It is recommended, however, that whenever one is approached by a vendor offering any product that uses Ozone to save money and purify air, thoroughly examine the product,

Pictured below: As illustrated with this hotel's hot water tank, replacing older non efficient electric motors with newer energy-efficient motors wound with copper can reduce the necessary electrical load for capital equipment.



research about the purported technology, and finally, obtain references from reliable people who are currently using it.

Insulation

Most people generally believe that more insulation is always better. Adding excessive amounts of insulation will not harm a building; however, it also will not be cost effective. This notion is referred to as the “economic thickness” of the insulation. Simply put, it is not cost effective to add insulation beyond the economic thickness rating. As a rule of thumb, commercial buildings should have an R-30 rating for ceiling insulation and an R-20 rating for wall insulation. Since various insulation materials have differing densities and insulating capabilities, the actual thickness needed will depend on the R rating for the type of insulation used. For example, a hotel may need fifteen inches of bat insulation in a ceiling but only four inches of urethane insulation in order to arrive at the same R-30 insulating value.

Light bulb buttons

Light bulb buttons are tiny disks that stick to the end of a light bulb before it is screwed into the socket. A light bulb button can reduce energy consumption in an incandescent light by thirty to fifty percent. Unfortunately, the light bulb button causes a corresponding reduction in light output. Where a 60-watt lamp was previously used without a light bulb button, one would have to install a light bulb button at the end of a 100-watt lamp in order to achieve the same light output; therefore, offsetting any potential energy savings.

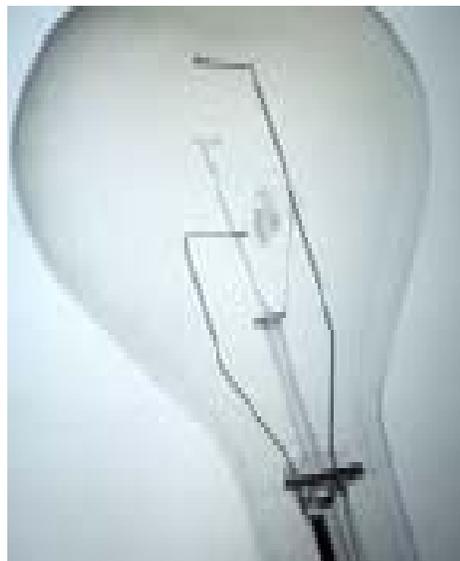
Long-life lamps

Vendors claim that long-life lamps last ten times longer than standard lamps in both fluorescent varieties. They also claim that these lamps have such a unique color that they bring the environment into harmony with nature, whatever that means. Generally, long-life lamps are also priced about five times higher than their standard counterpart. Based on our years of experience in the hotel energy field, we always recommend using standard lighting products from nationally renowned lighting manufacturers, such as Sylvania, Westinghouse and GE.

Energy efficient motors

We always recommend replacing old, inefficient motors with new energy-efficient type motors wound with copper, which reduces resistance to the flow of electricity. An energy-efficient motor is about ten percent more efficient than an old, non-energy-efficient type. Unfortunately, energy-efficient motors run about ten percent faster than old motors and, therefore, offset the energy savings. To compensate for this increase in motor speed, we suggest that when replacing electric motors with new energy-efficient types, consider downsizing the horse-power about ten percent to obtain true energy savings.

Pictured below: As explained on page 15, each parking space outside a hotel should have its own parking stop, especially for handicapped parking areas.



Gas versus electricity

For equipment that can be operated by gas or electricity, every hotel engineer will find sales people representing either energy source suggesting their energy method will make it cheaper to operate the hotel's equipment. The truth is that throughout the United States the preference among unbiased energy experts is to favor gas over electricity about three to one. To properly compare the cost of one energy type in relation to the other, one must convert units of gas and electricity to British Thermal Units or BTUs. The resourceful hotel manager will likely find that electricity typically costs twenty to thirty dollars per million BTU's, whereas gas costs ten to fifteen dollars per million BTU's, thus making gas substantially cheaper than electricity. This comparison assumes the gas appliances being considered are about eighty percent efficient. So, next time when faced with a decision to buy a water heater, kitchen appliance or any other capital equipment that can be powered by either type of energy, always prefer the natural gas option.

Over-exaggerated savings

After years of experience interviewing every conceivable type of energy related vendor, I have never encountered a person who did not either slightly or extremely over exaggerate the savings of the products they were selling. That is why it is important to consult an independent energy advisor when making capital expenditures on energy-saving devices.

Most hotels spend more than fifty percent of their engineering/maintenance department budget on energy expenses. This typically translates into approximately five to seven percent of the gross revenue generated by a lodging property. Therefore, the proper investment of time, research, and expertise early on can pay handsome dividends later in the form of energy savings. Testing and common sense always prevail when determining true energy savings. But keep in mind that the savings realized are not just impacted by the quality of the product or the source and type of energy consumed, they are also determined by the utility rates in each hotel's given area, which can vary substantially. ✧

(TRC's resident energy guru and debunker of energy myths, Phil Sprague is a member of the AHLA Executive Engineers Committee and president of PSA Hotel Energy Consultants. Based in Minneapolis, PSA Hotel Energy Consultants assists lodging companies and individual properties to develop effective, cost-saving energy strategies by auditing and assessing all energy consuming devices and appliances, and delivering comprehensive, customized recommendations in an actionable format. They can be reached at 952-472-6900.)