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Nemacolin Woodlands Resort Farmington, PA



ST PERSON INTERVIEW

Matt Delman Director of Engineering & Projects Nemacolin Woodlands Resort

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- ASHRAE Conference & Presentation New York City 2014
- Hidden Dangers Detected With Infrared Scan
- Finding and Retaining Great Employees
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- What Would You Do?



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ST PERSON AN INTERVIEW WITH MATT DELMAN



Matt Delman

Director of Engineering & Projects Nemacolin Woodlands Resort / Farmington, PA

Larry Wilhelm NAHLE Staff

To understand the scope and challenges of planning an extensive resort renovation confronting Matt Delman, Director of Engineering & Projects at Nemacolin Woodlands Resort, one has to appreciate the diverse assets that comprise this mountain resort, the impact of the recent recession and the wear and tear this harsh mountain climate has had on the building and grounds.

Joesph A. Hardy III, the founder of 84 Lumber purchased the resort in 1987 and created a unique upscale mountain resort by capturing the mystical spirit of the Laurel Highlands in southwestern Pennsylvania, seventy miles south of Pittsburgh. In 2002, he passed along ownership of Nemacolin to his daughter, Maggie Hardy Magerko, also President of 84 Lumber.

As with everything at the resort, it's name represents an important aspect of our American Culture. Nemacolin comes from the Trailblazer, native Delaware Indian, Chief Nemacolin, who befriended twenty-three year old George Washington, a major in the British militia of Virginia in 1754. Together they blazed the National Trail through the Allegheny Mountains from Western Maryland to Pittsburgh to establish a string of forts to fend off the French

incursion from the West (Ohio). Washington's Fort Necessity remains just two miles West of the resort. During a three-hour jeep tour of Nemacolin one realizes the scope of Matt's challenges and the breadth of knowledge, skill and experience it takes to manage the care for this vast and diverse 2,000-acre resort. Matt oversees, six luxurious lodging facilities with 318 guestrooms, including 37 suites, townhouses, private homes and the renowned AAA Five-Diamond, Falling Rock boutique hotel designed by David Merritt, a student of Taliesin, at the Frank Lloyd Wright School of Architecture. At the center of the resort are the Chateau Lafayette, the Lodge, Annex and Conference Center, the world-class Woodlands Spa, shops, four pools, an extensive restaurant collection, and a four-season adventure center featuring an arcade and bowling alleys. Outside are; 50' freestanding climbing walls, zip lines, a ski area, Jeep ® Off-Road Driving School, a tennis facility, two 18-hole golf courses (one a Pete Dye designed Mystic Rock, PGA tour-tested course), the renowned Nemacolin Field Club & Shooting Academy, a new Lady Luck Casino Nemacolin, and a 3,900 foot airstrip. At Nemacolin Wooflands Pet Resort and Spa and Woodlands Animal Care Center they train and care for elite K-9 dogs, the guest's family pets and care for the exotic birds, lions, tigers and a great Albino Buffalo. Yes, Matt oversees their homes too.



Chateau LaFayette to receive new roof, windows and risers

At the center of the resort is the 18 year old Chateau Lafayette, inspired by the famed Ritz Hotel in Paris. It houses the \$45 million Hardy Family Art Collection, has 124 elegant rooms with vaulted ceilings; twostory Palladian windows with mountain vistas and spectacularly large hallways and rooms with huge marble baths.



Bedroom of the Chateau

The damage from the harsh winters and hot humid summers of Western Pennsylvania has taken their toll on "his" buildings during the past two decades, plus the mountain top environment demands an exceptional understanding of landscaping and water management, skills Matt picked up as the Chief Engineer at Kingsmill Resort in Williamsburg, Virginia.

Matt, who grew up in San Rafael, CA, began his career as Assistant Chief Engineer at a nearby Clarion where he was promoted to Chief Engineer. He then worked as a Chief Engineer at the Wilmington Hilton in Delaware, the Clarion Harvest House in Boulder, CO and the Kingsmill Resort where he became the Director of Engineering and Environmental Affairs. After the tour, Matt and I talked about the development and planning that takes place before the extensive renovations of Nemacolin's key buildings and grounds can begin.

Matt, I did not realize the size and scope of Nemacolin Woodlands Resort. It's truly impressive. When did you start planning the renovations? "It was December, 2012, after meeting with the owner, we started working on the roof leaks, conducted a complete survey of the property, made a list of the issues to focus on and backed them up with second opinions from the experts so our owner was confident we would not have to do anything over again."

"Right now we are focusing on the Chateau, Annex, The Lodge, Conference Center, and the Nemacolin Shops & Tavern. They are 18 to 35 years old and all due for repairs. For the Chateau we will be replacing the roof and slate shingles, all 550 French doors and windows, and damaged risers throughout the building. This is going to be a challenge to execute without upsetting the guests. At the Annex, Conference Center, and shops we are replacing very complicated metal roofs, repairing the Exterior Insulation and Finish Systems (EIFS) and repairing the exterior brickwork. That's going to be a big job."

At the Conference Center, the stucco is failing, windows need to be replaced, we will be building a new entrance to the elevator, and the brickwork on several building will be replaced. The resort's grounds will have upgraded drainage, replaced flagstone throughout the property and we'll be staining and sealing the stamped concrete sidewalks to improve the look and give us more years of use."

How much do you plan to invest in the renovation projects? "We roughly came up with a total of \$40 million after we bid everything. It's more than we anticipated so we are working to narrow that down to approximately \$30 million, reducing the scope by prioritizing the work that we need to get done. There has been a lot of deferred maintenance and postponing repairs, which is putting the Hardy's investment at risk. They are very sharp and understand what I have been up against in maintaining their facilities without resources during the recession. It definitely helps that my owners see the whole picture instead of a corporate board that is more concerned about the stockholder's short-term interest than the long-term performance of the property asset."





Pointing out mositure infiltration at brick and EIFS interface

It must help that Nemacolin has access to capital?

"Yes, it does help. The owners, who are funded by 84 Lumber, were the first to be hit by the recession and their dependence on the housing and construction industry. As of now, housing starts have picked up. The housing industry in on a rebound which has definitely helped in the decision making process."

Tell me about the renovation decision process?

"This is a two-year process as we plan and combine all the various projects into one effort. The owner, Maggie Hardy Magerko, had to hold off until the economy recovered. This was very difficult for her because she cares about the property and understood problems deferred maintenance had created. She took me to lunch one day and asked for my thoughts. I was very honest about what needed to happen. Then we met with Chris Plumber, the General Manger and the operating and design teams who created the new interior image. It was a very quick and straight forward process."

How do you work with other departments on allocating investments?

"When it comes to renovations you throw all your information on the table and decide what makes the most sense. You have to set long-term priorities by balancing your resources to maintain operations and the infrastructure. We want people to arrive and say, "Wow" instead of saying the resort looks tired. When you hear negative comments it's disheartening. We found a way to stay on top of our game by keeping a fine balance of priorities."

Did you look for help in planning your projects?

"We are using DRS Architects, Deeter Ritchey Sippel and we divided the project into exterior and interior work. We hired BDA Engineering a mechanical engineering firm to conduct a survey of all the mechanical systems. It was a great process. We looked at every piece of equipment in the resort. This gave us the information to make smart decisions and set time lines for capital expenditures, which is something our ownership wanted to accomplish. That is one of the most fantastic parts of my job at Nemacolin. I can sit down with the owner and in one day get the decisions made."

Matt, what is the key to planning such extensive renovations?

"The architectural firm is key because they devote the time to review every detail. I'd look for a firm that has a background in hospitality design as far as interiors and someone who has done architectural renovations while the property is occupied. We selected a firm we had worked with before. It's important that they know as much as possible about the building before we begin planning."

Did you handle the bidding process for the jobs?

"Yes, I had contractors who said, 'You're crazy to bid all these jobs at one time.' I found six contractors willing to do the job and out of those six, three bid all of it, two bid on pieces and one backed out. A lot of companies would rather do new buildings than deal with the problematic repairs on occupied buildings. "This is going to be the next big challenge, not disturbing our guests as we implement the projects."

You must have some talented people helping you? "Yes, Allen Treacher is my Assistant Director of Engineering. He oversees the maintenance department. During the guestroom renovations and window reA variety of buildings fall under the care of Matt Delman and his team at Neamcolin



Falling Rock

The Lodge



The Chateau LaFayette



The Chateau LaFayette Lobby



Lady Luck Casino



Woodlands Spa



Caddy Shack Restaurant

Nemacolin Woodlands Airport

"This is one of the most fantastic parts of my job. I can sit down with the owner in one day and get the decisions made."

placements Allen is taking the engineering team and doing all the preventive maintenance; cleaning coils, replacing filters, rebuilding plumbing fixtures and all the caulking and painting in the guestrooms. Melanie Sarver, FF&E Project Manager, is overseeing and organizing the installation of carpet, furniture and fixtures being placed in the guestrooms and public spaces. Will Rauch, project manager with 84 Lumber construction, has done a fantastic job being another set of eyes and helping me through this. With the property so spread out there's many times you need to be in two places at one time. You need good people to be able to accomplish this.

Lets start from the top. Tell us about your plans for replacing the roofs?

"We are replacing or repairing the roofs on our older buildings. In the winter, icicles punch holes in our roofs causing water to backup through the standing seams on the metal roofs. We'll be replacing the rubber roofs on the Convention Center and the Chateau Lafayette. We designed a complete water management system from the top of the roof to the sewer system to solve the chronic snow and ice problems once and for all. I had a lot of experience at Williamsburg, VA with ice and I learned about the best solutions there. We are replacing the little round snow stops (they don't work and just get torn off) with rows of ice guard bars that clamp onto the standing seam. We'll be installing additional downspouts, heat trace in all the gutters and downspouts and new lightning protection. Along with this we are permanently installing LED rope lighting along all the roof lines. We spend \$30,000 a year hanging holiday lighting strings. By permanently installing the LED rope lighting (\$130,000) it will reduce hazardous work for my men, prevent damage from climbing on the roofs and fastening them every year. "Now, we will have a holiday atmosphere year round providing long-term savings."



Matt Delman (r) and his Assistant Allan Treacher at The Lodge with new roof, gutters, EFIS coating and brickwork.

How did you evaluate and determine which roofs were in need of repair?

"It's a brutal environment up here for roofs. We brought in Burns & Scalo from Pittsburgh to do a complete inspection for all the rubber roofs. The metal roofs were not installed correctly so we are replacing the metal roofs and installing a fabric with a rubberized coating that seals the entire roof under the metal roof. We now have a definite life expectancy for all our roofs and estimated cost for future replacements in our capital expenditure plans. The roof is a huge asset that many in the industry tend to ignore. We made the decision to spend \$6,000 to conduct yearly inspections of all our roofs. It's a smart investment."

What roofing products are you using?

"There are some great roofing products out there. We will be replacing some of the rubber roofs with Carlisle SynTec TPO membrane, it's got PVC, requiring installation in mild temperatures. The materials are really improved, wear longer, reflect heat in the summer and we will install walking pads to protect it. When you look at the amount of money you have in the asset and the amount of damage that



PTO Roof System installs over existing roof

can happen, its prudent to be vigilant on maintenance and drain cleaning which can easily be ignored causing unnecessary problems. Every six months we do a complete walk of all the roofs."

What is the next step in the project?

"We will be working on the resort's centerpiece, the Chateau Lafayette. The windows and French doors sit on the ledge with no curb and no flashing so the water has soaked into the cladded windows causing water infiltration to the guestrooms. The window and door ledge is flat so we are removing the windows and doors, installing performance controls by overlaying the existing ledge with plywood to create a slope, covering it with an EPDM rubber membrane and flashing it. The window will be set into a pan with weep holes to allow the condensation and water to run out, all set on top of a concrete curb. We will finish by caulking around the windows. We selected Jeld-Wen aluminum clad windows and doors. We've done our research and believe they are the best for our situation, plus Jeld-Wen provides a lifetime warranty against rot and a 20 year warranty against failure."

Why do you have to replace the risers in the hotels?

"All the buildings are on a well systems, but over the years iron in the water has damaged the pipes creating pinholes throughout the system and leaks are popping all over the buildings. About 11 years ago we installed an iron remediation systems that has since corrected the iron issue, I replaced all the risers and main runs at the Annex. It's a big job to cut all your walls open while hoping all the valves hold so you don't drain the entire building. If one valve fails we have to drain the entire building. It's going to be a challenge. I've been though this before."

How do you integrate your plans while the building are occupied?

"I am working with the Director of Rooms to break the project into eight rooms per floor starting at the top and working our way down. I'm planning to take groups of eight rooms, put a wall across the hallway closing off the section leaving an extra room between the construction, replace the risers, renovate the rooms, do the ledges and windows, and repeat for the next eight rooms. It will take about eight repetitions."



New roofs, gutters, windows, EFIS repair and replacing the brickwork

How do you deal with the stress of big jobs like this? "You just do what you have to do and communicate with your guests while you are doing it. My experience is 95% of the guests are very understanding as long as they are informed. It's an unfortunate part of hotel renovations but you do the best you can. The key is planning, communication and being considerate. It's a juggling act. When a building is fully occupied we move to another project.





Installation of risers in the guest occupied Chateau LaFayette poses challenges..

What is causing the EIFS to fail and what's the repair process?

"The EIFS comes right down to the brick where there is no flashing and the board behind absorbs the moisture. The exterior of the Chateau and other buildings is a mix of GFRC panels and EFIS. We are going to be replacing the damage by cutting back the EIFS 12 inches off of the ground and at least eight inches above the ledges. We are going to insert flashing and use hearty board, which won't rot because it is like cement. Then we'll come over the top of that with more flashing so that we have a good watertight seal protecting the board from any more deterioration and finish with a final skim coat by DMI, out of Pittsburgh. I've found your larger painting contractors do the best work."

Are you replacing the Tudor style wooden trim boards?

"All the wood trim including the Tudor decorative wood will be replaced with EFIS all the way through. Its all going to be EFIS shaped and painted to look like the wood trim. It's a great solution and you won't notice the difference."

Are there any other big projects in the Plan?

"Brick replacement on the Annex is going to be a difficult job. When they originally constructed the building they did not uses weeps to fasten the brick to the walls. There are no weeps to hold the bricks to the wall and now 20 to 30 years later the bricks are pulling away. So all the brickwork has to be drilled and refastened. Not an easy job."

"In the Annex the fan coil units are in the ceilings and we are going to convert to upright units in the room using dead space in the walls. They will look good."

What about the grounds?

"Around the grounds the drainage is undersized and unable to handle the last 20 years of growth, which is overloading the drains and damaging the grounds. We will be replacing storm drains and patios that are not ADA compliant plus the flagstone throughout the property because it doesn't hold up in this environment. We will be using a concrete paver pedestal system that provides really good drainage and keeps that Five-Diamond look."

You must have quite a staff to take care of such a large and complicated property?

"The engineering team at Nemacolin includes an assistant and lead technician, a lead mechanic and a lead utilities technician. The staff is broken into trade divisions; kitchen refrigeration and HVAC, electrical, plumbing/pools/laundry, carpenters, painters, room techs (inside and outside), a PM room crew, water and sewage, and inventory and dispatch. We also have two room techs for employee housing, a mason/tile tech and a team of mechanics caring for the resort vehicles, busses, ski slope groomers, lifts, snow making equipment and snow mobiles."

Do you provide educational support for your team?

"Yes, I believe it's my responsibility to provide training, educational development and career leadership for our employees. I'm a master trainer of the NC-CER (National Center for Construction Education and Research) and I train my team to be trainers so they in turn can train entry-level personnel to a professional level in their trade. NCCER provides training materials and support and those completing the program receive national certification. It's the best training program I have used for my engineering staff, creating competence, pride and longevity. By investing in our staff we are rewarded with a highly trained and devoted professional team."

Was the recession hard on the staff?

"We have a family type atmosphere here and we get through difficult times as a team, the good and the bad. We are trying to do our part by buying from American suppliers. Now that the economy is improving suppliers have depleted inventories causing long delays for overseas suppliers. I had our team call American companies and found what we needed, knocking off two months of delivery time, which kept us on schedule.

Well Matt, it sounds like your team is ready to move forward this spring.

"We spent seven months going through all the buildings coming up with designs and solutions and working them out with our architectural firm and consultants. We investigated and selected the goods and materials and the suppliers. All the analysis and planning is paying off. Our projects are underway and when the weather breaks we are ready to rock n' roll" on the exterior and grounds, said the *'Wizard'* of Nemacolin."

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ASHRAE 2014 - NYC UPDATE -SUPER STORM PLANNING & RECOVERY

Norm Nelson, P.E. Sr. Technologist Energy Efficiency and High Performance Buildings CH2M HILL



Winter storm Janus was not the only visitor to New York City the third week in January 2014; approximately tens of thousands of other visitors were locked into attending the combined American Society of Heating, Refrigeration and Air-Conditioning Engineers (ASHRAE) Annual Winter Conference and the concurrent Air-Conditioning, Heating, and Refrigera-

tion Institute (AHRI) Exposition at Javits Convention Center. According to show organizer International Exposition Company, a total of over 61,000 attendees registered for the 2014 AHR Expo. Professionals from all 50 states and over 130 countries ignored Janus to see the latest industry equipment and technologies provided by over 1,900 exhibiting companies worldwide. The organizer is currently verifying that this year's event is the highest registered attendance in the history of the exposition.



Catastrophic storms shut down all services

Meanwhile, over 2,800 attendees registered for the ASHRAE meeting hosted at Hilton New York. The **Technical Conference** was well attended and addressed trends in tall building, international design and building information systems, to name just a few topics. Sessions that recorded the highest attendance include: "Commercial Building Energy Efficiency and High Performance HVAC;" "Designs for Thermal





Comfort and Energy Savings: Real Practices in School and Office Buildings;" "Efficient Technologies That Are Also Economically Sustainable, Part 3 of 3: Thermal Energy Storage (TES) and Complementary Options;" "Effective Best Practices for Successful Building Systems Commissioning;" and "Getting to Green: Where's the Value in 'Next Level' Operations and Retro-Cx? And your Energy Audit is Worthless...or is it?"

One of the other theme tracks at the ASHRAE conference was a direct response to Super Storm Sandy that caused significant damage to the mid-Atlantic and North-east coastline. This article addresses planning for and recovering from storms that are not catastrophic. Catastrophic storms shut down all services and makes most facilities inhabitable. However, with proper planning, hotel operations staff can reduce the impact of most storms, reduce the OOO room count, and increase total revenues in spite of weather events.

There are many types of events that occur throughout the world, and Super Storm Sandy, while significant on the eastern seaboard, was only one of more than 900 events within the same calendar year. Figure 1 is provided by Munich Re and indicates the varied types of events that occurred in the last year.

Hotels and resorts are typically located in warm and coastal environments because these are locations where many guest prefer to vacation and recreate. Unfortunately, these same locations are typically located in warm and humid climates subject to wind and rain events. Therefore, properties located within these 'preferred weather zones' need to consider planning for and how to minimize the impact of storm events.



Lessons Learned

During the last decade, meteorologists have developed more knowledge aided by computer models to help predict when events will affect hotels and resorts, and help operating personnel to know when an event may happen, the direction from which the event will travel, anticipated wind, and projected rain amounts. In addition to better storm prediction, several other lessons have been documented:

- Proper operational planning can significantly reduce the recovery time following a storm event.
- Designers can assist Owners by recommending prudent choices regarding critical systems and components.
- Moisture control measures must be immediate and effective to avoid major microbial contamination.

Operational Planning

In general, operational planning for storm events must be developed before the event and must include several key factors:

- Know your key local emergency planning departments, policies, key personnel and how to obtain key information during the event.
- Develop and document essential emergency response procedures.
- Identify concerns or risks that will affect the property based upon the type of event; decide how to best address the risks identified.
- Cross train staff to perform alternate jobs when the need arises or staff shortage occurs due to the event.

• Work out transportation options for key personnel, since getting to the property may be problematic.

- Consider housing key staff's family during severe events as employees may be reluctant to leave their families and homes.
- Assign personnel that will be responsible for identifying and documenting the damage.

After the risk factors for the property have been identified and the property's plan is developed then the staff must be trained how to execute the plan.

Critical Systems

There are several systems serving the property that are considered to be critical to minimize the business interruption during an event. Most are easy to identify. Several critical systems are listed and found below:

- Life safety systems, including: emergency egress lighting; fire alarm and suppression; mass communication; and telephone/internet. Make sure these systems remain functional during events and plan for what steps to take should they fail.
- Electrical service, including on-site generation and main switchgear. If possible consider two separate feeds from the serving utility; on-site generation for critical system support and life safety; fuel supply and re-supply; and switchgear protected from water events.
- Potable water supply can be temporarily interrupted from the serving utility. Consider alternate on-site generation or rental of portable water supply systems prior to the event.
- Wastewater disposal can be temporarily inter-



Drying of Soft Goods Must Occur in First 48 hours To Avoid Microbial Growth

Each of these critical systems must be included in a comprehensive plan for events. If these risks are identified as part of the property survey, make plans to reduce risk and improve reliability as part of the capital improvement plan.

Moisture Control

In most cases, coastal storm events result in large amounts of wind driven rain. For

rupted as well. Have a plan in place to reduce water usage and consider temporary holding tanks and contract removal if necessary.

• Storm water needs to be controlled and managed to avoid affecting other critical systems as well as facilitate drainage.

• Food service must be maintained for staff, guests and recovery workers. Refrigerated room systems need to be connected to on-site generation. Dry storage areas must remain dry by design, and food service contracts must be in place for post-event delivery.

• Fuels stored on-site for power generation such as heating oil and propane gas, require scheduled periodic servicing and supply of fuel; contract with local suppliers for refueling. Locate stored fuel outside where flood potential is low and where refueling can be accomplished.

those reasons, moisture control measures are very important to the successful avoidance of short and long term microbial growth. If rain events are predicted, make sure storm water drainage systems are clear of debris and ready for high volume flow. Windows and doors on the windward side receive special attention to make sure that water intrusion due to wind driven rain are minimized. If necessary, hurricane protection for windward openings may be required to minimize damage from windblown projectiles.

It is important to maintain some level of water removal and drying. This would include water vacuums, blower fans, HEPA vacuums, and industrial class dehumidifiers. Moisture removal and drying should only be attempted if the maintenance staff available on-site following the storm event are able to conduct effective drying of wetted materials. In order to avoid microbial growth, drying of wetted soft goods must occur within



"Immediately following any major water intrusion event, the materials must be adequately dried in a timely manner."

about 48 hours. If not, then microbial growth on the organic surfaces will most likely occur.

If the hotel operations staff has limited equipment and staff resources, or if the moisture intrusion event is too large, then contracts should be in place with a reputable and capable moisture removal and remediation specialist. Immediately following any major water intrusion event, the materials must be adequately dried in a timely manner.

Manage Insurance Claims

Staff needs to be assigned to assess any damage and document potential claims. Pre-event planning meetings with the insurance underwriters need to include documentation of the existing property condition, determine high risk items for damage, and what methods are required for documentation. In addition, discussions should include key claim adjusters that would be assigned following events so that repair and restoration can proceed expeditiously; returning the property to full operation as quickly as possible. Protect all records and document claims in accordance with the direction of the insurance underwriters.

System Upgrades

There are many choices that the operations staff can influence as equipment and system changes are made due to renovations or repair and maintenance. Several of those choices are described below: • On-site generation – if the property is subject to hurricane and frequent power loss from the serving utility, consider replacing the generator with a continuous rated (in lieu of standby rated) so that long operating periods do not shorten the service life. Make sure that the generator is properly sized to include food service needs so that guest and staff meals can be provided when utility power is interrupted.

- Window and door replacements should consider wind driven projectile loads when replacement is considered.
- Relocate critical systems where wind and moisture damage is minimized.
- Make sure that building envelope materials are maintained and selected to minimize storm events.

In conclusion, emergency and storm planning elements must be addressed before the storm event occurs to minimize business disruption and loss. Select system component replacement and design to minimize storm damage.



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HIDDEN DANGERS DETECTED WITH INFRARED SCAN

Tom Belger, CDOE

Licensed Electrician, Practicing Hotel Engineer

Wear and tear is an accepted fact in all mechanical equipment but do we look at the electrical circuits that deliver power to this equipment in the same way? In a lot of cases building equipment problems give themselves away through visual and audible signs. It is almost as if the equipment is telling us "hey problem over here!" Like a 60-amp 10-HP motor driving a worn out belt or that same motor with bearings that are about to go, these specific noises will give themselves away every time to the experienced engineer. But the dangers that lay silent and out of sight can be the most threatening, costly, and just plain dangerous to personnel safety.

In commercial buildings there are dangers that lay hidden. Loose electrical connections, overloads, loads that are unbalanced, and changes made here and there to the building (added loads) in the past, can wreak havoc on electrical switch-gear, panels and branch circuits.



Dust and Dirt Can Accumulate Causing A Potential Fire Hazard

There are companies that offer services using infrared scanning technology equipment offering different tiers of services. Depending on your buildings specifics, the skill level of your engineering department, and local and federal codes and regulations

"An infrared scan gives you the confidence of knowing where potential electrical hazards hide and puts you in control of addressing them based on the recommended severity."

All electrical circuits under a load generate heat and heat always gives off light. However, this light is not detected by wavelengths seen by human eyes. If you would, imagine electrons moving through wires, creating friction and that friction is turned into heat (this is a good way to think of amps). This is the heat that is only detected in the infrared portion of the electromagnetic spectrum. The more friction the higher the temperature but sometimes the temperature is higher than what the equipment and wires are rated for. This is when electrical hazards occur.

you can determine what tier of service is best for your property.

As one of the two electricians at a very popular Westin Hotel (*due to liability concerns we are not identifying Tom's property*) I can say with confidence that we are dedicated to safety of personnel and property.

I personally accompanied Jeff Craig technician from Edward G. Sawyer Co., Inc. on our building



LockOut-TagOut Safety Procedures

survey. As a MA state licensed electrician I was able to take part in the scan by removing panel covers and switch-gear covers. Adorned in my Personal Protective Equipment (PPE) I was able to fix the easily remedied hazards making sure not to slow the scanning project down knowing full well the importance of a complete building scan. From bottom up we checked all switch-gear, electrical panels, transformers, troughs, and anything with wires going into and out.

All buildings, including hotels, have potential electrical hazards, it's just a fact. An infrared scan gives you the confidence of knowing where they hide and puts you in control of addressing them based on the recommended severity.

The benefits of an infrared scan speak for themselves;

- pinpoints hot spots in electrical systems,
- reduces unscheduled outages and losses,
- reduces electrical energy costs by increasing energy efficiency, and
- avoids unscheduled maintenance along with creating an electrical maintenance programs based on your findings.

Equipment damage and preventing catastrophic failures is a big part of any engineer's responsibility in any building. Arming yourself and your crew with the knowledge of these potential dangers is a key component. Establishing repair priorities and being proactive in the fight against electrical hazards is a 'no brainer.' We can stay on top and ahead of the dangers a lot more easily by implementing a yearly infrared scan.

If your building does not have an electrician, the scanning technician will be accompanied with one. A complete equipment problems report will be presented a day or so later with all of the findings in an easily understood paper binder and pdf file. The report will have pictures taken with the infrared scanner by the technician of all your building electrical equipment indicating locations, breaker numbers, panel schedule, etc. The infrared pictures indicating the hazards will have references to indicate recommended levels of severity and action items

Working in hospitality you develop an uncanny sense of service you just don't see anywhere else. The engineering department's attitude



Electricians: Bob Baker & Tom Belger in Personal **Protective Equipment**



towards this service is no different than any other department in the hotel. It is just that we may serve our clients and guests in a little different way, by providing a safe and efficient environment. It is true we stay out of common areas as much as possible for the reason if you see us, then something must be wrong and we are on our way to fix it. Most of our work is behind the scenes such as keeping environmental air flowing, keeping motors turning and lights shining and making sure that our back up emergency systems are going to work flawlessly in the event of a disaster.

	Immediate Hazard	Customer Notified Immediately
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breaker and	inspect contact surfac	ce and replace with a new 2 pol
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Infrared Scan Report

Scheduling infrared scanning company Edward G. Sawyer Inc. was part of our proactive, predictive approach to building safety. Neutralizing the uncovered potential hazards and dangers that would have otherwise gone unnoticed gives you a great sense of pride that you are doing everything possible to keep your building running safely.





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WHAT WOULD YOU DO?

Manny Mercado, CDOE, CPO

Let's think it out and evaluate what options we have when we are put in a challenging situation.

This is for all of us in all levels of engineering. Have you come across a situation where you stopped and said, "Oh My Gosh?" In my years of engineering I have come across many OMG's. I can tell you at first when I started off as an engineer I had only the knowledge on mechanical work with engines and basics of all trades. I can tell you I learned a lot. The crew I started off with was clueless of the property they worked at for some time. I am not talking bad about them but just letting you know what I started with. Let me just add this thought before I move on, go out and explore your property and get to know it from within and out of its shell. Don't have anyone lead you in this exploration. Do it yourself. I will venture to say you will pick things up that others have failed to tell you about. In my early years of starting off I came across situations where I really had to think things out. I had challenges to where I sat back and said the problem of the source is behind wall number 1, but how do I get behind wall number 1? I thought about how much more damage I could cause or if I will be in trouble for my best solutions. What I learned as an engineer is that you have to use your brain much in the same way as you would if you were to launch a space shuttle first in order to make sure it flies and lands safely. So don't be afraid if there is no one around you to help take care of a situation and you need to act now. Process the situation and plan your approach, always keep 'safety first' in mind. You will come across easy accomplishments and not so easy accomplishments.

I can tell you one that my head engineer Ken Repasky and I had recently. We had a leak in the housekeeping office ceiling. With our 50 year old property, we are used to leaks here and there but, this was leaking at 1 AM in the morning. We opened the ceiling and found out that over the years with modifications and renovations someone installed duct work running along tight and close to the ceiling above the ceiling tiles. Our leak (Niagara Falls)



was coming from the top of that duct that had a clearance of of 8 inches from the top to the ceiling. We shut off all valves possible but no luck.

As an engineer we need to act and jump right in to take care of any situation we come across. So don't be afraid to act. Acting will teach you a thing or two or maybe teach you not to do it again. I like exploring challenges because I know I am ready from what I have learned over the years and it will only make you a better engineer. I will submit more of these OMG episodes to share with you to let you know it's ok to

jump right in and be creative as long as you have a solution. We are here to keep the property running and sometimes we do what we need to do based upon our best experience and knowledge. That day my ship was taking in water and I was not going to let her sink. We are all the captains of our ship.



Manny & Ken Repasky



The Chief Engineer and Director of Engineering certificate programs are brought to you by partnership of the American Hotel & Lodging Educational Institute (AHLEI) and the National Association of Hotel & Lodging Engineers (NAHLE).



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Every day, at luxurious resorts and select-service properties, Hotel Engineers quietly keep guests safe and comfortable while operating their properties at peak performance for their owners. Like a ship's captain, a Hotel Engineer spends years getting to know his craft and fine-tuning their property's performance as they keep a watchful eye on the horizon preparing to navigate through the next series of challenges. Will you be ready?



"In your life you only get to do so many things and right now we've chosen to do this. So let's make it great. Never underestimate the power of a bold vision to move your career and the work forward. Don't just live a life; build one." — Steve Jobs

"Always dream and shoot higher than you know you can do. Do not bother just to be better than your contemporaries or predecessors. Try to be better than yourself."

— William Faulkner







UPGRADING YOUR BUILDING ENVELOPE: A MORE COST EFFECTIVE WAY TO OPTIMIZE YOUR ENERGY EFFICIENCY

Billy C. Pettit LEED AP,

Commercial Marketing Supervisor 3M Renewable Energy Division

Rising energy costs have hotel owners everywhere searching for energy efficiency solutions. Many hotel owners make the costly mistake of installing high efficiency HVAC systems before they look at other options. One of these options is to create a more efficient building envelope. Upgrading your building envelope with window film not only can reduce your energy costs but also improve interior comfort and maintain building aesthetics. Creating a more efficient building envelope before you make HVAC improvements can help reduce your costs almost immediately giving you the money you need to make longer term investments that can further optimize your energy efficiency.

The chart above (Figure 1) shows a 4-day temperature logging experiment conducted at a hotel, with room window film and without window film. 3M[™] Sun Control Window Film reduced the temperature in direct sunlight by as much as nine degrees.

Studies prove the effectiveness of window films for reducing energy costs

A 2011 study¹ conducted by the U.S. Department of Energy (DOE) on the top 50 commercially available energy technologies ranked window films as a "top tier technology" and recommended them for immediate deployment. What's more, window films had one of the fastest payback



Figure 1 – 4-Day Temperature Log at Hotel

rankings —an average of just three years. The DOE study also found that of the 50 technologies, window films had the highest probability of success. This was measured by a number of factors, including customer acceptance of the technology, ease of retrofit, knowledge-base of the technology and supply chain strength.

Another study² from CONSOL Energy and Environmental Solutions calculated the effects of adding window films to commercial buildings. The results were so impressive that after publishing the study in 2011, the state of California updated their building codes to include window films. The study found that window films: showed paybacks in as little as 1.4 years for single pane glass and 2.1 years for double pane glass, and reduced energy usage by as much as 19 kWh/sq.ft. of installed film.

Proven to save energy in all climate zones

According to current building codes, the United States is divided into eight different climate zones. These zones range from subtropical Zone 1, which includes Hawaii, Guam, Puerto Rico and the Virgin Islands, to subarctic Zone 8 in far northern Alaska. Over the years, 3MTM Window Films have reduced the energy costs of buildings in every zone. For example: Mount Terrace Condominium in Hawaii Kai, Hawaii (climate zone 1) cut energy costs by more than \$270,000 per year and paid back the investment in less than 2 years. The National Bank of Arizona in Phoenix (climate zone 2) cut energy costs by more than \$25,000 per year and paid back the investment in less than 5 years. The Century Plaza Towers in Los Angeles, California (climate zone 3) cut energy costs by more than \$200,000 per year with a payback of less than one year. The Fifth Third Center in Cincinnati,

Ohio (climate zone 4) cut energy costs by more than \$100,000 per year with a payback of less than 12 months. The 1501 Clinton Street Tower in Baltimore, Maryland (climate zone 5) cut energy costs by more than \$45,000 per year with a payback of less than 4 years.

70 million square feet and counting

Since 3M invented the technology decades ago, millions of square feet of have been installed all over the world. In fact, 3M has sold more than 70 million square feet of window films in the last ten years in the U.S. alone. Numbers like those help underscore the confidence that businesses and consumers have for the energysaving and costeffective performance of 3MTM Window Film technology.

"New and Underutilized Technology: Window Film." Federal Energy Management Program. August 24, 2011.
 "Energy Analysis for Window Films Applications in New and Existing Homes and Offices." CONSOL Energy. February 7, 2012.

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FINDING AND RETAINING GREAT EMPLOYEES

By **Danielle Nelson**, NAHLE Staff

How do you recruit top-notch employees? How do you conduct an interview? How do you become a desirable workplace?

Many employers fail in their efforts to find qualified hotel engineers in sufficient numbers and fall short in retaining them long enough to realize a return on their investment. The best employees don't just walk in and ask for a job — usually because they're already working. If you want the best, you have to know what you need, where to look, and how to recruit them.

One cause of this problem is that many employers don't fully grasp the demographics of today's hourly, frontline workforce. Employers must aim recruiting messages to all age groups and be more flexible in allowing shorter work weeks and condensed scheduling. It would also be helpful to consider focus on recruiting employed, as well as unemployed candidates. And, we're not talking about calling up your competitors' best properties and cherry pick their talent. Many top candidates are already working, but may be open to a new and better employer.

To recruit the best, employers have to make recruiting a 24/7 activity. If you only recruit when you have openings, you cannot get the best, because the pressure to hire someone immediately causes you to be less selective and often results in a bad hiring decision. Use your flexibility to attract top talent. You can become a hotel that everyone wants to work for. You can become a hotel that never has recruiting problems.



To paraphrase Yogi Berra:

"If they don't wanna work for you, nobody's gonna stop 'em."

To hire the best, you have to make it easy for the best hotel engineers to apply. If you accept phone calls, résumés, and applications only during regular business hours, you discourage the very people you should be trying to recruit — all the good hotel engineers who are busy working. This means you have to modify or extend your hours for accepting applications and conducting interviews.

Today's applicants do not read newspapers or go from hotel to hotel filling out applications. They sit down at the computer and use an online search engine or popular job listing site. If you're not using Internet job boards and your company website, you are definitely missing the boat. If there is a "Careers" or "Join Our Team" tab on your hotel website, take a few minutes to take it for a test drive. Many of these website pages lose jobseekers by making the process too complicated and/or timeconsuming while some don't work at all.

nahle JOIN NOW! http://www.nahle.org/Join

Make yourself available. Many job applicants apply for three jobs at once. This means employer responsiveness is a deciding factor in recruiting success. So, when you need new recruits, monitor the system and get back to promising applicants right away.

Know the capacities for a successful job applicant. An applicant must have both the physical and mental capacities for the position of a hotel engineer. The employee will be bending, lifting, reaching, climbing, etc. You must be able to define the nature and scope of your requirements in terms of distance, frequency, and length of time spent doing the task. Include specifics about the weight, shape, and sizes of the materials. You must also be able to assess the applicant's mental capacities. Define how much thinking and learning the job requires including specifics on the scope or frequency of the duty. Understanding the knowledge and abilities required for success on the job allows you, the employer, to better find great future employees. Mental capacities might include the ability to understand and carry out oral or written instructions; read work orders, tickets, graphs, logs, or schedules; prepare detailed technical records or reports; inspect, examine, and observe product, equipment, or workmanship; and/or identify and correct defects. Different shifts may require different capacities if different tasks are done at different times of day.

Good employees make guests happy. By defining the attitudes that are most important for a hotel engineer's success, you can gear your hiring efforts toward those desirable qualities. For example, an above-average hotel engineer displays these winning attributes:

- Customer service orientation
- Team player
- Reliability
- Honesty
- Willingness to follow rules
- Problem-solver
- Loyalty
- Safety consciousness
- Ability to follow through

Most managers and supervisors hire only occasionally. You may not be experienced or trained in best-practice techniques. Be sure to prepare for the job interview. Here are four things that you can do to make the job interview process more effective.

"It is easier to train an employee with a winning attitude to do the job than it is to try to train people with the right skills to have a winning attitude."

The right attitude is another important requirement for the job. When an employee has the needed physical and mental capacities, a positive attitude will determine success on the job. Without the right attitude, an employee will not do well, no matter how proficient his skills.

FOUR TIPS FOR CONDUCTING A JOB **INTERVIEWING:**

1. Provide the applicant a clear picture of the job requirements. Be able to tell the applicant your expectations for performance. Describe the priorities of the job



and the kind of accomplishments that make a candidate a top contender. The job description helps you avoid getting more or less than you need and wasting time and money on unqualified applicants.

2. Create a scorecard for the

interview. Before you begin the interview process, create an interview scorecard that lists the key accomplishments and skills you want in the person you hire. You might have six criteria (hotel engineering skills, organizational skills, leadership abilities, education and accreditation, certification, licensing, etc.) for which you score the candidate from one to five. This helps you to grade each candidate objectively against criteria that are important for the job. Take notes during your interviews. You will be able to better assess the candidate's strengths and weaknesses.

3. Always try to ask open-ended, accomplishment-oriented questions to learn the most about your hotel

engineering candidates. If you ask the following one interview question and follow-up you will conduct a good interview: What do you consider to be the biggest accomplishments of your life and your career? Why so? Open-ended follow-up questions allow the candidate to describe what he or she has accomplished in life and the opportunity to provide details that prove their expertise. Try these questions in your next interview and you will be surprised at how much you learn.

4. Listen to what your applicant has

to say. If you spend more than 25 percent of the time talking, you are talking too much. By asking open-ended questions, listening, asking a follow up question, your hiring decisions will improve.

Once you hire your next hotel engineer, there are some things that you can do to make him stay. Ask yourself: Why should a hotel engineer work for this company when he can get the same pay rate at the hotel across the street?" Understanding an employee's need for a job can help the 'talent' manager predict how he or she will react to changes in workforce policies, pay and schedules.

The characteristics of a great work environment can begin with new employee training and continuing professional development. For example, Marriott International was listed as one of Fortune's best companies to work for. Marriott's team of hospitality professionals average 78 hours of initial job training when first hired, and an additional 34 hours of professional development each year. Through such a commitment to workforce development, Marriott boasts the fact that 3,000 of their managers started out with Marriott working entry-level and hourly jobs.

Another way to enhance the work environment is to hear employee suggestions and encourage creativity. Hotel engineers may not be motivated only by money. For instance, Kimpton Hotels like their employees to have fun at work as well. Every year Kimpton conducts the Housekeeping Olympics at their hotels throughout the country, which include a Vacuum Dash, Blindfolded Bed Making, and a Toilet Paper the General Manager competition.

Take the time to identify the needed job skills and the personality for the hotel engineer you are hiring. Prepare for the interview and start creating that potential 'great workplace' for your applicant with your initial interview meeting. Finally, and maybe most importantly, talk to your hotel engineers, signaling to everyone that he is important and a welcome addition to your team.

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The National Association of Hotel & Lodging Engineers



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