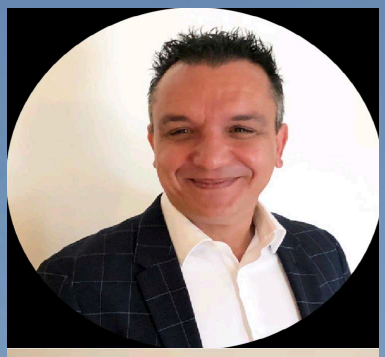
October
2020

Lodging Engineer

An Online Magazine for Hotel, Senior Housing, & Assisted-Living Facility Engineers



1st Person

Theodore Papadopolous, Movenpick Hotels, DUBAI

After the Wildfires

Tips for Reducing Hotel Pool Operating Costs During a Closure

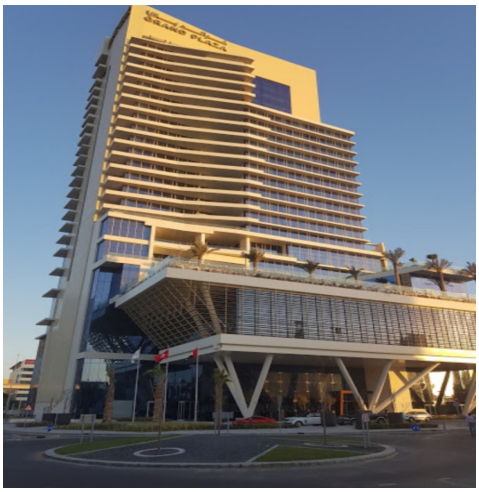
What Hotel, Resort, and Lodge Workers Need to Know

Considerations for Preventing Spread of Covid-19 in Assisted Living Facilities

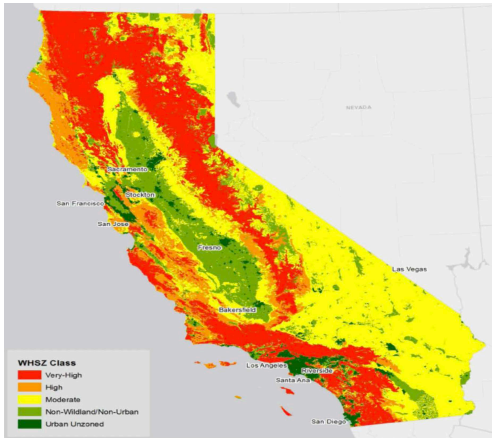
Additional Guidance for Nursing Home

Guidance for Hotels, Motels and Other Lodging Facilities

TABLE OF CONTENTS



page 5 — **1st Person Interview**
Theodore Papadopolis, CDOE



page 19 — **AFTER THE WILDFIRES** - Numerous considerations affect the building of commercial lodging facilities in California's wildland-fire hazard zones. **Tom Daly** dicusses, among others, insurance considerations and building and fire codes.

page 24

Tips for Reducing Hotel Pool Operating Costs During a Closure - By Ralph Kittler, P.E. Due to the current situation in North America, many hotels have closed or have opted to close some of their common areas including the pool facilities. As cashflow is a concern engineers can reduce the cost of keeping hotel pools on standby with a few simple steps.

Reprints from the Center for Disease Control & Prevention Website

page 27 — **1) What Hotel, Resort, and Lodge Workers Need to Know about COVID-19**

page 31 — **2) Considerations for Preventing Spread of COVID-19 in Assisted Living Facilities**

page 37 — **3) Interim Additional Guidance for Infection Prevention and Control for Patients with Suspected or Confirmed COVID-19 in Nursing Homes**

Reprint from the WV Department of Health & Human Resources Website

page 38 — **1) Coronavirus Disease 2019 (COVID-19) Guidance for Hotels, Motels and Other Lodging Facilities March 2020**

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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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1st Person - Interview

MR, THEODORE PAPADOPOLOUS, CDOE
DOE, Project and Construction Manager
Movenpick Hotels and Resort
Aristoteles University of Thessaloniki

The concept of this article covers the **Basic** Operation and Maintenance of Grand Plaza Movenpick Media City Dubai. The Backbone of the hotel rely on the **DOE** Director of Engineering.

This article rely on two main component, Operation and Maintenance which always found on the Hotel Engineer's desk

Operations: The Operations are carried out by the Duty Engineer. He is responsible of all complaints including guest complaints and assisting, thus showing how to use air-conditioning, television, lighting systems etc. Duty Engineer receives all complaints through software application called message box.

This message box identifies the exact location of the complaints and what it needs to be done. This message notification has to be report back after the issues has been resolved, this process is a paperless work order request form.

Monitoring and record taking daily on individual plant rooms also part of duty Engineer's responsibilities. This includes chiller plant room, boiler plant room, LV room, water treatment plant room and swimming pool pump room.

GRAND PLAZA MOVENPICK MEDIA CITY DUBAI – LOCATED INTERNET CITY, SHAKE ZAYED ROAD

Swimming Pools

Swimming pool treatment water sample and chemical record taking

Swimming pool and water sample carried out three times daily to ensure quality of the water, as required by the DCM, Dubai municipality.

This includes PH (7.4 – 7.6), Chlorine (1 – 2), Bromine (2 – 4).Backwash and Vacuums is performed by removing all butter, oily and leafy dirt from the pool.

Domestic water treatment and chemical dosing system also required to maintain water quality. Records taken and data entry is part of the DCM Dubai Municipality.

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Taking readings on swimming pool water. This process will give the current readings of the pool water, in order to be determine the status of the dosing system. It also determines which chemicals needs to be added in to the pool.

Maintenance Practices Basically Group into three categories;

1) Guest Rooms,

2) Public Areas and

3) Plant Rooms Maintenance.

Guest Rooms

Guest Rooms And Corridor Maintenance

This include Guest Room Maintenance/ **Ken-fix**, program

The concept of this maintenance program is to eliminate breakdown in our guest rooms and corridors. Guest room maintenance normally lies on Engineering and Housekeeping Department.

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Basically Housekeeping department identifies vacant and OOO, out of order rooms to be communicate with engineering department. This information can be send through Messages box or an email. Engineering **Ken-fix** team carried out their maintenance works once room status are being identified. This maintenance activities include; electrical, plumbing, carpentry and painting. Basic carpet and tilling works also involve.

Any maintenance works that involve noisy are advised not to be performed early morning, all noisy works are performed after 11:00am onwards and it require work permit.

Public Areas

Public Area Maintenance Program; Front Of House And BOF Back Of House.

Public area maintenance concept dealt with both dead load and live loads,

Dead loads; Public area maintenance dealt with dead loads includes; access door and handles, wash room toilet flushing systems, sink basins, holder's, lighting systems etc.

Live loads; live loads also that include tables ,chairs sound systems, movable flush lights system also repaired by maintenance team. .major breakdown such table, chair, lamp and shade are repaired at the workshop.

Plant Room Maintenance

PLANT ROOM MAINTENANCE

Preventive maintenance; preventive maintenance team carried on with a time based and fault finding ,check on the condition of the equipment, changing of spare parts before it gets out of hands or breakdown.

Corrective Maintenance; corrective maintenance in some areas ,such as plant rooms, **DOE** communicate with other heads of department for such breakdown to be executed due to shutdown of equipment, such as chiller plant system, water boiler and electrical LV

Predictive Maintenance; predictive maintenance Practices involve in condition of the equipment, changing of Spare parts base on the manufacturing recommendations and risk involved. This activities performed to overcome sudden breakdown and emergency.

Water Quality

Shower head disinfection program; this exercise basically carried out to prevent bacteria affecting shower head and water tanks . It is recorded into a data after each cleaning twice a year, this program helps give quality of water in our guest bathrooms and pool / spa facilities.

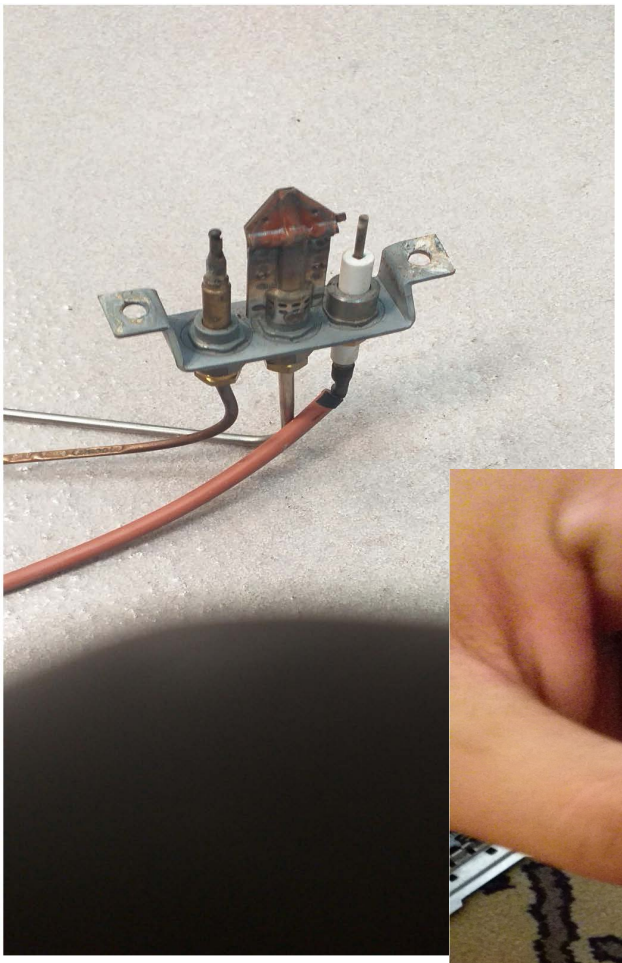
Fire Alarms

Inspection of fire alarm system including pumps, thus jockey pump and main pump. This inspection includes zone valve (supervisory, heat and smoke detector system. Pull station and fire Fighting alarm panel.

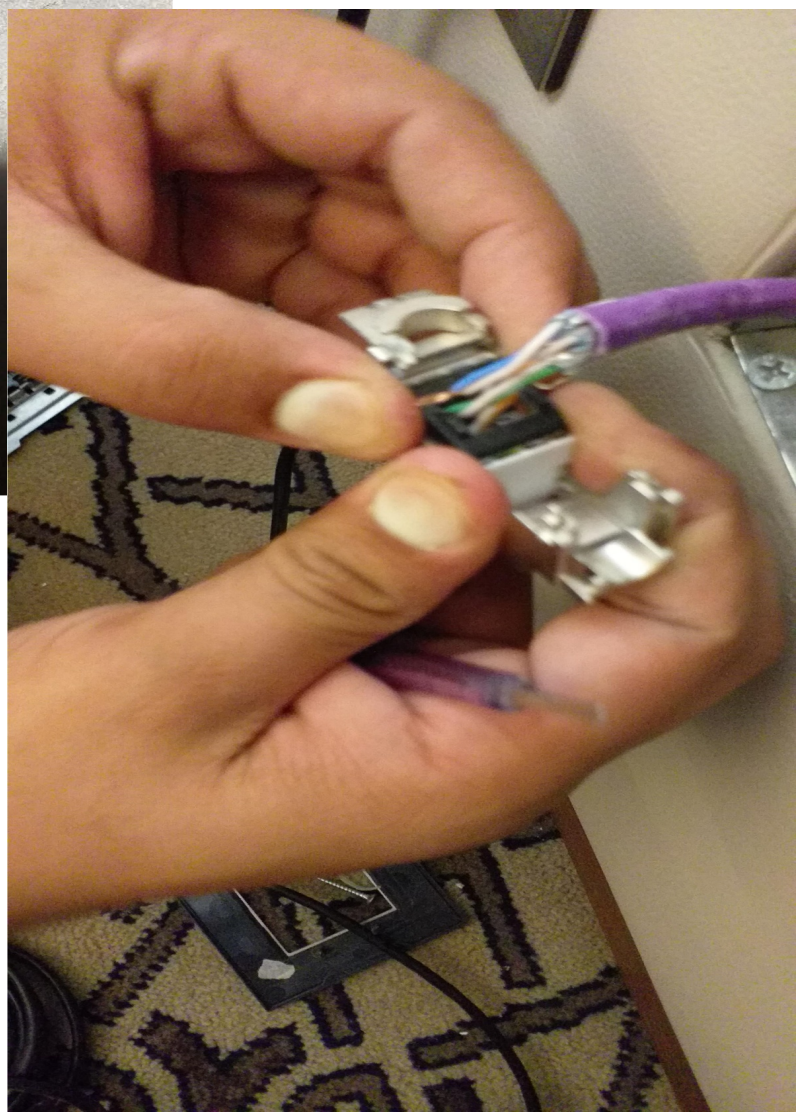
HVAC Systems

HVAC Systems; this chamber is part of the condenser water line known as strainer chamber. It is under de-scaling process to eliminate dirt and iron scales from the line.

Carrier

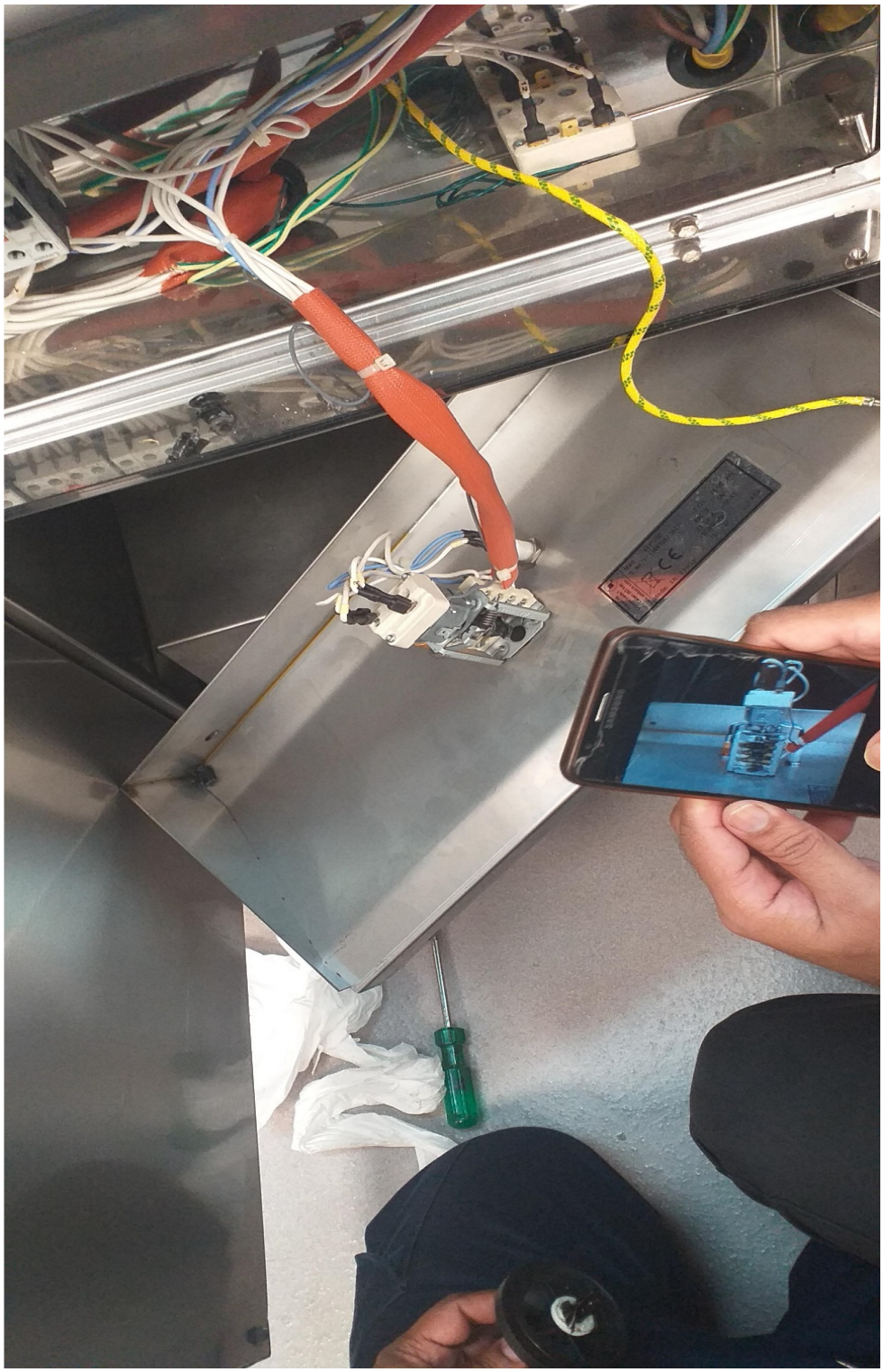


CAT 6 Data Module



Maintenance on the CAT 6 DATA Module, this process involved in replacing module and cable termination.

Kitchen Equipment



Maintenance on kitchen equipment, resolving a faulty bean marine hot boiler. Also ensure other equipment ; namely stoves, hot plate, hot pass grills are all under ppm maintenance program to be resolved all cleaning and replacement of spare parts.

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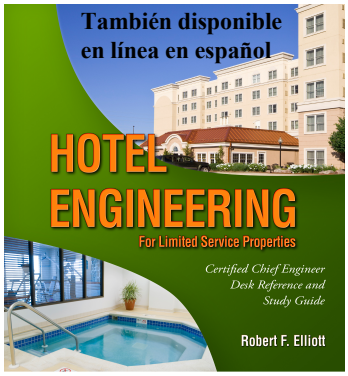

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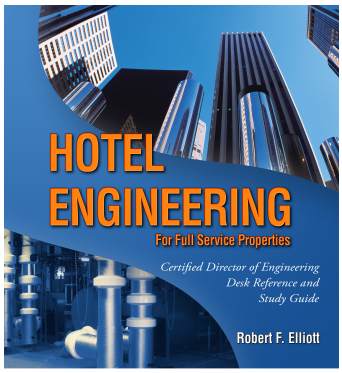

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AFTER THE WILDFIRES

INSURANCE AND REBUILDING CHALLENGES FOR HOTELS IN CALIFORNIA's WILDFIRE HAZARD ZONES

By Thomas G. Daly MSc. CSP CLSD

Black Rock Inn St. Helena, CA. September 28, 2020 Kent Nishimura / Los Angeles Times via Getty Images

Hotels have not been immune from the devastation wrought by wildfires in California over the past several years. Among hotels destroyed by wildfires are the Fountaingrove Inn and Hilton Sonoma, both sprinklered and within the City limits of Santa Rosa, California in October 2017 (Tubbs Fire).

More recently, the iconic Meadowood Resort and the Black Rock Inn in St. Helena, CA were destroyed in the Glass Fire in Napa and Sonoma counties in September 2020.

I. Insurance considerations before and after the devastation

What most traumatized victims of California wildfires, who have suffered a catastrophic property loss, find out as they sift through the ashes is…they are woefully underinsured.

Property insurance typically covers the cost of reconstruction (to a fixed amount unless you have a 'replacement cost' policy) based on the building code in force at the time of the original construction date, the '*like kind and quality'* limitation found in most property insurance policies.

The California Residential Code (Title 24 CCR Part 2.5) for single family homes, townhouses and small bed & breakfast establishments and the California Building Code (Title 24 CCR Parts 1 & 2) and Fire Code (Title 24 CCR Part 9) for commercial buildings including hotels, are updated every three years, often with new requirements. The older the building destroyed the more that increases the likelihood that the current building code will impose new and expensive requirements, not covered by insurance, unless property owners have a 'building code upgrade' rider on their property insurance policy. That *optional* rider will cover a fixed amount in dollars of the difference in reconstruction costs between the original building code and the latest code, hopefully enough to cover the marginal cost difference[1].

Post the multiple wildfires fires in 2016 several carriers refused to underwrite coverage in 'high' or 'very high' wildfire zones, leaving those property owners access to only the California FAIR plan which, for commercial coverage, is limited to $3 million for structures and $1.5 million for related coverage, insufficient coverage limits for all but very small hotels.

Periodically reviewing your coverages with your insurance carrier and a reputable general contractor will give you an idea of what dollar value coverages are needed and how long the rebuilding process is likely to take.

[1] See https://www.robinskaplan.com/~/media/PDFs/Insurance%20Coverage%20for%20Building%20Code%20Upgrades.pdf for a more detailed discussion of this issue.

II. Building in California's Wildfire Hazard Zones

The vast majority of all of the land mass in California is in one of several 'wildfire hazard zones', see CalFIRES map below.

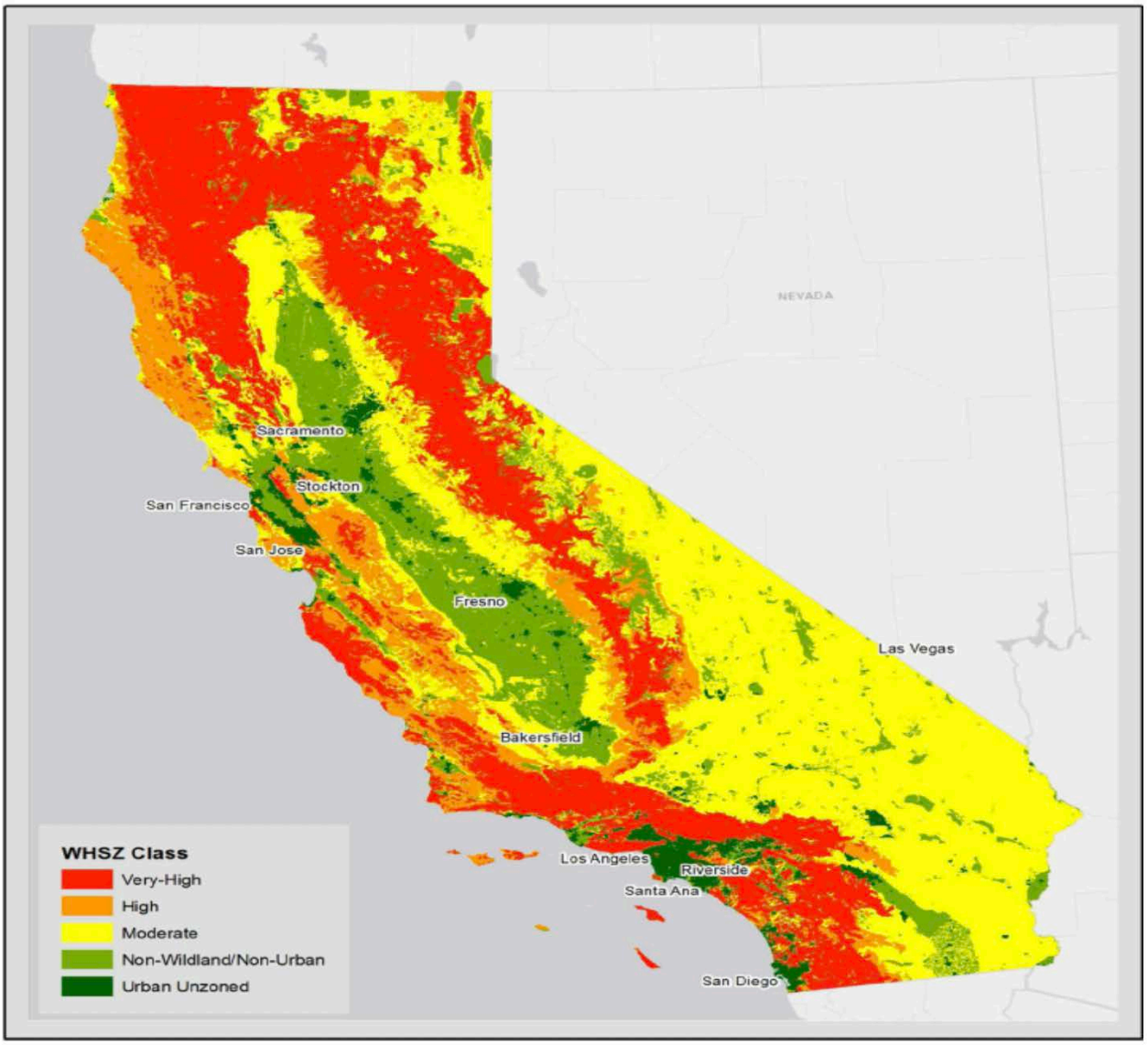

Fig. A2. Fire Hazard Severity Zones of California. Source: CalFIRE

Commercial buildings in the 'high' and 'very high' wildfire hazard zones are subject to special California Building Code (Chapter 7A), Fire Code (Chapter 49) and Public Resources Code (Title 14 CCR Sec.1276 Fuel Modification Standards) requirements, which will add to the cost to rebuild and later the cost to maintain the property's exposure

to wildfires. Local jurisdictions may amend the state codes to require even more stringent requirements based on several factors, including topography[2].

Further, given the staggering number of homes and business destroyed in California wildfires 2014-2020[3] (estimate = 100K+), the cost of building materials in California has skyrocketed, making most calculations of the cost-per-square-foot to rebuild seriously off the mark. While $200 per square foot used to be a good benchmark for hotel construction in the '90s, today it is closer to $460[4] per square foot nationwide and higher in California, due to excessive environmental and other regulatory burdens. Building construction costs are rising at a 5.5% average annual rate, far more than inflation.

Added to the above, contractors are backlogged such that a historical one year rebuild time for a destroyed single-family home or 18 months for a gutted hotel, are now more than double that timeline. As such, 'business interruption insurance' coverage for more than a year is now almost a given for commercial enterprises, such as hotels. Check your policy for the amount and duration of such coverage.

III. Is 'building to code' enough?

Regulatory changes in building and fire codes, State Fire Marshal regulations, and local amendments to those codes/regulations adds to the complexity and time needed to get a permit to rebuild. Architects and contractors need to be well versed in both building and fire codes and maintain their knowledge, as new requirements are added, every three years in California. The plan check process to obtain a building permit can be seriously delayed if your architect is not up to speed.

As part of the rebuilding process, only 'building to code' may not protect your hotel from the ravages of the next wildfire. Building and fire code requirements set minimum requirements for fire safety.

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[2] See CALIFORNIA BUILDING STANDARDS COMMISSION INFORMATION BULLETIN 19-05 DATE: June 24, 2019 *Applicability of California Building Standards and Local Government Amendments*.

[3] Estimates for 2020 are still being tallied but, as of October 4, 2020, already exceeded 8,400 structures according to CalFIRE, see https://time.com/5896221/california-wildfires-4-million-acres/.

[4] https://www.interservlp.com/focus-on-hotel-construction-costs-2019/#:~:text=While%20construction%20costs%20vary%20drastically,equipment%20costs%20amount%20to%20%24935%2C000.

Additional considerations for exterior exposure sprinklers[5, 6], a greater 'set back distance' from adjacent hazards, a walled compound, more 'defensible space' than required adjacent to your hotel and a different landscaping plan, avoiding 'combustible vegetation' in favor of zero scaping or gardens in lieu of trees, may be wildfire defenses worth considering.

Taking more aggressive than required steps to protect your property may also result in a more competitive insurance environment when you shop for coverage and the possibility of premium discounts, if you can show that your property warrants a 'highly protected risk' (HPR) designation by your insurance carrier.

The only given about catastrophic wildfires is that, over time, they will return.

Thomas G. Daly is the President and Managing Member of the Hospitality Security Consulting Group, LLC., the retired Vice President Loss Prevention for Hilton Hotels Corporation, now Hilton Worldwide and the Past Chairman of the NFPA Lodging Industry Section.

[5] California's Tax & Revenue Code Article 74 exempts the installation of sprinklers from being considered an 'improvement' and thus the value of such improvement is not added to the assessed value and ensuing property tax.

[6] Neither the 2019 California Building Code nor NFPA 13-2016 *Standard for the Installation of Sprinkler Systems,* (the edition adopted by California*)* requires exterior exposure sprinklers for buildings otherwise requiring an interior sprinkler system, but NFPA 13 does provide design guidance for such installations, see Sections 7.7; 8.3.4.3 and 11.3.2.

Tips for Reducing Hotel Pool Operating Costs During a Closure

By Ralph Kittler, P.E.

Due to the current situation in North America, many hotels have closed or have opted to close some of their common areas including the pool facilities. As cashflow is a concern in these challenging times, it is wise to find ways to reduce costs as much as possible when facilities are on standby.

Pools certainly consume lots of energy and the good news is there are some ways facility engineers can reduce the cost of keeping hotel pools on standby with a few simple steps.

Tips for Reducing Hotel Pool Operating Costs During a Closure

Lowering Evaporation Rate

The number one topic of interest with reducing pool operating costs while keeping systems on standby is to reduce the evaporation rate from the pool. Unless you drain the basin, the water will not stop evaporating. However, the rate of evaporation can be slowed down a lot with some measures.

If you are able to, cover the pool. This reduces the evaporation rate to an absolute minimum and brings with it some added benefits. The Department of Energy estimates you can lower water heating costs by as much as 70% by covering the pool (for normal use, this number is likely higher when the pool is always covered and at-rest.) When the pool is covered, the minimal evaporation rate means the dehumidifier will not be placing many dehumidification calls throughout the day which saves on compressor runtime.

In addition to using the cover, or if your hotel pool does not have a cover, you can make some other changes to save energy costs.

Changing Water Temperature

Changing setpoints is a tricky subject, because it could backfire if done improperly.

One thing you can do is lower the water temperature. You can drop it quite a bit, even down to 60°F if you want. This will drop your water heating demand by a significant amount.

Water has a high specific heat capacity which means pools respond very slowly to temperature changes. For larger pools it could take days for a water temperature setpoint adjustment to fully take effect.

Changing air setpoints take effect very quickly. While it may be tempting to lower the air temperature, keep in mind that lower air temperatures correspond with higher rates of evaporation. As a result, it isn't recommended to lower the air temperature.

If a facility wishes to lower the air temperature they should ensure it is always at least two degrees warmer than the water temperature to minimize evaporation. Also do not go below 74°F room air as the dehumidifier will not operate well below that temperature. Drop the pool water temperature and then wait until it cools down before lowering the space temperature. Otherwise the RH will spike up and the dehumidifier may be unable to keep up with the moisture load until the pool finishes cooling down and evaporation slows.

Don't Forget Maintenance

Regular preventative maintenance should continue to be a priority while a facility is on stand-by. If anything, it's a good opportunity to shut down the unit (following proper safety protocols including cutting power at the breaker) and wash the interior airpath and coils; this is normally recommended to be done twice a year to stave off corrosion.

To clean, get a rag and a water/dish soap solution and scrub the interior airpath. Rinse with fresh water and ensure drainage or dry with a towel. For the coils, start by brushing them with a soft brush in the direction of the fins. Be careful not to bend them. After, use a pressure washer (under 100 psig) to spray a lukewarm soapy water mix into the coil, being cautious to spray the coil in the direction opposite to where the air enters. Spraying them in this counter-airflow direction ensures any foreign objects collected at the front of the coil is pushed out rather than being driven deeper into them.

Other good maintenance practices to keep in mind includes changing of the airside filters, checking the condensate drain pan for blockages, and ensuring the outdoor condenser is functioning properly. If you have any questions about other maintenance tasks to undertake, refer to your operating manual for the unit or contact your manufacturer.

***

Ralph Kittler, P.E., is VP Sales National Accounts for Dehumidified Air Solutions — a leading manufacturer of humidity and temperature control equipment. He's had more than three decades of experience in indoor pool design and dehumidification and is the revisor responsible for Chapters 25 (Mechanical Dehumidifiers) and Chapter 6 (Indoor Swimming Pools) in the ASHRAE Handbooks. He's currently chair of the Council for the Model Aquatic Health Code's ad-hoc committee for Indoor Aquatic Facility Ventilation Design and Air Quality, plus was also an ASHRAE Distinguished lecturer for 12 years on indoor pool design.
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Reprint from the Center for Disease Control & Prevention Website
https://www.cdc.gov/coronavirus/2019-ncov/community/organizations/hotel-employees.html

What Hotel, Resort, and Lodge Workers Need to Know about COVID-19

Updated Sept. 3, 2020

Coronavirus disease 2019 (COVID-19) is a respiratory illness caused by a virus (SARS-COV-2).

COVID-19 can sometimes cause serious complications. People at increased risk for severe illness include:

Older adults.
People of any age who have underlying medical conditions.

How COVID-19 Spreads

COVID-19 is a new disease and we are still learning about it. Here's what we currently know:

The virus that causes COVID-19 mainly spreads from person-to-person through respiratory droplets: Between people who are in close contact with one another (within about 6 feet).
Produced when a person who is infected with the virus that causes COVID-19 coughs, sneezes, or talks. You can get the virus from people who don't seem sick or don't have any symptoms.
You might be able to get COVID-19 by shaking someone's hand or touching a surface or object that has the virus on it and then touching your face, mouth, nose, or eyes.
As a hotel, resort, and lodge worker, you might come into contact with the virus at your job when:

In close contact (within 6 feet for at least 15 minutes or more) with guests or coworkers
Touching your face, mouth, nose or eyes after:
Shaking someone's hand.
Touching surfaces in public areas such as the front desk/check-in counter and restrooms.
Touching or handling items such as cash, pens at the front desk, room keys, key cards, or merchandise. Touching high-touch lobby and common area surfaces such as tables, elevator buttons, water fountains, ATMs/card payment stations, and ice/vending machines.
Cleaning guestrooms, including contact with dirty linens, trash, and frequently touched guestroom surfaces, such as tables, light switches, countertops, handles, desks, remote controls, phones, toilets, toilet flush handles, sink faucets, door handles, pens, and irons.

How You Can Protect Yourself and Others

Stay home if you are having symptoms of COVID-19.

Follow CDC recommended steps if you are sick.
Do not return to work until you meet the criteria to discontinue home isolation.
Talk with your healthcare provider about when it's safe for you to return to work.
Follow CDC recommended precautions and tell your supervisor if you or someone you live with or someone you have had recent close contact with has COVID-19.
Stay at least 6 feet away from customers and coworkers, when possible.

Use transparent shields or other barriers that have been put in place by your employer to physically separate yourself from guests where distancing is not an option (e.g., the reception desk).
Promote technological solutions that will reduce person-to-person interaction such as online reservation and check-in, mobile room key, mobile ordering, mobile access to menus, contactless delivery for room service, text on arrival for dining room seating, and contactless payment options.
Instruct guests to return room keys/key cards in a key card bin upon departure for later disinfection.
Wear a cloth mask in public and at work, even when social distancing. Cloth masks may prevent people who don't know they have the virus from spreading it to others. The spread of COVID-19 can be reduced when cloth masks are used along with other preventive measures, including social distancing. A universal face covering policy can be effective in preventing the transmission of the virus in close-contact interactions.

Be careful when putting on, wearing, and taking off cloth masks:
Do not touch your cloth mask while wearing it.
Do not touch your face, mouth, nose, or eyes while taking off the cloth mask.
Wash your hands before putting on and after taking off the cloth mask.
Wash the mask after each use.
Ensure cloth masks do not create a new risk (for example, interferes with driving or vision, or contributes to heat-related illness) that exceeds their COVID-19 related benefits of slowing the spread of the virus.
If you are concerned about the use of cloth masks at your workplace, discuss them with your employer.

Clean and disinfect frequently touched surfaces.

Clean and disinfect the following areas on a routine basis or at least daily:
Break rooms, public areas, fitness centers and conference rooms
Encourage fitness center patrons to clean equipment (e.g., free weights, exercise equipment, cardio machines) before and after use.
Guestrooms occupied by the same customer over multiple days should not be cleaned daily, unless requested. Conduct more frequent cleaning and disinfection of high-touch surfaces such as the front desk/check-in counter, public areas, restrooms, tables, elevator buttons, water fountains, ATMs/card payment stations, ice/vending machines, pens, room keys, and key cards.
Reception desk staff should use disposable disinfectant wipes to disinfect surfaces in between guest interactions. Follow the directions on cleaning and disinfecting products' labels.
Wash your hands with soap and water for at least 20 seconds afterwards. Use hand sanitizer containing at least 60% alcohol if soap and water are not available.

Additional Cleaning Guidance for Housekeeping
In addition to the cleaning guidance above, employees cleaning guestrooms should:

Wash hands with soap and water for at least 20 seconds before entering and after exiting a guestroom.
Use hand sanitizer containing at least 60% alcohol if soap and water aren't available. Throw away all single-use items provided by the hotel or left by the guest.
Clean frequently touched surfaces such as tables, light switches, countertops, handles, desks, remote controls, phones, toilets, toilet flush handles, sink faucets, door handles, pens, and irons. Wash all hotel linens according to the manufacturer's label and use the warmest appropriate water setting. Allow items to dry completely.
Wear disposable gloves when handling dirty laundry or trash.
Do not shake dirty laundry.
Wash hands immediately after handling dirty laundry or trash.
If a guest is ill and isolating in their hotel room, discontinue all but essential housekeeping services to the room.

Additional precautions for cleaning a room after a guest who has been ill has checked out of the hotel:

Close off the room.
Wait 24 hours before you enter the room. If 24 hours is not feasible, wait as long as possible. If possible, open outside doors and windows to increase air circulation.
Thoroughly clean and disinfect the room, as stated above.
Use a vacuum equipped with a high-efficiency particulate air (HEPA) filter, if available. After the room has been appropriately disinfected, it can be opened for guest use.

Wash your hands regularly with soap and water for at least 20 seconds. You don't need to wear gloves if you wash your hands regularly (unless they are already required for your job).

Use hand sanitizer containing at least 60% alcohol if soap and water aren't available.
Wash your hands at these key times:
Before, during, and after preparing food.
Before eating food.
After using the toilet.
After blowing your nose, coughing, or sneezing.
After putting on, touching, or removing cloth masks.
Before and after work and work breaks.
Before and after cleaning guestrooms.
Do not touch your face, mouth, nose, or eyes.

Cover your coughs and sneezes.

Use tissues to cover your mouth and nose when you cough or sneeze or use the inside of your elbow.
Throw used tissues in the trash.
Wash your hands with soap and water for at least 20 seconds.

How to Cope with Stress
Mental health and emotional well-being are important parts of worker safety and health. The COVID-19 pandemic has created new challenges in the ways many people work and connect with others, which may raise feelings of stress, anxiety, or depression. It is important to pay attention to these in yourself and others and be aware of resources available to manage them.

Information and resources about mental health, knowing signs of stress, taking steps to manage stress, and knowing where to go if you need help are available here.

How Your Employer Can Protect You
Your employer should develop a COVID-19 response plan and share it with you. We created a fact sheet to help your employer.

How To Get More Information

Talk to your employer or supervisor, or whoever is responsible for responding to COVID-19 concerns. Use these resources for more information on reducing the risk of worker exposure to the virus that causes COVID-19:

CDC Interim Guidance for Businesses and Employers to Plan and Respond to Coronavirus Disease 2019
(COVID-19)
CDC Cleaning and Disinfecting Your Facility
CDC Reopening Guidance for Cleaning and Disinfecting Public Spaces, Workplaces, Businesses, Schools, and Homes
NIOSH Workplace Safety and Health Topic: COVID-19
CDC COVID-19
CDC Considerations for Restaurants and Bars
OSHA COVID-19external icon
OSHA Guidelines on Preparing Workplaces for COVIDpdf iconexternal icon
American Hotel and Lodging Association Safe Stay: Enhanced Industry-wide Hotel Cleaning Standards in response to COVID-19 pdf iconexternal icon
Illinois Department of Public Health COVID-19 Hotel Guidanceexternal icon
Hospitality Net COVID-19 Tips for Hotel Managersexternal icon
West Virginia Department of Health and Human Resources COVID-19 Guidance for Hotels, Motels, and other Lodging Facilitiespdf iconexternal icon
Florida Restaurant and Lodging Association COVID-19 Standard for Hospitality Reopeningpdf iconexternal icon
Implementing Safety Practices for Critical Infrastructure Workers Who May Have Had Exposure to a Person with Suspected or Confirmed COVID-19
Prepare your Small Business and Employees for the Effects of COVID-19
CDCINFO: 1-800-CDC-INFO (1-800-232-4636) | TTY: 1-888-232-6348 | website: cdc.gov/info

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Lodging Engineer

Considerations for Preventing Spread of COVID-19 in Assisted Living Facilities

Updated May 29, 2020

Reprint from the Center for Disease Control & Prevention Website
https://www.cdc.gov/coronavirus/2019-ncov/hcp/assisted-living.html

Summary of Changes to the Guidance:
Below are changes to the guidance as of May 29, 2020:

Updated recommendations about visitor restrictions and group activities to assist facilities if, based on guidance from their state and local officials, they begin to relax restrictions
Added information about the National Healthcare Safety Network (NHSN) Long-term Care Facility (LTCF) COVID-19 module, which can assist with tracking infections and prevention process measures in a systematic way.

Key Actions
Assisted living facility (ALF) owners and administrators should refer to guidance from state and local officials when making decisions about relaxing restrictions (e.g., easing visitor restrictions, allowing group activities, or restoring communal dining)
State licensing authorities, which have oversight of ALFs, are encouraged to share this guidance with all ALFs in their jurisdiction. State healthcare-associated infections programs are an important resource to assist ALFs with responding to COVID-19 and implementing recommended practices.
Given their congregate nature and population served, assisted living facilities (ALFs) are at high risk for SARS-CoV-2 spreading among their residents. If infected with SARS-CoV-2, the virus that causes COVID-19, assisted living residents—often older adults with underlying medical conditions—are at increased risk for severe illness. CDC is aware of confirmed cases of COVID-19 among residents of ALFs in multiple states. Experience with outbreaks in nursing homes has demonstrated that residents with COVID-19 may not report common symptoms such as fever or respiratory symptoms; some may not report any symptoms. Unrecognized asymptomatic and pre-symptomatic infections likely contribute to transmission in these settings. Therefore, CDC recommends source control measures for all persons, including when in a healthcare setting. Detailed recommendations, including when facemasks versus cloth face coverings should be used are in the CDC's Interim Infection Prevention and Control Recommendations for Patients with Suspected or Confirmed Coronavirus Disease 2019 (COVID-19) in Healthcare Settings

ALFs should refer to guidance from state and local officials when making decisions about relaxing restrictions (e.g., easing visitor restrictions, allowing group activities, or restoring communal dining). CMS has created Nursing Home Reopening Recommendations for State and Local Officialspdf iconexternal icon. This guidance was created specifically for nursing homes, but content might also be informative for ALFs.

When relaxing any restrictions, ALFs must remain vigilant for COVID-19 among residents and personnel in order to prevent spread and protect residents and personnel from severe infections, hospitalizations, and death.

Have a plan for visitor and personnel restrictions

Encourage residents to limit outside visitors; visitor restrictions are to protect them and others in the facility who might have conditions making them more vulnerable to severe illness from COVID-19.

In some jurisdictions, a total restriction of visitors might be warranted based on community prevalence of COVID-19 and guidance from local and state officials.

Facilitate and encourage alternative methods for visitationpdf icon (e.g., video conferencing) and communication with residents

Create or review an inventory of all volunteers and personnel who provide care in the facility, including consultant personnel (e.g., home health personnel, barber, nail care). Use that inventory to determine which personnel are non-essential and whose services can be delayed. This inventory can also be used to notify personnel if COVID-19 is identified in the facility.

In some jurisdictions, a total restriction of all volunteers and non-essential personnel including certain consultant services (e.g., barber, nail care) might be warranted based on community prevalence of COVID-19 and guidance from local and state officials.

Post signage at all entrances and leave notices for contract service providers at all residences that:

Provide information about current visitation policies or restrictions;

Remind visitors and personnel not to enter the building if they have fever or symptoms consistent with COVID-19.

Consider designating one central point of entry to the facility to facilitate screening (while maintaining social distancing) and establishing visitation hours if visitation is allowed.

Designate one or more facility employees to actively screen all visitors and personnel, including essential consultant personnel, for the presence of fever and symptoms consistent with COVID-19 before starting each shift/when they enter the building.

Send visitors and personnel home if they have a fever (temperature of 100.0 oF or greater) or symptoms consistent with COVID-19.

Implement sick leave policies that are flexible and non-punitive.

Personnel with suspected COVID-19 should be prioritized for testing.

Create a plan for responding to personnel with COVID-19 who may have worked while ill, which addresses identifying and performing a risk assessment for exposed residents and co-workers.

Encourage personnel who work in multiple locations to tell facilities if they have worked in other facilities with recognized COVID-19 cases.

Encourage source control

Everyone in the facility should practice source control.

Personnel should wear a facemask (or cloth face covering if facemasks are not available or only source control is required) at all times while they are in the facility.

When available, facemasks are generally preferred over cloth face coverings for healthcare personnel as facemasks offer both source control and protection for the wearer against exposure to splashes and sprays of infectious material from others. Guidance on extended use and reuse of facemasks is available. Cloth face coverings are not personal protective equipment (PPE) and should NOT be worn instead of a respirator or facemask if more than source control is required.

Visitors should wear a cloth face covering while in the facility.

Encourage residents to wear a cloth face covering (if tolerated) whenever they are around others, including when they leave their rooms and when they leave the facility (e.g., residents receiving hemodialysis).

Cloth face coverings should not be worn or placed on anyone who has trouble breathing, or anyone who is unconscious, incapacitated, or otherwise unable to remove the mask without assistance. Additionally, they should not be placed on children under age 2.

Encourage social (physical) distancing

Modify or cancel group activities

Instead of communal dining, consider delivering meals to rooms, creating a “grab n’ go” option for residents, or staggering mealtimes to accommodate social distancing while dining (e.g., a single person per table).

Schedule group activities in a staggered fashion to limit number of residents participating and allow them to remain at least 6 feet apart from each other

Remind residents to remain at least 6 feet apart from others when they are outside their room

Remind personnel to practice social distancing while in break rooms and common areas, cancel non-essential meetings, and consider alternate methods for essential meetings (e.g., virtual)

Provide access to supplies and implement recommended infection prevention and control practices:

Provide access to alcohol-based hand sanitizer with at least 60% alcohol throughout the facility and keep sinks stocked with soap and paper towels.

Remind residents, visitors, and personnel to frequently perform hand hygiene

Ensure adequate cleaning and disinfection supplies are available. Provide EPA-registered disposable disinfectant wipes so that commonly used surfaces can be wiped down.

Routinely (at least once per day) clean and disinfect surfaces and objects that are frequently touched in common areas. This may include cleaning surfaces and objects not ordinarily cleaned daily (e.g., door handles, faucets, toilet handles, light switches, elevator buttons, handrails, handicap access door panels, countertops, chairs, tables, remote controls, shared electronic equipment, and shared exercise equipment).

Use regular cleaners, according to the directions on the label. For disinfection, refer to List Nexternal icon on the EPA website for a list of products that are EPA-approved for use against the virus that causes COVID-19. Follow the manufacturer's instructions for all cleaning and disinfection products (e.g., concentration, application method and contact time).

Rapidly identify and properly respond to residents with suspected or confirmed COVID-19:

Designate one or more facility employees to ensure all residents have been asked at least daily about fever and symptoms consistent with COVID-19.
Implement a process with a facility point of contact that residents can notify (e.g., call by phone) if they develop symptoms.
If COVID-19 is identified or suspected in a resident (i.e., resident reports fever or symptoms consistent with COVID-19):
Immediately isolate the resident in their room and notify the health department. The resident should be prioritized for testing.

Encourage all other residents to self-isolate, if not already doing so, while awaiting assessment to determine if they are also infected or exposed.

Maintain social distancing (remaining at least 6 feet apart) between all residents and personnel, while still providing necessary services.

For situations where close contact with any (symptomatic or asymptomatic) resident cannot be avoided, personnel should at a minimum, wear:

Eye protection (goggles or face shield) and an N95 or higher-level respirator (or a facemask if respirators are not available). Cloth face coverings are not PPE and should not be used when a respirator or facemask is indicated.

If personnel have direct contact with a resident, they should also wear gloves. If available, gowns are also recommended but should be prioritized for activities where splashes or sprays are anticipated, or high-contact resident-care activities that provide opportunities for transfer to pathogens to hands and clothing of personnel (e.g., dressing, bathing/showering, transferring, providing hygiene, changing linens, changing briefs or assisting with toileting, device care or use, wound care).
Personnel who do not interact with residents (e.g., not within 6 feet) and do not clean resident environments or equipment do not need to wear PPE. However, they should wear a cloth face covering or, if PPE supplies are sufficient, a facemask for source control.
Personnel who are expected to use PPE should receive training on selection and use of PPE, including demonstrating competency with putting on and removing PPE in a manner to prevent self-contamination. CDC has provided strategies for optimizing personal protective equipment (PPE) supply that describe actions facilities can take to extend their supply if, despite efforts to obtain additional PPE, there are shortages. These include strategies such as extended use or reuse of respirators, facemasks, and disposable eye protection.

Older people with COVID-19 may not show common symptoms such as fever or respiratory symptoms. Less common symptoms can include new or worsening malaise, headache, or new dizziness, nausea, vomiting, diarrhea, loss of taste or smell. Identification of symptoms consistent with COVID-19 should prompt isolation and further evaluation for COVID-19.

A resident with COVID-19 might be able to remain in the facility if the resident:

Is able to perform their own activities of daily living;

Can isolate in their room for the duration of their illness;

Can have meals delivered;

Can be regularly checked on by staff (e.g., checking in by phone during each shift; visits by home health agency personnel who wear all recommended PPE);

Is able to request assistance if needed.

It might also be possible for residents with COVID-19 who require more assistance to remain in the facility if they can remain isolated in their room, and on-site or consultant personnel can provide the level of care needed with access to all recommended PPE and training on proper selection and use.

If the resident with COVID-19 requires more assistance than can be safely provided by on-site or consultant personnel (e.g., home health agency), they should be transferred (in consultation with public health) to another location (e.g., alternate care site, hospital) that is equipped to adhere to recommended infection prevention and control practices. Transport personnel and the receiving facility should be notified about the suspected diagnosis prior to transfer.

While awaiting transfer, residents should be separated from others (e.g., remain in their room with the door closed) and should wear a cloth face covering or facemask (if tolerated) when others are in the room and during transport.

Appropriate PPE (as described above) should be used by personnel when coming in contact with the resident. If residents are transferred to the hospital or another care setting, actively follow up with that facility and resident family members to determine if the resident was confirmed or suspected to have COVID-19. This information will inform need for contact tracing or implementation of additional infection prevention and control recommendations.

Report COVID-19 cases, facility staffing, and supply information to the National Healthcare Safety Network (NHSN) Long-term Care Facility (LTCF) COVID-19 module weekly. While ALFs do not have the same federal requirement to report to NSHN as nursing homes, their participation is encouraged. CDC's NHSN provides LTCFs with a customized system to track infections and prevention process measures in a systematic way.

ALFs can report into the 4 pathways of the COVID-19 module including:
Resident impact and facility capacity;
Staff and personnel impact;
Supplies and personal protective equipment;
Ventilator capacity and supplies.

Resources:
Interim Additional Guidance for Infection Prevention and Control for Patients with Suspected or Confirmed COVID-19 in Nursing Homes

Strategies to Optimize the Supply of PPE and Equipment

Strategies to Mitigate Healthcare Personnel Staffing Shortages

Interim U.S. Guidance for Risk Assessment and Public Health Management of Healthcare Personnel with Potential Exposure in a Healthcare Setting to Patients with Coronavirus Disease (COVID-19)

Discontinuation of Transmission-Based Precautions and Disposition of Patients with COVID-19 in Healthcare Settings (Interim Guidance)

Criteria for Return to Work for Healthcare Personnel with Confirmed or Suspected COVID-19 (Interim Guidance)

Definitions:

Source Control: Use of a cloth face covering or facemask to cover a person's mouth and nose to prevent spread of respiratory secretions when they are talking, sneezing, or coughing. Facemasks and cloth face coverings should not be placed on children under age 2, anyone who has trouble breathing, or anyone who is unconscious, incapacitated, or otherwise unable to remove the mask without assistance.

Cloth face covering: Textile (cloth) covers that are intended to keep the person wearing one from spreading respiratory secretions when talking, sneezing, or coughing. They are not PPE, and it is uncertain whether cloth face coverings protect the wearer. Guidance on design, use, and maintenance of cloth face coverings is available.

Facemask: Facemasks are PPE and are often referred to as surgical masks or procedure masks. Use facemasks according to product labeling and local, state, and federal requirements. FDA-cleared surgical masks are designed to protect against splashes and sprays and are prioritized for use when such exposures are anticipated, including surgical procedures. Facemasks that are not regulated by FDA, such as some procedure masks, which are typically used for isolation purposes, may not provide protection against splashes and sprays.

Respirator: A respirator is a personal protective device that is worn on the face, covers at least the nose and mouth, and is used to reduce the wearer's risk of inhaling hazardous airborne particles (including dust particles and infectious agents), gases, or vapors. Respirators are certified by the CDC/NIOSH, including those intended for use in healthcare.

Last Updated May 29, 2020
Content source: National Center for Immunization and Respiratory Diseases (NCIRD), Division of Viral Diseases

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Depending on the level of care and services provided in the ALF, recommendations in the following guidance documents may also apply:

Interim Additional Guidance for Infection Prevention and Control for Patients with Suspected or Confirmed COVID-19 in Nursing Homes

Interim Guidance for Preventing the Spread of COVID-19 in Retirement Communities and Independent Living FacilitiesTo prevent spread of COVID-19 in their facilities, ALFs should take the following actions: Identify a point of contact at the local health department to facilitate prompt notification as follows:

Immediately notify the health department about any of the following:
If COVID-19 is suspected or confirmed among residents or facility personnel;
If a resident develops severe respiratory infection resulting in hospitalization;
If 3 or more residents or facility personnel develop new-onset respiratory symptoms within 72 hours of each other. Prompt notification of the health department about residents and personnel with suspected or confirmed COVID-19 is critical. The health department can help ensure all recommended infection prevention and control measures are in place. Often, when a new-onset infection is identified, there are others in the facility who are also infected but who do not yet have symptoms. Rapid action to identify, isolate, and test others who might be infected is critical to prevent further spread.

In addition to guidance for health departments addressing case investigation and contact tracing that helps to define who should be considered exposed, CDC has also released SARS-CoV-2 testing guidance for nursing homes, which might be helpful to ALFs.

Interim Testing in Response to Suspected or Confirmed COVID-19 in Nursing Home Residents and Healthcare Personnel

Considerations for Performing Facility-wide SARS-CoV-2 Testing in Nursing Homes
Educate residents, family members, and personnel about COVID-19:

Have a plan and mechanism to regularly communicate with personnel, residents, and any family members specified by the resident, including if cases of COVID-19 are identified among residents or personnel. Provide information about COVID-19 (including information about signs and symptoms) and strategies for managing stress and anxiety.

Describe actions the facility is taking to protect residents and personnel.
Describe actions residents and personnel can take to protect themselves in the facility, emphasizing the importance of social (physical) distancing, hand hygiene, respiratory hygiene and cough etiquette, and source control.
Encourage residents, personnel, and visitors to monitor for symptoms and immediately report fever or other symptoms consistent with COVID-19.
Ask visitors to inform the facility if they develop fever or symptoms consistent with COVID-19 within 14 days of visiting the facility.

WEST VIRGINIA Department of Health & Human Resources
BUREAU FOR PUBLIC HEALTH

Coronavirus Disease 2019 (COVID-19)
Guidance for Hotels, Motels and Other Lodging Facilities
March 2020

Preparing for Potential Infection in West Virginia Communities

Since February 2020, the West Virginia Department of Health and Human Resources, Bureau for Public Health has been following an increase in the number of confirmed cases of COVID-19 in the U.S. The Bureau for Public Health monitors Centers for Disease Control and Prevention (CDC) updates, hospital admissions, and other data to determine the potential risk to citizens in West Virginia from the virus.

COMMON SYMPTOMS OF COVID-19

- Fever
- Cough
- Shortness of Breath

PERSON-TO-PERSON TRANSMISSION

- Occurs via small droplets from the nose or mouth of the infected person when they cough, sneeze, or exhale.
- Maintain 2 meter (6 ft) distance between yourself and anyone coughing or sneezing.
- Stay home if you feel sick. If you have a fever, cough and difficulty breathing, seek medical attention and call in advance.

PREVENTION

- Isolating sick and diagnosed individuals.
- Encourage proper handwashing.
- Cleaning and sanitizing surfaces.
- Provide education about COVID-19.
- Discourage sharing food, drinks, etc.

CDC GUIDANCE FOR NON-HEALTHCARE FACILITY ENVIRONMENTAL CLEANING

- Routinely clean all frequently touched surfaces in the lodging facilities, such as guest rooms, check-in counters and other frequently touched surfaces. Use the cleaning agents that are normally used in these areas and follow the directions on the label.
- **Disinfectants:** To determine if a product is effective against COVID-19, review the product label or product specification sheet and ensure it states **"***EPA-approved emerging viral pathogen claims.***"** You may also search the product name in the Environmental Protection Agency's registered product database at: https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2

PUBLIC RESTROOMS

- Set a schedule for cleaning and disinfecting facilities.
- Clean and disinfect touchable surfaces frequently.
- Provide proper cleaning and disinfecting supplies including instructions for use, as well as personal protective equipment (PPE) for workers.
- Provide and maintain adequate handwashing supplies (hand soap, running water, disposable hand towels, waste cans, etc.) and hand sanitizer.

PUBLIC SPACES - LOBBIES, DINING AREAS, CONFERENCE ROOMS, ETC.

- Promote everyday prevention actions:
  - ◊ Cover sneezes and coughs
  - ◊ Frequent handwashing
  - ◊ Stay at home if you're sick
  - ◊ Avoid close contact
- Close seating in all the dining areas.
- Offer only prepackaged breakfast items.
- Ensure adequate handwashing supplies are provided and maintained.
- Post up-to-date information on COVID-19.
- Routinely and frequently clean all hands-on surfaces including entrance/exit doors.
- Provide hand sanitizer for public and staff use.

For additional information on COVID-19, please visit our webpage at: www.coronavirus.wv.gov.

Questions and concerns can also be directed to the 24/7, toll-free COVID-19 information hotline at 1-800-887-4304.

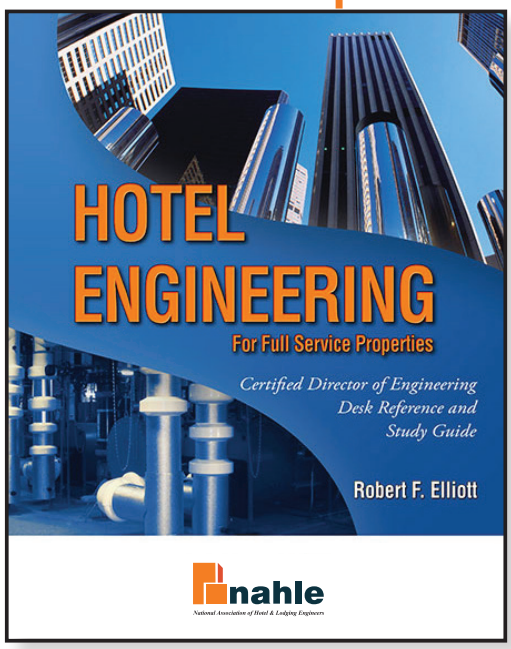
NAHLE Training and Professional Development

NAHLE has developed two educational programs for hotel engineers through a partnership with the American Hotel & Lodging Educational Institute.

American Hotel & Lodging Educational Institute

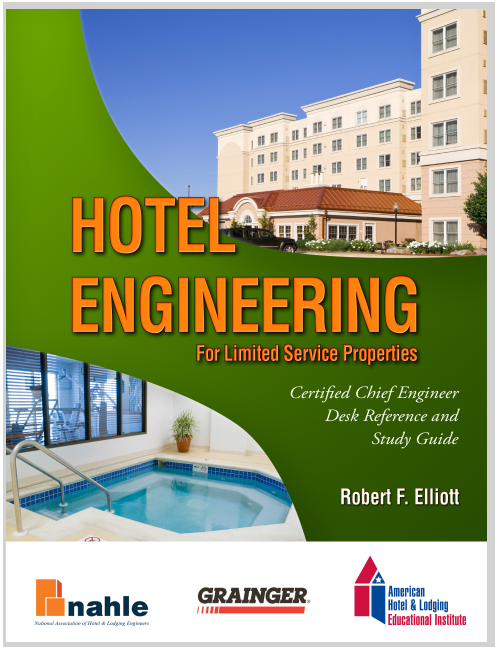
Celebrating 60 Years of Hospitality Excellence!

Full Service Properties



This 31-chapter study guide provides preparation for the Certified Director of Engineering (CDOE) professional designation offered by NAHLE for hotel engineers. The Guide includes information related to the planning and organizing of tasks, overviews of hotel engineering systems, and the financial and ethical skills required to operate effectively within a hotel organization. NAHLE's CDOE curriculum is comprehensive and covers most all hotel building engineering subjects including: HVAC, plumbing, electrical, lighting, landscaping, swimming pools, vertical transport systems and many other areas. NAHLE's certification tests are provided online so that the engineer never has to leave the property.

Limited Service Properties



The Certified Chief Engineer (CCE) was developed specifically for hotel engineers at limited service properties. The Study Guide has 19 chapters that focus on low-rise wood frame construction properties with a comprehensive review of subjects including PTAC units, moisture infiltration, building systems and maintenance, and engineering principles. NAHLE's CCE program is also available in Spanish.

Training Today's Hotel Engineer To Be Tomorrow's Asset Manager

Certified Director of Engineering The (CDOE) is designed for full-service property engineers and their department heads or second(s) in command. 31 Chapters – 437 pages

Certified Chief Engineer Our (CCE) program is designed for limited-service property engineers and maintenance professionals who are often hourly employees. 19 Chapters – 265 pages

Our Curriculum is written in plain English with simple and easy to understand words. Our program includes information related to the planning and organizing of tasks, overviews of building engineering systems, and the financial and ethical skills required to operate effectively within a hotel organization. The limited-service program includes many common CDOE chapters as well as additional chapters that among others, focuses on; low-rise wood-frame construction, through-wall penetrations, saline pools, moisture infiltration and PTAC units.

The following provides a detailed program chapter analysis:

Management	Building Systems	Building & Grounds
Both Full & Limited Service • INTRODUCTION ** • PRIORITIZE TASKS / TIME MGMT.** • PROJECT MANAGEMENT** • ENVIRONMENTAL HEALTH & SAFETY** • EMERGENCY RESPONSE PLANNING** • MAINTENANCE OF THE HOTEL** Full Service Only ---------- • REPORT & LTR. WRITING* • RECORD KEEPING* • BUDGETING* • SUSTAINABLE OPERATIONS* • CONTRACTING FOR SERVICES* • BUSINESS ETHICS* • PROPERTY ACQUISITION/ DISPOSITION* • RISK MANAGEMENT* • BUSINESS CONTINUITY*	Both Full & Limited-- • ELECTRICAL SYSTEMS** • LIGHTING SYSTEMS** • FIRE & LIFE SAFETY SYS** • PLUMBING SYSTEMS** • HVAC** • VERTICAL TRANSPORT SYSTEMS** Full Service Only---- • SECURITY SYSTEMS* • ENERGY MANAGEMENT* • BUILDING MANAGEMENT SYSTEM*	Both Full & Limited--- • BUILDING DESIGN & CONSTRUCTION** • PARKING STRUCTURES** • SWIMMING POOLS & SPAS** • INTEGRATED PEST MANAGEMENT** Full Service Only----- • BUILDING COMMISSIONING* • WASTE MANAGEMENT* Limited Service Only-- • MOLD & MILDEW* • PTAC UNITS* • THROUGH-WALL PENETRATIONS*
*FULL SERVICE = ** *LIMITED SERVICE = **	**Both programs are available for $685 each.**	**Additional tests are free.**

Here is what NAHLE Certified Engineers across the U.S. are saying about our programs:

Certified Director of Engineering (CDOE) – Full Service Hotels

1. *"I've been an engineering manager for over 14 years, 10 in limited service and the last 4 in full service at the Marriott Renaissance Plantation. For a while I've been searching for a certification designed specifically to enhance my knowledge and competency in hotel engineering. My supervisor recommended the CCE certification from NAHLE and I must tell you this course hits all areas and key points from what you need to know to keep your facility maintained and running efficiently to being compliant with most city, state and federal codes and regulations. It's an all around great self-study course for the hotel Chief Engineer and DOE, and to this day I keep my study guide on my shelf as a reference if ever needed. I am also honored to be the first person to be designated CDOE (Certified Director of Engineer) from NAHLE and a proud member."*

Certified Chief Engineer (CCE) – Select Service Hotels

2. In my opinion the course was very informative because it covered very important themes focused on the system or the equipment we work with everyday at the hotel. Everything was explained with basic examples and simple words.

3. I think that the course benefits every Chief Engineer that takes it and also the company. Because it helps them do their work more organized and it helps understand the functions of each system they work with.

4. As a Reference source the Book was informative. There were nuggets of information in each section. The high points were the HVAC chapter and the Building Design and Construction chapters.

5. The information was presented good and was easy to understand. The online tracking was easy to get to and follow along with. The program overall was very good but I would maybe have liked to see a section for finance and include more general HVAC'S knowledge (heat pump's and chiller's).

6. *I think the program it's great, it definitely was a reinforcement in some areas that I was familiar with and a great learning experience in others that didn't have much knowledge. Very straight forward, seems to me that whoever put this course together must to have been in the field.*

nahle
Dedicated to Engineering Excellence

National Association of Hotel & Lodging Engineers
PO Box 30844 Alexandria, VA | www.nahle.org | 703-922-7105

Program Attributes

Transferable: By focusing on the principles of management, building engineering systems, and the hotel building and its property grounds, we created a curriculum that is easily transferable across different hotel brands and various lodging property types.

Informed Decision Making: When lodging engineers become better informed, their decision making process improves and they in turn tend to lead others, especially their own staff, to a higher quality standard. This new level of professionalism is best reflected in your guests/resident's satisfaction, the property's appearance, staff productivity and efficiency, and improved useful life of your property/facility's building systems and equipment.

Lodging Centric: Both our Certified Director of Engineering (CDOE) and our Certified Chief Engineer (CCE) programs are written exclusively for hotels. Our new Certified Maintenance Manager is based upon the CCE program for lodging properties. From the heart-of-the-house to visiting family parking, NAHLE's certification programs are all about hotels and the unique environment of mixed-use and commercial lodging occupancies.

Self-Paced Study: Our programs are designed for engineers to study at their property or facility and learn at their own speed. An experienced engineer should complete our full service (CDOE) program in about 40 hours typically stretched out over a few months. The limited-service (CCE) for an experienced engineer should take around 20 hours. For lodging candidates with some previous knowledge and/or experience the program averages from 20 to 30 hours to complete. Apprenticeship program candidates (CCE/CMM) programs can easily double this amount of study time. All of curriculums are based upon the candidate studying while on the job.

Online Registration & Technical Support: Nahle registers candidates both online and by calling us at 703-922-7105. NAHLE also provides technical support by phone and email..

Multiple Property Roll-Out: All of our programs are designed for management companies to enroll multiple engineers in the program at the same time and have all candidates working toward their certification concurrently. We can also provide monthly reports with exam scores and completion results for groups of properties.

Online Exams: Candidates are designated as a certified lodging or facility engineer based upon their choice of program. Programs require the completion of multiple sectional exams administered online by NAHLE. The CDOE program has two such tests and the CCE/CCM have three tests. Each sectional test is comprised of numerous multiple-choice test questions drawn from the Study Guide's individual chapters. A minimum passing score of 70% is required. Applicants may re-take Sectional tests until they answer 70% of the exam questions correctly.

Certificate of Completion: Upon successful completion of the course, NAHLE issues an electronic certificate suitable for high quality color printing. The certificate designates the candidate as successfully completing core educational requirements. Studies show that employees who complete certificate programs of less than one year in their chosen field of employment earn roughly 10% more than those who do not have such a certificate[1].

[1]Georgetown University https://cew.georgetown.edu/wp-content/uploads/2014/11/Certificates.FullReport.061812.pdf)

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Dedicated to Engineering Excellence

Asset Management Begins at the Property

The National Association of Hotel & Lodging Engineers (NAHLE) proudly announces our new Certified Maintenance Manager (CMM) focusing on lodging facilities for seniors citizens such as assisted living facilities and senior housing.

- **NEW! Certified Maintenance Manager**

  Assisted Living Facilitiess

We continue to provide two self-paced online professional development and training programs for hotel engineers and maintenance professionals.

- **Certified Chief Engineer** (Available in Spanish)

  Select Service Properties

- **Certified Director of Engineering**

  Full Service Properties

NAHLE's programs are online and exclusively 'lodging' centric. By focusing on the principles of management, building engineering systems, the building and its grounds, we've created industry vetted curriculums that are easily transferable across different lodging facilities and differing hotels brands. From the heart-of-the-house to the facility's perimeter access, our certification programs are deigned to create a uniform environment of informed decision making. Nahle's new management reporting allows the Executive Director or GM to track the progress of employees and their hours of study without ever having to leave their job or your facility.

Contact us today:
703.922.7105
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www.nahle.org.

Developed in cooperation with
American Hotel & Lodging Educational Institute
Celebrating 60 Years of Hospitality Excellence!