

Lodging Engineer

Summer 2012

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1ST PERSON



INTERVIEW

Victor Reyes

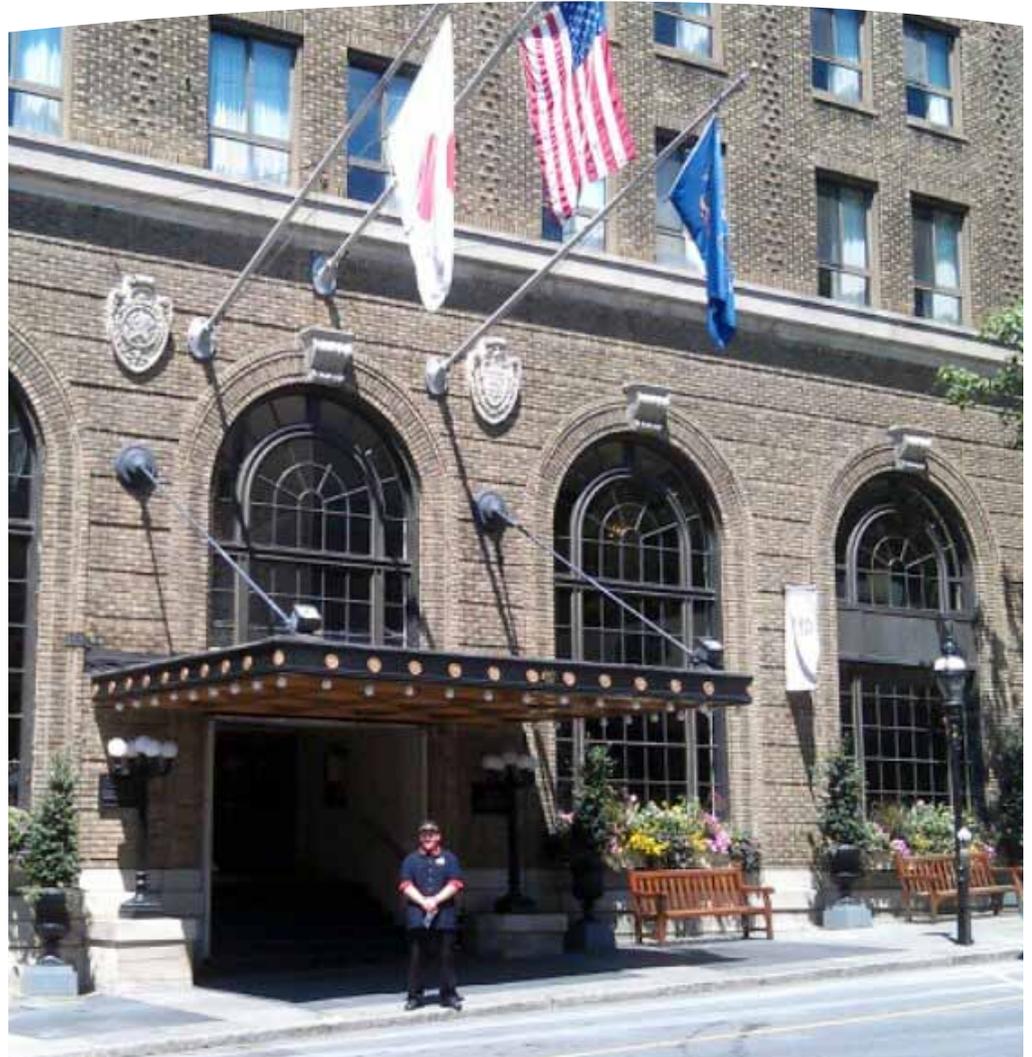
Chief Engineer

Historic Hotel Bethlehem
Bethlehem, PA

VICTOR, YOUR PROPERTY IS VERY UNIQUE IN THAT IN IT IS A HISTORIC PROPERTY OVER 90 YEARS OLD. YOU KNOW BETTER THAN ANYONE THAT ONCE YOU OPEN UP THE WALL OR START A REPAIR THAT ANYTHING IS POSSIBLE. TO START OFF CAN YOU TELL OUR READERS A LITTLE ABOUT YOUR PROPERTY AND THE NUMBERS OF ROOMS, ETC.?

Sure, we are a full-service hotel with 128 elegantly restored guest rooms with over 12,000 square feet of meeting space. The hotel was built in 1922 by the Bethlehem Steel Company, at that time, owned by Charles Schwab. The hotel has 11 floors with six designated for guest rooms. Our hotel has 24-hour roomservice, housekeeping, and engineering. We have over 160 associates. Half are full time associates and management.

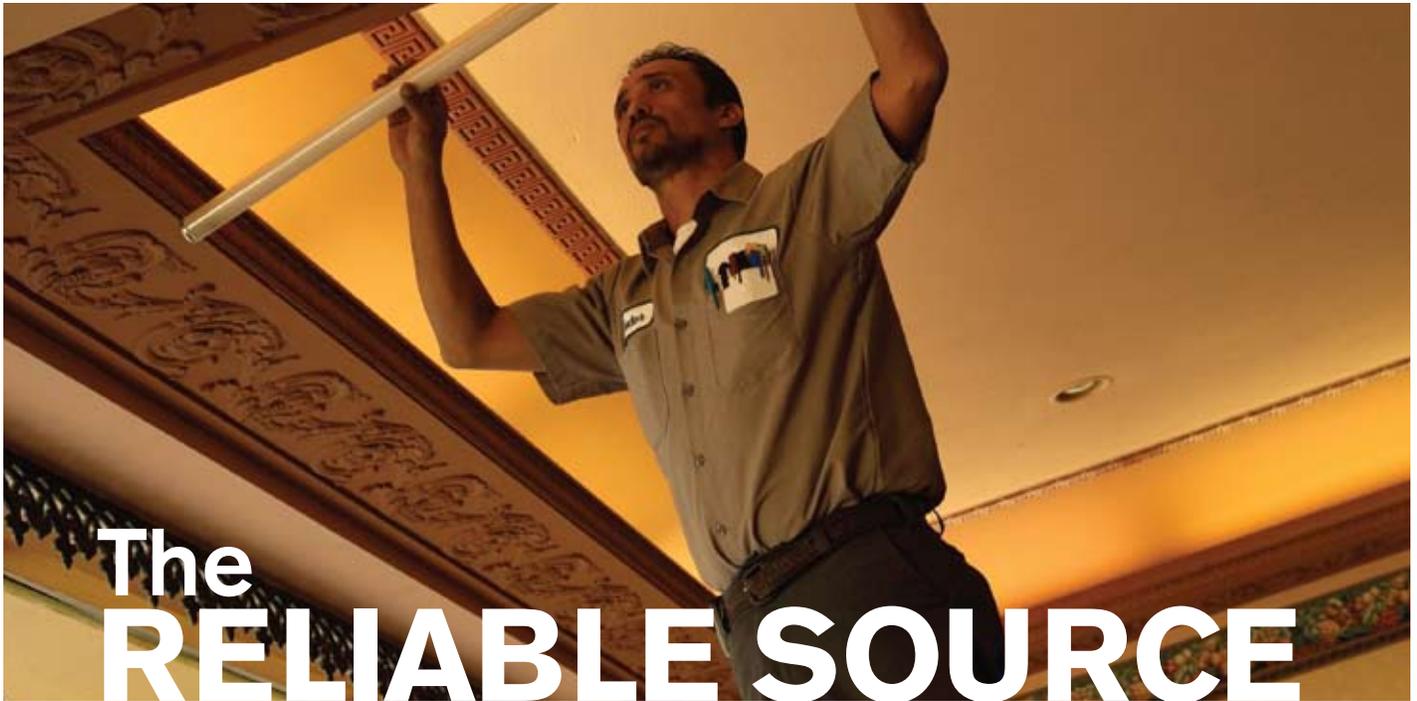
I UNDERSTAND YOU HAVE SOME REAL CHALLENGES WITH YOUR HEATING AND COOLING SYSTEMS AND BALANCING GUEST COMFORT IN THE SPRING AND FALL SEASONS. CAN YOU TELL US ABOUT THIS? (cont. on pg 14)



*Historic Hotel Bethlehem
Bethlehem, Pennsylvania*

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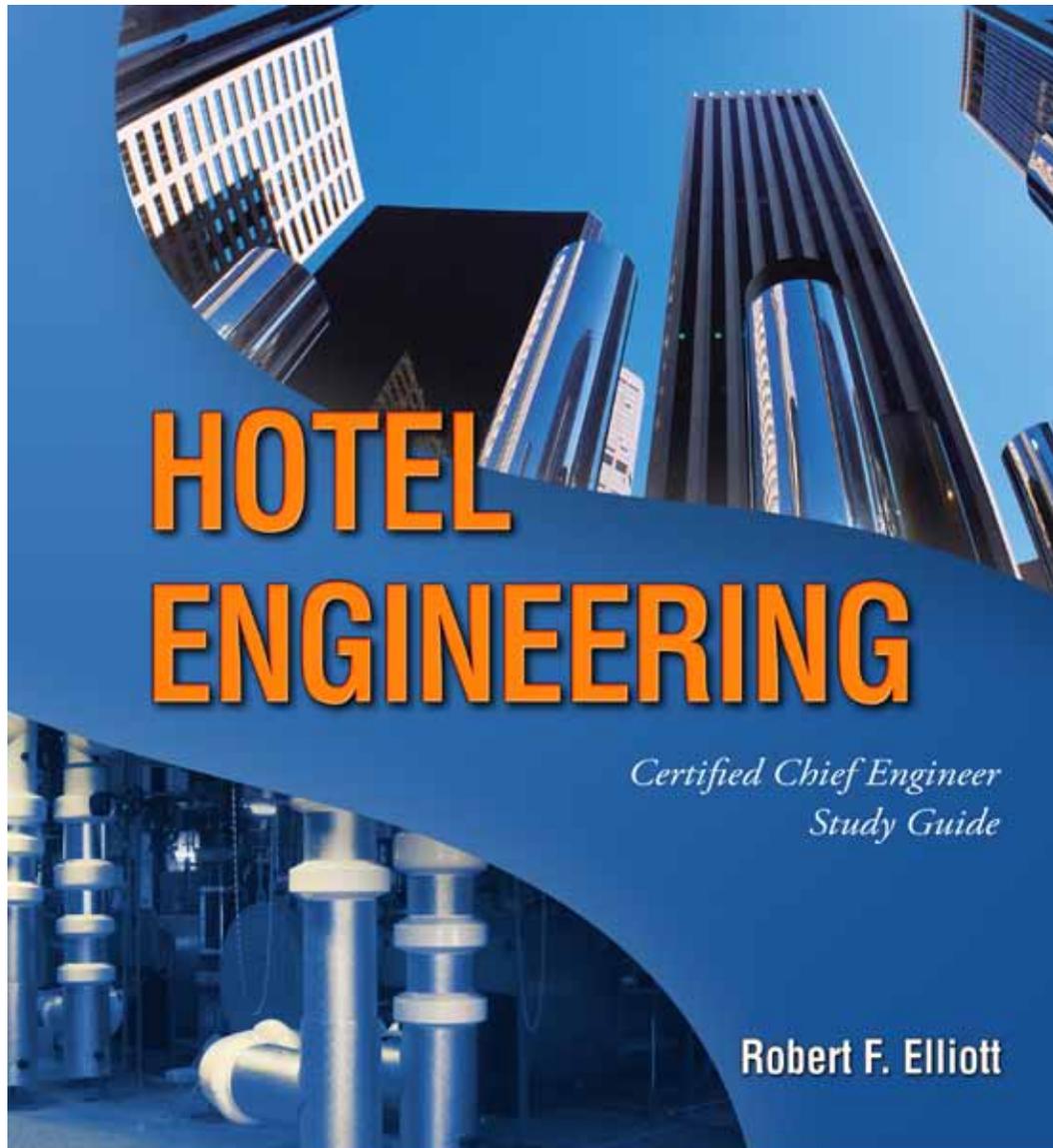
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- 1 **FIRST PERSON: VICTOR REYES** is Chief Engineer for the Historic Hotel Bethlehem located in Bethlehem, PA. The property was built by Charles Schwab in 1922 and has undergone many renovations over the years. Victor talks about the many challenges he has dealing with a historic property and the unique staff he has to help meet those challenges.
- 5 **CARBON MONOXIDE AND THE LODGING INDUSTRY: RISK, REGULATIONS AND REDRESS: THOMAS DALY** discusses upcoming national and state building code changes that will require Carbon Monoxide (CO) detectors in existing and new hotels. Combination smoke/CO detectors will become more common as careful cost analyses will determine not only the upfront equipment costs, but also lifecycle costs for periodic replacement, testing and maintenance.
- 7 **ROOFING: SUMMER MAINTENANCE FOR SHAKES AND SHINGLES**
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- 8 **PUT YOUR BEST LIGHT FORWARD: TODD ISBELL** discusses hotel lighting, both natural and artificial. Learn how to use some basic engineering skills to prevent unwanted breakers from tripping or how to properly light your hotel's lobby and meeting rooms.
- 11 **WHY BE CHIEF ONE DAY? MANNY MERCADO, CCE** tells us about his journey to becoming Chief Engineer. Don't get stuck in the zone of it being just a regular job. Now that you've got your foot in the door as an engineer think about your next move.
- 12 **EVOLVING TECHNOLOGY IN THE HOTEL INDUSTRY: AUGUST CRAANEN** takes us over a timeline of technology beginning with indoor plumbing in 1829 through the introduction of televisions in the 1970s (be sure and click on the Beatles for our first embedded video) to the 21st century where cell phone apps may be tomorrow's guestroom remote control.

LODGING ENGINEER™ reports about people, events, technology, public policy, practices, study and applications relating to hotel and motel engineering, maintenance, human communication and interaction in online environments.

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Carbon Monoxide and the Lodging Industry: Risk, Regulations and Redress

By Thomas G. Daly, MSc. CSP

Principal

The Hospitality Security Consulting Group, LLC



California¹ has joined several other states including Massachusetts, New York, New Jersey, Colorado, Florida and very recently West Virginia² requiring the installation of carbon monoxide (CO) warning devices in

hotels, both those newly constructed and existing. The regulatory deadline for doing so in California for existing hotels is January 1, 2013; however, a bill SB 1394 (2012) is working its way through the state Senate and would, if enacted, extend that deadline until January of 2016. No companion bill as of this writing (mid-April 2012) has been introduced in the state Assembly. Stay tuned.

While the current requirements vary between states as to the type, location and number of such CO devices in hotels, some uniformity will be forthcoming as states update their fire codes. The International Code Council's (ICC) 2012 edition of the International Fire Code (IFC) contains new requirements³ for CO alarms or detection systems in existing hotels and their International Building Code (IBC) has similar requirements⁴ affecting newly constructed hotels. To be clear, the IFC imposes a retroactive requirement for the installation of CO warning equipment in existing hotels.

“The impact in most states will be felt late next year or early in 2014, so hotel operator’s capital budgets should anticipate that expenditure”

Some 42 states and the District of Columbia adopt the IFC as the basis of their fire codes and cities and counties therein follow the state code in adopting their local fire code. Those jurisdictions will typically begin the process of updating their state or local fire

codes this year with adoption dates either immediately upon adoption or often at the beginning of the next calendar year. The impact in most states will be felt late next year or early in 2014, so hotel operator’s capital budgets should anticipate that expenditure.

Lodging owners and operators as well as state hotel associations need to watch this process carefully to understand the compliance deadline and specific requirements.

The incidence of CO poisoning is extremely rare in hotels. Of the 184 CO related average number of deaths reported annually by the U.S. Consumer Product Safety Commission⁵, 183 (99.5%) occur in homes, tents, camper trailers and automobiles⁶. The CPSC does not even list hotels as a location because CO related deaths in hotels are so rare. Nonetheless, a very small number of highly publicized CO related incidents in hotels prompted state fire marshals to push for the requirement for CO warning equipment in hotels and that proposal was approved for the 2012 editions of the IBC for newly constructed hotels and the IFC for existing hotels.

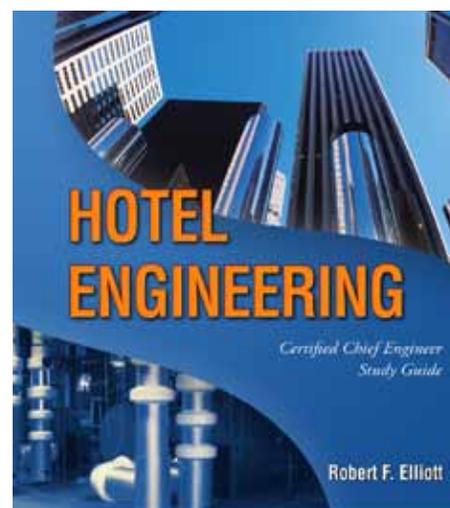
The language in the 2012 IFC edition (Sec. 1103.9) was, however, poorly drafted, uses undefined terms and has had unintended consequences including not requiring CO detection devices at the potential source of CO emissions. Go figure. As such, both 3rd party and internal ICC proposals have been submitted to re-write the scope and details

for CO alarms and one or more of those proposals are likely to get approved to significantly modify the requirements in the 2015 edition of the IFC. Look for those proposals to be made public in January 2013 when published in advance of the ICC Code

Change Hearings scheduled for May 2013.

The code driven requirements provide for some choice as to how to comply, if your hotel is affected. The requirement for such CO warning devices occurs if your hotel has a potential source of CO such as a fireplace (wood or gas burning), a ‘gas (natural or propane) fired appliance’ therein or an un-ventilated closed garage adjacent to guest-rooms. The gas-fired appliance could be a fireplace in the lobby, a gas stove in the kitchen, a gas-fired hot water boiler in a mechanical room or a gas-fired swimming pool heater and would trigger the CO alarm requirement, if such appliance is in a building with sleeping rooms. In some cases a hotel may have its sleeping rooms in a separate building with no gas-fired appliance therein and in that limited case no CO warning equipment is required by the code for those sleeping rooms.

While not currently required by the IFC, having a monitored CO detector at the location of each such gas-fired appliance, wherever located, is a good loss prevention measure to take. Using your fire alarm system to monitor the CO detector is the method of-



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Code allows for either the placement of a CO alarm within all guest rooms or a CO detection system within the common areas of the hotels.

choice in New Jersey and Massachusetts, for example, as their regulations⁷ have allowed for that practice for almost a decade with no untoward effects.

Where hotels are affected, the code allows for either the placement of a CO alarm within all guest rooms or a CO detection system within the common areas of the hotels, such as hallways, lobbies, meeting rooms, ballrooms, restaurants and back of house areas. There are cost and benefit issues for both choices which need to be carefully considered before deciding on the best course.

The choice of CO alarms includes those that are battery operated only or those that are hardwired 120vac types with battery backup, similar to guest room smoke alarms. One choice available to minimize cost is to replace the 120vac guest room smoke alarm with a combination CO/smoke alarm in the same location as the existing smoke alarm. That avoids the need for a new electrical installation and avoids having two devices to test and maintain. Such combination CO/smoke alarms typically run in the \$60-80 range in quantity. Major manufacturers of combination CO/smoke alarms include GENTEX, Kidde and System Sensor. Typically, such CO alarms will have a different audible warning signal for smoke and CO and will have test button features.

Another option in the IFC is to install a CO detection system in common areas in lieu of individual smoke alarms in all guest rooms, although some guest rooms close to any gas-fired appliance may still need CO alarms therein. Where common areas of a hotel already have a smoke detection system as a part of their fire alarm system, one option would be to remove the existing smoke detectors and replace them with combination CO/smoke detectors, a considerable cost saving over installing a completely separate CO detection system. Doing so however will require some re-programming of the fire alarm system which can be done by the hotel's fire alarm service provider. Major manufacturers of CO detectors include Kidde, GENTEX, Simplex/Grinnell and Siemens.

For a hotel's accessible accommodations and guestrooms equipped for the hearing impaired, the CO alarm must trigger a strobe light as well as an audible alarm. Remember that the number of such rooms will likely increase in hotels as the 2010 federal ADA regulations took effect in March 2012. The strobe light must have a light output of 110 or 177 candela (cd) depending on ceiling height and the location of the alarm/detector. Some manufacturers plan to offer a 120vac combination CO/smoke alarm complete with an integral strobe light in 2012. For hotel suites a CO warning device is needed in both the sleeping room and the living room and must, in most cases, be interconnected.

The installation, testing and maintenance of such alarms and detectors is required

“The guest room device might be the less costly option from an initial capital equipment perspective”

“The guest room device might be the less costly option from an initial capital equipment perspective”

A careful cost analysis is needed to determine not only the upfront equipment cost issue but also the lifecycle cost for periodic replacement, testing and maintenance. The guest room device might be the less costly option from an initial capital equipment perspective but the necessity of entering each guestroom periodically for inspection and testing has to be taken into consideration as to the labor cost and the imposition on guests in their rooms.

Large high-rise hotels may be better off choosing the CO detection system option even with its higher equipment cost as the lifecycle cost over several years may be lower when considering the testing, maintenance and periodic replacement costs.

Also to be considered is the depletion of the electrochemical CO sensor in CO warning devices. This sensor will typically last 5-7 years and then need replacement. If the CO alarm or detector has a replaceable CO sensor (not all do), that needs to be considered in the cost analysis. If that CO sensor is not replaceable and the entire warning device must be replaced every 5-7 years, you are faced with a significant capital cost which needs to be planned and budgeted for accordingly.

by the IFC and must adhere to requirements in the National Fire Protection Association's *Standard for the Installation of Carbon Monoxide Detection and Warning Equipment*, NFPA 720-2009, adopted by reference in the IFC. Testing records for each device must be maintained.

The IBC and IFC requirements are likely to be changed over the next 15 months, so monitoring the code change process is important before committing capital expenditure.

The clock is ticking and hoteliers need to be planning for this issue.

1 SB 183 (2010) with regulations at Sec. 420.4 of the 2010 California Building Code.

2 SB 597 (2012) enacted into law in April 2012 with compliance date of September 1, 2012 for existing hotels.

3 See Sec. 1103.9

4 See Sec. 908.7

5 'Non-Fire Carbon Monoxide Deaths Associated with the Use of Consumer Products -2007 Annual Estimates', U.S.

Consumer Product Safety Commission, January 2011.

6 Ibid., Table 5.

7 N.J.A.C. 5:23-3.20 and 527 CMR 31.00, respectively.

Thomas G. Daly MSc. CSP CLSD is a Managing Member of the Hospitality Security Consulting Group, LLC, a current member and past Chairman of AH&LA's Loss Prevention Committee and served as Vice President Loss Prevention for Hilton Hotels Corporation from 1995 to 2007.

Roofing: Summer Maintenance for Shakes and Shingles

By Robert Elliott, CCE

Asphalt shingles

- Clean all debris from the surface of the roof. This includes debris that has gathered behind HVAC units, pipes and pitch pans, and any other roof penetrations. Debris has a tendency to hold water, and water will expedite roof deterioration, especially if your roof is asphalt based such as a built-up roof or asphalt shingles.
- If your roof is starting to collect moss or algae, install some zinc or lead control strips.
- Check all flashings and make sure that they are not deteriorated and there are no holes in them.
- Keep algae off of the roof surface. Install zinc control strips along the hips and ridges if necessary.
- Dab some roof cement under any loose shingle tabs. One dab on either side should do.
- Replace any damaged shingles.
- Keep all gutters free of debris. Make sure that the downspouts are draining properly by water testing them.
- Trim back any overhanging tree branches.
- Check the open valley metal for rust. Wire brush the rust then prime and paint the metal. If rust is prevalent, it can be removed using oxidation and corrosion remover.
- Check all caulking and sealants. Scrape and remove any caulking that is weather



High-pressure washers are effective in cleaning roof surfaces of debris and moss. Be careful when you use them in order to prevent unnecessary erosion of the shingle or shake surfaces

cracked and damaged. Clean the area thoroughly. Use a wire brush if necessary. Reapply a polyurethane caulking.

- Check the mortar on chimneys and parapet walls, both in between the brick and on top. If it's damaged or deteriorated, have it tuck-pointed. Any mason can perform this work.

Wood shakes and shingles

- Clean all debris from the surface of the roof. This includes debris that has gathered behind HVAC units, pipes and pitch pans, and any other roof penetrations. If your roof is starting to collect moss or algae, install some zinc or lead control strips.
- Keep all fungus and algae from the surface. Install zinc control strips along the hips and ridges if necessary.
- Check all flashings and make sure that they are not deteriorated and there are no holes in them.
- Keep all gutters free of debris. Make sure that the downspouts are draining properly by water testing them.
- Trim back any overhanging tree branches.
- Check all caulking and sealants. Scrape and remove any caulking that is weather cracked and damaged. Clean the area thoroughly. Use a wire brush if necessary. Reapply a polyurethane caulking.
- Check the mortar on the chimney, both in between the brick and on top. If it's damaged or deteriorated, have it tuck-pointed. Any mason can perform this work.
- Check the open valley metal for rust. Wire brush the rust then prime and paint the metal.

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Put Your Best Light Forward

By Todd Isbell

Director of Engineering, Hilton Clearwater Beach Resort



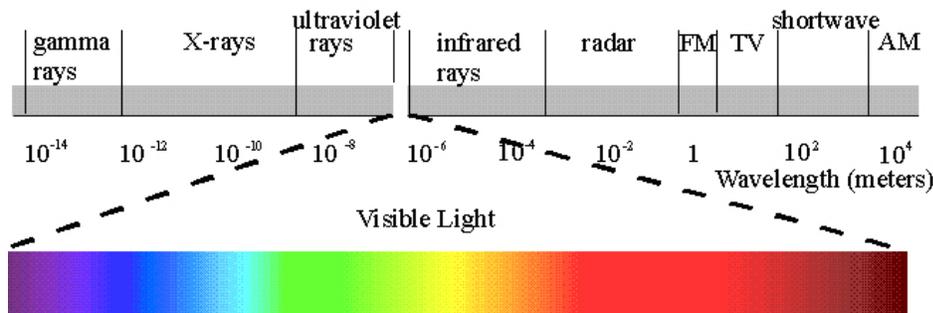
Lighting varies from room to room, whether in your home, your guestrooms, lobby or even outside. Basically, there are two different types of light; natural light

and artificial light. And, each form of light has its own unique characteristics that contribute to the way the object reflects light and how we view the object.

Both natural sunlight and artificial light are sources found in every hotel and contribute to the design and comfort of your property. The proper use of lighting is critical to your property as it:

- Makes your guests feel comfortable and attracts them to both your property and intended areas
- Creates an aesthetically pleasing work environment for you employees
- Provides sufficient levels of light for tasks and activities of both guests and employees
- Helps establish your property's brand by communicating a concept or theme
- Highlights an area or an object like a piece of art or sculpture
- Creates a mood such as found with varying illumination and colors for different venues
- Provides minimum levels for safety and security of guests and employees
- Effects energy and life cycle costs including initial purchase, installation and maintenance costs

Natural light is just that, light provided by nature's sun. We utilize sunlight in various ways with skylights, doors, and windows. Different sizes of each window, door, or skylight bring in different amounts of visible light. Visible light is radiant energy that can be seen by the human eye. Visible light depends on many factors such as the time of day, whether it is cloudy or



ELECTROMAGNETIC SPECTRUM,

The area of spectrum less than 380 nm is ultra violet energy and the area of spectrum longer than 770 nm is infrared energy. Both of these radiant energies are invisible to the human eye.

sunny or if it is spring or fall. Natural light enhances a person's feelings of comfort in a particular room or setting. Sometimes more light is needed, or if less light is needed, a guestroom's shades or curtains can be drawn to get that exact balance of light desired for each setting. Another factor to consider is the brightness of light. Lumens is a term used to describe light output. The color of light may also affect how bright a light appears, even if the lumens are the same. It is easy to see how a room's light 'setting' can vary among guests, tasks and rooms. So, even though the light source is being uniformly applied by the sun to a hotel's specific guestroom floor or, an individual conference or meeting room wall, guest comfort and employee productivity can vary significantly.

Natural light is also an earth friendly way to save money and the atmosphere by not adding to mankind's energy footprint. Restaurants utilize natural light so their guests can sit and dine while looking out

one-time cost of a window, door or skylight undoubtedly costs much less than trying to use artificial light to illuminate a given area.

Artificial light is all other light except natural sunlight. Artificial light is often characterized by its color rendering index or its efficiency as expressed in lumens per watt. Two broad categories define the majority of artificial lights found at a hotel; incandescent lamps and electric discharge lamps.

At night, sunlight is not available and artificial light must be used to illuminate our way to see where we are going. There are many different types of bulbs that produce artificial light such as; incandescent, fluorescent, and light-emitting diode (LED). Wattages also vary among bulbs giving us different values for lumens and foot-candles. To save energy, find a bulb with the desired light output and then choose the one with the lowest wattage. Keep in mind that incandescent bulbs are being phased out by the Department of Energy (DOE). See *Lodging Engineer Winter 2011*.

“I've had times when lighting a night-time wedding reception began tripping breakers, wreaking havoc among my engineers as well as disrupting the guests.”

the window at the ocean, or passersby. Hotels sometime utilize natural light in their atriums, or front lobby areas as way to reduce their energy consumption. The

I have had times when lighting a night-time wedding reception or the end of a massive business meeting began tripping breakers, wreaking havoc among my engineers as

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well as disrupting the guests. A good way to avoid this problem is to use an equation to figure out the amperages the spotlights and disco balls are going to use before the event begins. Remembering our high school science or perhaps a college physics class or maybe you've taught yourself through NAHLE's Certified Chief Engineer's program, in any event;

- Voltage tells us how much power we have,

- Amperage tells us how much power we need to run the equipment.

The equation for this is:

- Amperes equals watts divided by volts.

- Watts equals volts multiplied by amps,

- Volts equals watts divided by amps.

Use these formulas to see if your Audio Visual (AV) department is going to overload your circuits before the event happens, and save everyone a lot of time and headaches.

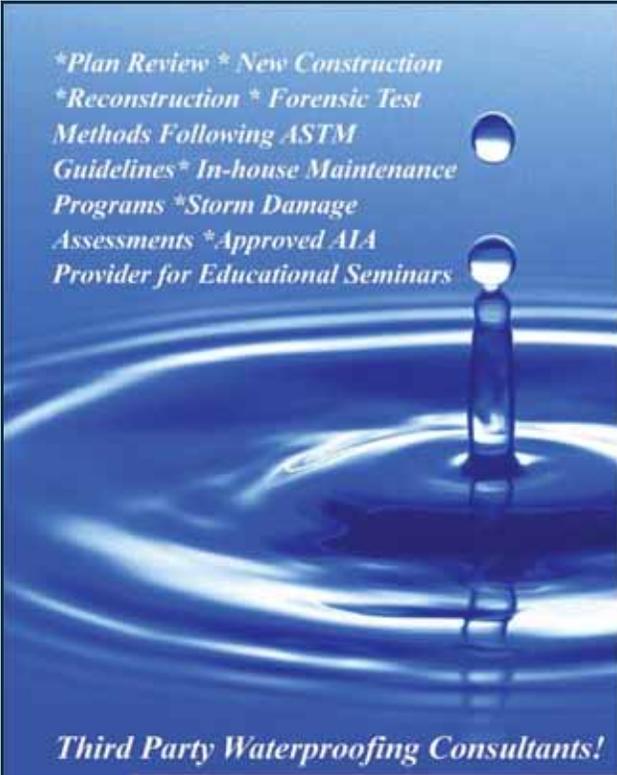
Lighting varies by the size of room, the individual's needs and mood. For instance a person studying for a test, or trying to read needs more lumens than someone who may be going for a romantic dinner for two. Watching a presentation in a meeting would use less light than when a speaker is on the stage giving their presentation.

Also, when designing or spec'n any given area; be sure to put the correct wattage into the fixture and design. A light fixture with a maximum rating of 60 watts means just that. If you put a higher wattage in it, you risk fire and or damage to the fixture. Pay attention to the details to ensure you are getting what you need for the area. Ask what activities will be in the area, how many people, and adjust accordingly. Lamps generate a lot of heat, so pay close attention to bulbs, wattages and area. Also, keep in mind the heat generated from bulbs can affect your HVAC systems making them run more than needed as they try to cool the area due to

heat gain. And, of course, make sure you have the correct color rendition of a bulb such as warm white, cool white, natural, etc. and ensure they are all the same. One of my pet peeves is walking along a corridor and seeing different colors of bulbs in every other fixture. Uniformity is key to having great and efficient lighting. I have also seen a spot bulb put in a foyer among all flood bulbs leaving a single spot on the floor. This is not a uniformly lit area and causes a single point linear perspective where it is not needed taking away from what otherwise was intended for the flood lighting. There are many aspects to lighting an area, think about and visualize what it is you are trying to illuminate, and move forward with an appropriately well-lit area for all to enjoy.

On my parting note of course, remember to be green. Florescent lighting is cheaper and more economical and earth friendly than incandescent lighting. And, LED's are coming on strong.

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Why Be Chief One Day?

By Manny Mercado, CCE



I like writing articles that I can relate to with the little guys, our regular engineers who are not in the supervisory capacity at this time. Many of us get stuck in this zone where we just

take our regular engineering positions for granted as a regular hourly job. Lets get out of this zone and take advantage of the opportunities. As a hiring manager I look for certain skills when hiring an engineer, sometimes it is a lengthy process. To work for me is like hitting the lottery. I share this insight because other hiring managers might be a little lenient and don't require much to get someone on board. The opportunity to come on board with me as an engineer, the odds are 50/50. We, the hiring managers have responsibilities that reflect our hiring process. So now that you made it and hired as an engineer, run with it. When I say run I mean take it to the next level. I started off in hospitality right after high school when the local hotel was in need of a maintenance person. I had no knowledge of hotels, just general experience from vo-tech classes I took in school. The classes were general knowledge of electrical, mechanics, woodshop and metal shop. Maintenance was the name used back then, eventually engineer was used for our title. I ran with it and be-

came chief engineer within 2 years. Now that you got your foot in the door as an engineer, think about the next move and don't get stuck in that zone of it being a regular job. Opportunities and time will pass you by and make you wonder what happened. Taking that step is a big step for many. Take the worries out and think ahead. The resources for you to succeed are all around you. .



Maintenance engineer checking boiler heating system equipment

Chief engineers are within reach here at NAHLE as well as in your local area hotels. When I took over as chief engineer I was nervous, worried, but I overcame it by exploring resources. I communicated a lot within company hotel chief engineers who passed down information for me that helped me along the way. Today, in this day and age, you can log onto the Internet

and you can download all repair manuals, or step-by-step videos on accomplishing many tasks. Learn from vendors, stick your nose everywhere. Service vendors are like restaurant recipes, you wonder how they do it so well, until you see them do it in front of you. That's a recipe worth having, because now you can do it well also. That is the way I teach my engineers from what I picked up along the way. So all you engineers out there lets put CHIEF in front of your title - make it your goal. I can say the title really changes you in many ways. When I became Chief in my mind I owned the property, making vendor selection decisions and having control on many factors I felt like a king. It was not power hunger, but a good sense of pride to lead such a property. Once you get there as Chief everything else is just a piece of cake. This is my 3rd property as Chief Engineer. My goal is to make it to the top and the top for me is a resort or 1000 plus room property. Yes, making more money is key in everyday life. I consider myself to be very lucky for taking that big step to Chief at the time. Who knows where I would be at today in my career if I didn't. I would like to add that I recently become a Certified Chief Engineer under NAHLE program. It is a great program and resource. I highly recommend it for your own professional development. So, I sign off to say I myself as with other Chiefs, we are here to help in anyway towards your success and follow our path to become the next Chief.



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Evolving Technology



By: August Craanen
Craanen Technical Services

The Hospitality industry is one of a respectable age. Around 550 BC, boarding houses existed. The first resorts were built near the mineral and hot springs in ancient Greece. The first inn located in America was recorded in the year 1607. The first modern hotel (the Tremont) opened in Boston in 1809 and the first business hotel (the Buffalo Statler) opened in 1908.

From its early beginnings the hotel industry has continued to develop and stay on the cutting edge of modern technological advances. In the next 5 - 10 years the following advances are expected:

- Apps for cell phones to operate TV in Hotel rooms eliminating the need for remote controls.

1800s

1829 - Indoor Plumbing
1846 - Central Heating
1859 - Elevators
1881 - Electric Lights



1900 - 1950



1907 - Telephone
1927 - Radio
1940 - Air Cooling
1947 - Television

1951-1970s

1961 - FM Radios
1965 - Message Lights
1970 - Color TV
1971 - Water Beds
1973 - Free Movies

Late 1970s

- Electronic Lock Systems
- Life Safety Systems



in the **Hotel** Industry

- Apps for cell phones to operate lighting and HVAC in Guest rooms.
- Cell phone as Hotel Internal Phone (Room to Room / Hotel Services etc.)
- The use of smart phones which connect directly to the hotel phone systems. As guests' phones become virtual extensions of the hotel's PBX systems, hotel investment in telephone infrastructure takes on heightened value by enabling unsurpassed levels of guest service, connecting travelers to hotel staff, or to other travelers – even optional VoIP based international calls at the hotel's discretion.
- Integrate Internet/ Computer & Large screen HD Display
- Improved room acoustics
- Expanded "secure" voice command to control all manner of room functions from AC to lighting to TV to even the bathroom's plumbing ("flush!"; "shower on"; "warmer", etc.)
- Biometric Check-in

1980s

- Self Check In/Out Devices
 - PC's
- 1981 - LD Direct Dial
- Business centers, including computers and copiers.
 - In-room Electronic safes
 - In-room Check in/out



1990s

- Voice mail systems
- LAN Technology
- Improvements in all Hotel Based Systems PMS, PBX, POS, S&C, CAS, ELS, EMS etc.
- Internet / Intranet
- In-room entertainment
- High speed internet access
- On Command Video
- Web TV



2000+

- WiFi Internet access
- Enhanced exercise facilities
- Sustainable Design and Construction
- LEED and Green Buildings
- V.R.V./ V.R.F. Systems combined with Heat recovering
- Total control / Integration with individual IP addresses
- Emphasis on Super Bathroom

INTERVIEW WITH Victor Reyes

continued from page 1

For heating we use two (2) 5 million BTU International high-pressure steam boilers converted to low pressure boilers. We operate at a maximum pressure of 40 p.s.i. and only use 40% maximum capacity during our heating season. For cooling we use a Carrier chiller system rated at 1,860,000 BTU. Most of our meeting rooms have their own ac units that can operate at any time during any season.

We have a two pipe system which operates off of the outside temperature. When the temperature reaches 55 degrees and above, our cooling system turns on with a 5 degree temperature difference. When the temperature reaches 55 degrees and lower, our system automatically switches from cooling to heating. This system can be somewhat of a challenge during the spring and late fall seasons, when our nights are cold and the afternoon are hot. Our system can not provide both cooling and heating at the same time. It takes approximately 20 minutes to convert our system from cooling to heating.



Dave Shaft, former bellman, plans to retire as an engineer at the Hotel Bethlehem.

Our system uses steam to heat the water to the proper temperature. On the other hand, from heating to cooling, the system takes about 45 minutes to get to proper temperature because our chiller system will not operate unless it senses temperature water of 88 degrees F. This is also somewhat of a challenge when cooling is needed for some of our meeting spaces. In order to get the system to switch over to cooling faster, we manually open our feed

“In order to get the cooling system to switch over to cooling faster, we manually open our feed water by-pass line introducing city cold water to the system.”

water by-pass line introducing city cold water to the system. The water we introduce to the system will blend with hot water from our heating. This speeds up the operation leaving the system's circulation pumps running. Our chiller compressors will not turn on unless the water introduced to the system is below 88 degrees.

During the summer period we don't operate any of our boilers to provide steam. We have two independent hot water boilers that are not connected to our main boilers that supply steam. Throughout the last couple of years we have switched all of our steam equipment to either electrical or natural gas. This has lightened the load on our steam boilers saving us considerable energy during the summer season.

YOU MENTIONED YOU ARE A FULL-SERVICE HOTEL. CAN YOU TELL ME ABOUT THE RESTAURANTS ON PROPERTY?

We have two restaurants. Our Tap Room is for casual dining located in our lobby serving drinks, burgers, salads and sandwiches. This has a wall dedicated to all of our former famous guests; like George Forman, Muhammad Ali, and the Dalai Lama. Our fine dining restaurant has just been renovated. It has a very unique copper ceiling water fountain with real flowers in it. The renovation takes the restaurant back to its original 1920's era where the restaurant was used for different functions like; outside dining, small businesses meetings, or for the enjoyment of drinks and smoking cigars. The dining room overlooks the city of Bethlehem with our five huge palladium windows and a Moravian tile floor.

VICTOR, EVERY ENGINEER LIKES TO HEAR HOW YOU CLIMBED THE LADDER OF SUCCESS AND FOR THOSE STARTING OUT SOMETIMES IT CAN BE ROADMAP TO THEIR OWN SUCCESS. SO, HOW DID YOU END UP AS CHIEF ENGINEER AT A PRESTIGIOUS HISTORIC PROPERTY?

Straight from high school I worked for a warehouse company for many years, where I later became a supervisor, only for

them to go bankrupt in the late 1990's. I decided to go back to school and pick up a trade in HVAC. While going to school I found employment at a Wyndham Hotel located in Elizabeth N.J. I was hired there to work on rooms, doing preventive maintenance and trouble shooting PTAC units. After two years, I decided to change fields and work for a company as a maintenance mechanic where I picked up carpentry, landscaping, and floor maintenance skills. Basically I was given a van fully stocked with tools and parts and accessories and sent on my way. I was given a punch list for about 10 homes that needed attention for elderly residents many with disabilities. This job showed me a lot of maintenance skills, but wasn't very fun.

In 2004 my wife and I decided to visit Bethlehem and see her family. While visiting, my wife and I liked the town and decided to relocate to Bethlehem. I applied for many jobs and a landscaping company called me in for an interview. On my way back from the interview I got lost and stopped at the Historic Hotel Bethlehem for directions. While I was at the front desk getting directions I asked if they were hiring, they responded with a yes. I received the application and applied. The very next day I got a call for an interview, I was hired for the second shift rooms pm's in 2004. After hard work and dedication I was moved to first shift to be my chief engineer's lead man. In August of 2007 he stepped out to work for another hotel. I was given the engineer management position. I have been the Chief Engineer ever since, going on over 5 years.

TELL US ABOUT THE RENOVATIONS AT YOUR PROPERTY.

I oversee millions of dollars in renovations and with a Historic Hotel every renovation is a challenge. My first big renovation project was overseeing a two (\$2M) million dollar guest bathroom and public area restroom renovation. I had to manage crew members to make sure we meet the construction deadlines. The renovation was being done during our busy season and most of the work had to be done during

the day hours. The guestroom plumbing was a complete nightmare. On several occasions I had to shut off the water to the entire building while we quickly worked to replace valves for toilets, sink, and tub faucets. We also had to isolate rooms smoke detectors while they soldered in new bald valves in access panels behind the mirrors in our guestrooms. Another challenge due to shutting off the main water source to the building was that it made the toilet diaphragm get stuck in an open position causing toilets to continually run. If there was a clog and it was not caught in time, there would be a flood.

During the times we had to shut down our fire system we had to have a fire inspector present to monitor the area in case there was an actual fire. Installing light fixture was also another major challenge. Most of the electric panels were not labeled and the existing wiring was compromised and would not pass code. So we had to rewire most of the wiring from the panel to the load. With all these issues, I am proud of my staff and happy to say we had such a good set of contractors. We still met all of our deadlines and without any guest complaints.

Every project has an issue especially in an older property, but you really need to do the research and hire the right contractors for the job. Most of all the renovations here have been done while I have been Chief Engineer. I have worked on many renovations at our hotel which, among others, include a complete carpet renovation thru the entire hotel, a casual dining renovation, a fine dining renovation, parking deck renovation and guestroom renovations. Keeping in mind that everything must be done to a four-diamond standard. In early 2013 I will be over seeing our hotels' new guest elevator modernization.



Hotel Bethlehem's fine dining restaurant was recently renovated bringing back its 1920's era and charm.

I have a staff of 11 associates. Five full time, four part time, and three security associates. Ninety percent of our repairs are done in-house with the exception of things that are under warranty. And, if I feel it is better to have a contractor, like if it takes too much time to complete a repair or the hotel guest is inconvenienced or maybe it causes other projects to fall behind. Having a full-service engineering department is costly, but in the long run it is better for the hotel, the assets we are maintaining and guest satisfaction. By using our own staff equipment down time is often cut in half, you do not have to pay travel time, there is no overtime cost for work done

cal, plumbing, and heating. On my staff I have two painters/rooms pms, one landscaper, one carpenter, one marble/carpet tech, one electrician and 2 HVAC associates. All my engineers are trained to work in any position, but all have a specialty. What makes my department function so efficiently is the training and time I put in to all my guys. I work closely with my staff on all projects.

I AM PLEASED TO SAY THAT YOU HAVE RECENTLY JOINED THE NATIONAL ASSOCIATION OF HOTEL & LODGING ENGINEERS (NAHLE) AND WILL BE TAKING THE C.C.E EXAM SOON?

I decided to take the exam because I really believe it's good to become certified. I have spoken to key people in the hotel field and they all say it's a good thing to have.

SO, AS WE WRAP UP THIS INTERVIEW IS THERE ANY STORY OR EXPERIENCE YOU WOULD LIKE TO SHARE WITH OUR READERS?

Most of our blueprints of when the hotel was made and schematics are long gone, damaged or have been changed. We do most of our trouble shooting by crawling

“Every project has an issue especially in an older property, but you really need to do the research and hire the right contractors for the job.”

VICTOR, YOU SPOKE OF YOUR STAFF. TELL ME A LITTLE MORE ABOUT YOUR STAFF AND WHOM YOU USE FOR IN-HOUSE REPAIRS AND MAINTENANCE AND FOR WHAT TYPES OF SERVICES DO YOU HIRE CONTRACTORS AND WHY?

after normal 9-to-5 hours and there is no 30% increase for parts ordered. Equipment that have issues are caught before failure. PM'S are done accordingly and on time. I like to hire HVAC technicians due to the fact that they are skilled in electri-

threw multiple crawl spaces that sometimes leave us in strange places. On one's hands and knees crawling up over chiller pipes and under duct work to get to a valve to shut off water is not uncommon. After eight years at the property, I believe there are still plenty of places I haven't discovered. We have shut-off valves above our lobby ceiling over 3 stories high. We have shut-off valves behind our guestroom's mirrors. In our kitchen, above our walk-ins and behind a solid cinder block wall is old kitchen exhaust. I only discover the one in the kitchen because we had to replace a sprinkler head that was recalled. There are crawl spaces that lead to guestroom bathrooms and others that lead to fire stairwells and offices. We discovered the beautiful Moravian tile in our fine dining area in 2004 when we were replacing our dining room carpet which, at the time, was a meeting room. The night engineer was told to remove the carpet to save money on the installation. When he did he noticed under the carpet under the insulation and dirt and debris, a small tile that looked like a sign after he mopped it. This is when we first noticed it was Moravian tile. After showing our discovery to the owners of hotel, they decided to restore the tile and get it back

to its original look. The same happened with the terrazzo flooring and marble steps back in 2005. For the terrazzo flooring, we had to call in a marble specialist to see if we could get it back to its original natural beauty. It wasn't easy restoring the floor, but it looks great with a little help from our painters who had paint in several areas where the terrazzo was missing. So now, everytime we take on a new renovation, or end up in an unfamiliar crawl space or open up a wall, we look forward to the challenge because experience tells us it's going to be interesting.

Companies we use:

PAC Industries –Sale & service of commercial laundry equipment. 1-800- 972- 2292

M C H Mechanical – Laundry repair for our dryers. 215-355-3778

LA Vanderer – Roofing. 484-241-5981

HSA Mechanical - HVAC. 610-435-0995

Sabriski Painting – 215-536-6105

Diefenderfer Electric – 484-714-0946

Serve Pro – Emergency repairs for water and fire damage. 610-656-9001

Kistler O'Brien – Fire Sprinkler. 866-916-3924

Otis Elevator – 484-221-3907

Erlich Pest Control – 877-830-2522

CSI – Fire panel smoke detectors and monitoring. 855-365-2407

Stanley Security Solutions – 855-365-2407. www.stanleysecuritysolutions.com

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UPCOMING INDUSTRY EVENTS

NAHLE plans educational Webinars for summer and fall 2012. Our webinars will be available over the Internet directly to your desk. Members get priority sign-up!

Liberty Building Forensic Group (LBFG) will be presenting NAHLE's first Internet webinar. Learn the basics about PTAC units, common problem areas and knowing what you will have just learned, "what will you do different when you go to work Monday?" LBFG will also discuss how to recognize Mildew, Mold and Moisture in Existing Properties and what you can and cannot fix.

<http://www.libertybuilding.com> — **Aug. 2012**

Philips — New legislation for PAR 40W to 205W lamps (PAR20, PAR30, PAR38) & linear fluorescent (T8 & T12) lamps kicked in on July 12, 2012. Many of the standard halogens and linear fluorescent lamps widely used in the hotel segment will not meet this new standard. Have you made the required modifications? During this session a leading industry expert involved in the transition will provide an overview of the incandescent reflector and linear fluorescent legislation, review affected lamps and discuss replacement options. Additionally, the impact of Rare Earth Oxide (REOs) trends on linear fluorescent supply will be discussed. This is an excellent opportunity to review the new requirements to verify your hotel(s) are ready and in compliance. www.philips.com/legislation - **Oct. 2012**

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Grainger Industrial Supply (800) 323-0620 <http://www.grainger.com> (SEE DISPLAY ADS ON PAGES 2 and 11)

Hospitality Stone (877) 314-6835 <http://www.hospitalitystone.com> (SEE DISPLAY AD ON PAGE 16)

National Association of Hotel and Lodging Engineers (703)-863-7515 <http://www.nahle.org> (SEE DISPLAY AD ON PAGE 3)

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