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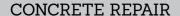


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Building Management Hawaii (BMH) invites all professional associations and foundations involved in the management of commercial, industrial, and residential properties in Hawaii to submit articles, news releases, photographs, and artwork for publication in a future issue of BMH. Please send

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Nothing conjures up images of gloom and disaster for island-dwellers than storm season. Hawaii's already had a few threats

this hurricane season, and should expect more ahead. Is your property as ready as possible in the event of a major storm? Toward that goal, the Building Owners and Managers Association (BOMA) of Hawaii has put together a panel of experts from international and governmental agencies and leading Hawaii companies for its "Day of Crisis: Disaster Preparedness 2015" this month at the Hawaii Prince Hotel.

The seminar should attract a solid contingent of property managers and owners looking for ways to protect their building's staff and occupants.

See our report on the BOMA event as well as advice from myriad agencies on safety measures you can follow before, during and after bad weather rolls in.

Renter's insurance is one of those items you are glad you have when you need it. Our report notes, however, that as many as 60 percent of renters choose not to purchase insurance to cover their belongings.

Our contributing writers for this issue discuss ways to ramp up your property's value, ranging from energy management to how to reduce your lighting and overall electricity bills. Our experts also offer advice on what to look for when upgrading the security surveillance equipment for your property and tips on planning renovation projects.

Got something you'd like to share with BMH and our readers? Let us know!

Aloha,

Dail Pt

david@tradepublishing.com





Cheryl Jepsen, Glen Suzuki, Stacey Tokairin, Jon McKenna, Kristi Hirota-Schmidt

Associa Hawaii Mixer

PHOTOS BY HAWKINS BIGGINS

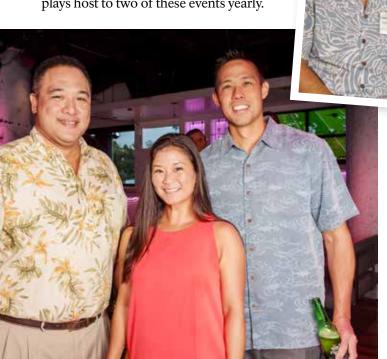
Associa Hawaii held its second Vendor Blender – Pau Hana Friday of 2015 at M Nightclub Honolulu on Aug. 28, attracting approximately 200 community and property managers and associated business representatives. Associa Hawaii plays host to two of these events yearly.



Justin Iwamoto, Samantha Romero, Van Cullumber



Ron Tsukamaki, Elaine Panlilio, Jeffrey Tong



Nelson Moku, Jaydence Goya, Nathan Lee



Lynn Uyenco, Kim Becker, Eric Fairfax





Kehau Mendes, Stacia Mendes, Kim Mattos, Mike Mattos



Jan Wong, Sheri Tsukayama, Sasha Tsuda, Joao Santos



Jonathan Billings, Pauli Wong, John Rickel



Priscilla Gonzaga, Jerry Wong, Gloria Bediamol





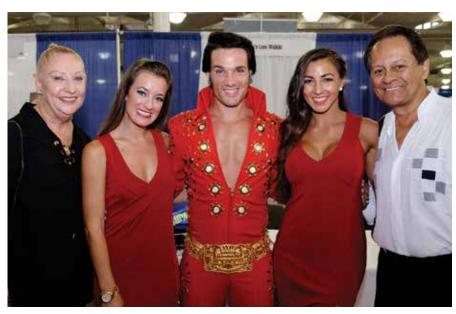
Gary McAuliffe, Amy McMaster, Michael Roney



Lance Luke, Cynthia Streb, Elei Madden, Richelle Thomason



Dirk Yoshizawa, Richard Larson, Jennifer Grant, Laddie Roy



Nancy Bernal, Holly Dennig, Leo Days, Christina Gaspar, Al Waterson

Hawaiiana Meet & Greet

PHOTOS BY BOB HAYES

Hawaiiana Management Co. held its 2015 Meet & Greet at the Blaisdell Exhibition Hall on Sept. 2 with the theme, "Right Resources, Right Results!" The event attracted more than 700 guests and more than 150 vendors.



Carol Rosenberg, Melanie Oyama, Janelle Lau



Kapono Kiakona, Cheryl Franklin, Sarah Dominguez





Matthew Zane, Leighton Zane, Nadine Zane



Lisa Vandenheuvel, Leana Berwick, Mark Berwick, Dela Lefleur



Shari Tsukuyama, Jan Wong, Ross Purgatorio, Doug Murakoshi





Terrence Ching, Wynton Pascual, Patrice Merritt, Nathan Lee



Karen Kung, Dante Rabaino, Johanna Rabaino, Dan Colton



Richelle Thomason, Briand Achong, Dana Akasaki



Steven Loretero, Susan Stahl



My-Le Flores, Eric Gruver, Reyna Machida





Sean Doyle, Stuart Lowe, Buena Harding, Arthur Kluvo

Ready to Save Big Money? Try 'Plug & Play'

Make sure the lighting in your building offers the best coverage, energy efficiency and versatility

BY COLIN "LIGHT" WHITE

Converting to "plug & play" LED lamps makes it possible to save a small fortune in energy. Converting is as easy as screwing or plugging in a light bulb. Plug & play LED bulbs have gone mainstream and in great variety.

What are plug & play LED bulbs? They are LED lamps that can be plugged into any type of fixture: track lights, linear fluorescent fixtures, CFL downlights, wall or ceiling mount fixtures and even in industrial warehouse applications such as high bay fixtures.

"But," you might say, "my linear fluorescent fixtures, CFL fixtures and warehouse fixtures are all operated by ballasts which are designed to operate another kind of bulb, not an LED lamp." That's OK because enlightened modern-day engineers products. One of the biggest mistakes a property manager or owner can make is to not get the lowest wattage DLC lamp that matches your building's current lamps in light output.

DLC has determined that at around 1,600-1,800 lumens, LED linear tubes are already brighter in actual light output than 32-watt, four-foot F32T8 fluorescent lamps, which generally provide around 2,850 lumens. This means that at around 1,600-1,700 lumens, you can find LED lamps that are brighter than your F32T8 lamps.

One of the most common four-foot lamps on the market in Hawaii is the 18-watt LED tube. It provides an excellent 100 lumens per watt, or about 1,800 lumens total. It is brighter than four-foot F32T8 lamps. By purchasing it, you save 44 percent in energy. Great, right? No!



Short white end-cap on T8 Glass LED tube.

based on a 24-hour burn cycle. Over a five-year warranty period, you can easily waste \$100 total per light in excess energy payments by getting the less efficient 20-watt tube. In a modest-sized building with just 1,000 tubes, that is \$100,000 wasted. If you have a 10,000- to 12,000-tube building, you can easily blow \$1 million or more in excess energy payments over time by choosing the wrong wattage LED tube.

A moderately sized building could waste \$100,000; a large one can waste \$1 million or more.

have provided viable ways to make LED lamps work on ballasts that were made for fluorescent linear, CFL, HPS and metal halide lamps.

Moreover, these plug & play LED lamps will last much longer when operated on ballasts made for other lamps than the lamps they replace. Most have warranties up to five years.

Biggest Blunders

Four-foot lamps are used in almost every commercial building. Design Lights Consortium (DLC) is an organization that validates the quality of leading edge, high-efficiency lighting Why is an 18-watt tube a poor buy? Leading edge four-foot LED tubes are reaching 150-160 lumens per watt (LPW). A few manufacturers make lamps that provide 180-200 LPW. You can purchase 10-12 watt, four-foot LED tubes that provide the same light output as 18-20 watt LED tubes. A 20-watt four-foot LED tube at 100LPW (2,000 lumens) is no brighter than a 10-watt LED tube at 200LPW (2,000 lumens).

There is a big difference, however, in the energy savings between the 10W and 20W tubes in this example—about \$20 per tube more in energy savings with a 10-watt tube

LED Tubes Look Better

One of the big benefits of converting to LED tubes is retrofitted areas appear much brighter, with more uniform lighting. Other common mistakes: A big mistake is not purchasing UL- and DLC-approved tubes that are the marks of safety and quality, and also can qualify for rebates. Remember, the lower the wattage of your DLC LED linear tube, the higher dollar amount you get in terms of rebates.

Other LED Lamps

There also are plug & play LED lamps to replace CFL lamps. Do your homework before buying. Most CFL lamps are omnidirectional, or they cast light in all directions when placed in a fixture. There are many LED plug & play lamps, but not all are omnidirec-



tional. Most plug & play LED lamps are unidirectional, about 120-160 degrees. While this will work in many applications, unidirectional lamps will not work well in fixtures designed for omnidirectional CFL lamps.

Lamp A type below shows two examples of 120 degree lamps, while Lamp B type below shows LED lamps that are omnidirectional, designed just like the CFL lamps they replace.



Energy Efficiency

Another thing to watch for is lamp wattage and versatility. You want the lowest wattage LED bulb that provides the same level of light as your CFL. For



example, if one LED lamp replaces a 26-watt CFL, and burns 15 watts, but another lamp, identical in every way (hours, warranty, etc.) uses just 10 watts, clearly the 10W lamp is the one you want, as it is 33 percent more energy efficient than the 15W lamp.

Versatility

Throughout the history of lighting, most fixtures have been designed to light with replaceable lamps. More LED fixtures are now designed to operate on 120 or 277 volts, and can accommodate light bulbs that operate from 100 to 277 volts. In all lamp types, there are a growing number of manufacturers that make LED bulbs that not only can work on existing ballasts (plug & play LEDs), but also if the ballast goes bad, can operate on line voltage without the ballast. This



allows you to eliminate the ballast, and save the energy and replacement cost of a ballast forever. Moreover, many new LED fixtures have no ballast. They use LED lamps that work on line voltage from 100 to 277VAC.

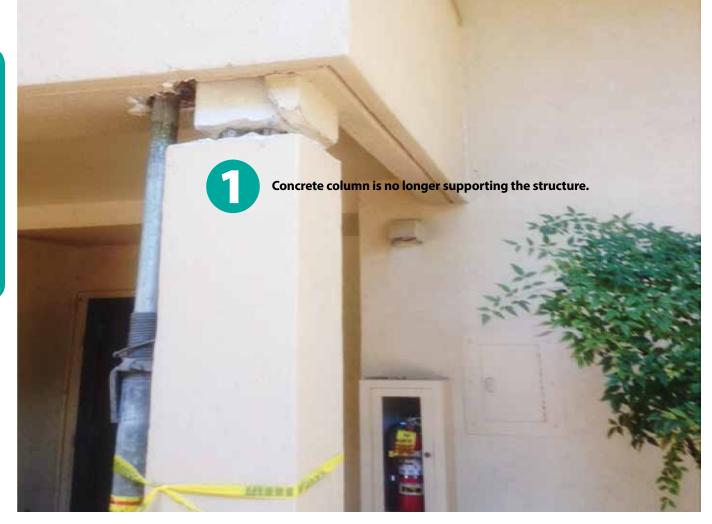
Plug & play LED bulbs are here to stay. Make sure you check carefully to get the best coverage, energy efficiency, lifespan, versatility, rebate and warranty.

Colin White is sales manager for 21st Century Lighting, a nationally published author and a professional Green Lights certified energylighting consultant, with over 35 years



Colin White

of lighting experience. He and his firm specialize in providing the most costeffective product for your application.



Jacking Up Sagging Buildings

Firming up your building's foundation might be the first step in renovating or remodeling projects

BY FRANK SAPIGAO JR.

Buildings sag for various reasons but the most common cause is differential settlement of the footings. Creep, or the slow movement of parts or of the whole structure downhill, also is common.

A couple of examples help to illustrate the need to address these problems immediately. At Nuuanu Streamside, the settling footings were underpinned with micropiles. For a Mariner's Village townhouse, the isolated footings were too small for the bearing capacity of the soil and were removed and replaced, in addi-



tion to being connected together with new grade beams so that they can act together as a unit.

Sometimes, building a retaining wall to arrest the creep is needed. Surface runoff, drain lines and even sprinklers may need to be re-routed so that they do not discharge or seep

into the footings, disturbing the bearing capacities of the soil underneath the footings.

Once the cause or causes of the sagging are addressed, it is time to jack up the building.

The key to jacking up sagging buildings is to determine if there was a



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"redistribution of stresses." Structural theory and practice assume that the building loads are carried by certain structural elements such as beams and posts. When buildings sag, certain structural elements which were assigned to carry certain loads are no longer carrying their assigned loads, and these loads are then redistributed to other members. And, as in the case of a Mariner's Village townhouse, certain columns were literally swinging in the wind and no longer taking up any of the loads that they were

structurally designed to carry.

When this happens, either other primary load supporting elements take up the additional loads or secondary elements that were not even assumed in the structural calculations to carry any of these loads begin to carry the unassigned loads. This is called a "redistribution of the stresses." Demolition clips on the TV show, "America's Funniest Videos," that show columns already removed while the building remains standing are examples of stress redistribution.



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The key in jacking up sagging buildings is to find where these loads were redistributed. Doorways, windows and any breaks in the shear walls are particularly vulnerable. And the jacking up operation must be done in a sequence and in a manner that will not aggravate these stresses.

Simple diagonal braces around these openings will ensure that windows do not break or that doors will open properly after the jacking-up operation. It is also important to do the jacking up slowly so that the introduced stresses caused by the jacking up operation are also redistributed properly.

With this in mind, it is important to plan the proper location of the temporary supports that will be needed to jack up the building. Often, planning and using redundant supports is desirable so that no part of the structure is unduly stressed during the process.

The clues to these locations are found in the cracks that form around the structure, whether in the slab or drywall, doorways that are suddenly tight, windows that have cracked or







broken, fasteners that have snapped and walls that have become off plumb.

It is important that the jacking up operation be done to relieve these stresses and not aggravate them in the process. When done properly, these cracks can even magically disappear. Again, the key is to do it slowly and to monitor these cracks constantly if they are expanding or closing during the jacking-up operation.

When jacking up, loads will have to be transferred to supports other than the footings temporarily. It is important that these interim supports, such as slabs on grade, are able to take on the temporary loads; otherwise, slabs on grade can crack unnecessarily from the process.

In the Nuuanu Streamside Project, one corner was jacked up nine inches. And jacking up a three-story building by that amount without breaking a single window or cracking a slab is possible if done properly.

When jacking up a building, particularly if the deflection is of that magnitude, it also is important to



- 2. Column is extended and reconstructed to provide required development lengths.
- **3.** Building is released from all anchor bolts and utilities are inspected and also released prior to the jacking up operations.
- 4. Redundant supports are installed to minimize deflections and distribute temporary loads to a greater area.
- 5. Micropiles are installed to supplement the footings. The battered micropile (diagonal) is used to control creep or horizontal movement.
- **6.** Grade beams control horizontal movement and ensure that footings act together as a unit.
- 7. Footings are redesigned to transfer loads.

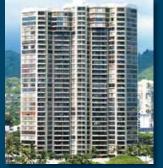
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Punahou Vista (before)

Punahou Vista (after)



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expose the utilities. Plumbing lines as well as electrical lines may need to be cut and extended. The building also needs to be "released" from the footings when it is jacked up. This means that all the anchors in the bottom plate must be released and all the bolts in the tie-down elements of the building's continuous load path be unrestricted during the operation.

After the operation, it is important that these anchor elements be put back as they were initially designed, and this can be accomplished with

coupling nuts or bolt extensions.

As in any construction operation, safety is key and in jacking up buildings, particularly when the building is released from its anchor points, it is of paramount importance.

Frank Sapigao Jr. is the president of Sapigao Construction Inc. and Sapigao Construction Guam Inc. He has an ABC general contractor's license with 13 sub-specialties. He is also a licensed and a practicing civil engineer and a former instructor of engineering sciences.



Negotiated Contracts Deliver Best Value

Properties reap added benefits by establishing the right contract selection method

BY REX CORNAIR

When performing general contracting services in the tenant improvement market, there are many formats for providing pricing to clients. Common methods range from the competitive bid process, cost plus, cost not to exceed and the negotiated contract.

The competitive bid process (CBP) has been the gold standard by which most projects are awarded, but it is not without its pitfalls. But done properly and with a qualified OAC (owner, architect, contractor) team, the benefits of a negotiated contract can outweigh the uncertainty of sole-sourcing your property's construction needs.

In the competitive bid scenario, the

goal is to obtain several prices for a given scope of work with the idea being that all bidders are looking at the same set of plans and specs and are provided an opportunity to ask questions during the RFI period. The assumption is that all bidders will look at the project in the same manner, interpret information the same and approach the work (and therefore the cost) in a similar manner.

That doesn't always happen. We have seen, especially during lean times, architects and engineers being squeezed to cut their fee which can lead to drawings that might be incomplete and lacking information. This becomes ground zero for the dreaded change order. The property owner or manager could be left with a low bid that is probably exciting—until that first change order hits.

From a GC's point of view, the CBP is a time and resource commitment that oftentimes goes unrewarded. For that reason, the law of averages dic-



tates that you can only spend so much time on one estimate. This is also true for subcontactors.

What you as an owner or owner's agent hope is that the vendors have spent the time necessary to produce an accurate estimate. Unfortunately, that isn't always the case. However, if your project isn't appealing, or the timeframe is too short or happens to catch each bidder at a peak in their backlog where they don't necessarily need the work, you could be paying a premium to the low bidder while believing you are getting the best price.

The CBP has its place in the building industry but is not a perfect fit 100 percent of the time.

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The Negotiated **Contract**

The negotiated contract has many benefits over time that most other approaches can't offer.

The OAC triangle is a group brought together, usually by the owner or owner's rep, for the sole purpose of assisting leasing and management to successfully navigate the construction process. The design and construction of a given project are at the heart of the OAC team. It is not uncommon for the GC to provide several different pricing scenarios (from various fit plans provided by

the group architect) to assist leasing in vetting out and hopefully signing the building's next tenant. This is not an effort available from a CBP.

Cost control also is a major factor. With a negotiated contract, projects are not charged when something was missed.

This adds a little assurance that the owner isn't expected to provide an open checkbook. And there is a hidden upside to this approach: consistency on the property.

Avoiding the Learning Curve

Most properties have a stable of contractors they work with, which eliminates much of the front-end work needed to acclimate new vendors to building policies. However, there are pitfalls when using new vendors on your properties.

How many times have you had a contractor who leave footprints in the halls, upset tenants by making noise or using toxic materials and dressing or acting inappropriately. With a strong OAC team, a higher level of consistency can be maintained, which should translate to less deferred maintenance, happier tenants and an all-around better property.

And when considering the cost, the property owner or manager may ask, "How do we know we are getting the best price?" To ease these concerns, ask the GC to get two or three bids for each major trade. Spend some time developing a cost data base to establish the cost for building standard items for each cost code. Expect that once accepted, these values will become the basis for every estimate going forward.

Be willing to adjust for inflation, but following these steps should keep things "honest."

The consideration of sole sourcing your construction needs should be rewarded in a few different areas. For example, if the GC knows they are going to be awarded the next job at a property, they likely will take extra care to price each project as thoughtfully as possible. Another benefit is in the area of small projects, whether fixing a door or a leaky faucet. As consideration for sole-source work,

the best contractors make sure that these pesky projects are given the same attention as the bigger projects.

Another service item that comes with the territory involves response and turn-around time. If a contractor is approached with two similar projects, both with the same urgency and deadline and can take on only one of the jobs, guess which one they take?

There is effort required to set up and execute a good OAC team and perform negotiated projects. There are a number of local GCs who not only specialize in tenant improvement work but are intimately familiar with the inner workings of many of the properties around Honolulu.

The goal should always be performance over time rather than the hitand-miss, lower-cost-at-any-expense approach.

Rex Cornair is president and owner of Cornair Remodeling Inc., which is based in Kaneohe. He can be reached at rex@cornairinc.com and 808-548-2470.

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Security surveillance systems allow property managers to safely control access to the building

BY RICK OSBORNE JR.

In today's fast-paced world of building security, property owners and managers are always looking to technology to streamline costs. There are many ways to do that with security technology, and keyless entry or access control is one way.

How many times have you had a tenant say they lost a key or you had to evict a tenant? Now the fun begins as you must go retrieve the key or rekey all the locks—or just hope the key is actually lost. Many tenants will say they lost the key, when they actually gave it to friends or family.

Standard access control systems—keyless entry systems, as commonly called within the property management industry—are a good start to managing access on your properties. These systems consist of a PC or computer for data entry, a control panel, the actual brain of the system, and door peripherals, i.e. card or keyfob (security token) readers, locks and exit devices. A key or card gets lost or stolen and all you have to do is delete it from the system to make it no longer valid or usable.

This type of system also keeps a record and can control who goes where, when and how. You can even control the hours of operation for the fitness center or gym and the rec deck.

In the Cloud

With the development of "cloud" technology, there is a solution: Managed or remote managed access. This kind of technology works well for smaller buildings that might not have an office or an onsite manager but still need security. It also is gaining popularity among property managers

nology available can be web-based and allows the user to access the building's secure information from anywhere for easier management, whether adding and deleting users, unlocking doors or checking on issue that may arise.

Web-based also means your system's integrator or service provider can access the information and system to provide even quicker service. A panel is installed and connected to doors and gates like any keyless entry system. The difference is that it also is connected to the Internet either through a



Choosing The Right DVR

When it comes to providing the best security for your property are you proactive or reactive? Proactive means you have a guard or staff watching the cameras. Reactive means you go look at recorded video after something has been reported.

When starting to spec a project, one of the first questions from property managers is, "What type of recorder should I use?" Integrators offer a wide range of recorders, different features and benefits. So which is right for your application?

It starts with an embedded analog recorder. Choose a rock-solid embedded DVR with all the power and functionality needed to record, search and play back video as well as allow remote operation and management. Available in 120PPS, 240PPS and 480PPS models, embedded DVRs offer all the standard features and functions of a PC-based DVR with an easy-to-use interface.

This often is the DVR of choice for applications where userinteraction with the video system will be infrequent.

When a more robust set is required, including more frequent user interaction, a more suitable choice may be an upgrade to PC-based DVRs (digital video recorders) or HVRs (hybrid video recorders). HVRs justify their extra cost by offering more recording functions and time-saving search operations. In cases where user interaction is frequent, an

Selecting a Security Company

Some steps provided by Frank Commandor, president of Jan Guard Hawaii, to help select a security service:

1. Become familiar with the state of Hawaii websites:

hawaii.gov/dcca/pvl/boards/private: lists state-certified instructors, pending/completed certification of licensed guards.

cca.hawaii.gov/: Department of Commerce and Consumer Affairs provides information on any business doing business in the state.

cca.hawaii.gov/rico/business_online/: reveals if company is in "good standing" with the state, and provides details of a company's license and complaint history.

- 2. Schedule two site visits by the security company: one during the day, the other at night. Ask for a written evaluation and recommendations.
- 3. An association representative should meet with the company's operations specialist, who should provide a detailed evaluation and security plan. Ask that the company's proposal of services be timelined.
- 4. Request current copies of insurance(s), general liability, worker's compensation, TDI, automobile coverage, and review limits on the policy. Set higher limits if your property has undergone litigation or has a large level of exposure.
- 5. Before you sign the contract, ensure that an attached addendum details all negotiated benefits and contains pertinent and comprehensive insurance certificates.

modem or customer-provided Internet connection. Now everything is truly connected and the resident

manager has the ability to manage from afar.

Imagine, a property manager gets a call in the middle of the night or while off-island, and the caller needs a key

turned off or there has been an incident at the gym. The RM logs in and looks up the history from any Internet capable computer and sees that John Doe from unit 2212 went in the gym at 11 p.m. and again at 11:30. It provides all the information the RM needs without having to leave their home.

Another advantage to remote-managed access is resources. For those who manage multiple properties without onsite personnel, the service provider can manage the system, from

adding and deleting us-

ers, checking service issues to delivering or mailing the new cards or keys, all for a monthly

service fee.
Managed access is

a great way to secure the property and

reduce maintenance costs.



Questions About Hybrid Solar AC Units

Affordable cooling solution for your building relies on a renewable power source

BY GUY AKASAKI AND BRIAND ACHONG

ummer 2015 has held some record high temperatures for our island paradise in the middle of the sea. More often than not, we've been experiencing a void of breezy trade winds. What options do community associations have to turn to at an affordable price when the temperatures are rising? And what are the general approaches?

Air conditioning is the typical solution to hot, humid weather, and understandably so. From a "rooftop" perspective, we've seen the rise in various cooling solutions come through the market that have a footprint on the roof platform. The mainstream solutions adopted include solar reflective shingles, solar vents, skylights, solar tubes and an array of coatings and membranes that reduce the amount of heat transferred into the building. Low Energy Zero



Minimal footprint of 3 PV modules feed directly into the Hybrid A/C. No utility feedback. No wait times.

Emissions ACs with the hybrid feature to supplement with solar PV power such as the LEZETi has been a common inquiry from HOA's continuing to seek options to help homeowners and common areas cool for less.

Let's break down the "mystery" of a solar PV AC unit, which is similar to a comparable SEER21 ductless mini-

split system AC, except that the LEZETi is pre-positioned to harvest 100 percent of the sunlight captured by PV directly into the AC with the solar input feature engaged.

Keeping on eye on where we are heading as a state in terms of energy goals and initiatives while vetting new innovative solutions coming online is a smart, balanced approach to selecting best practices for your buildings.

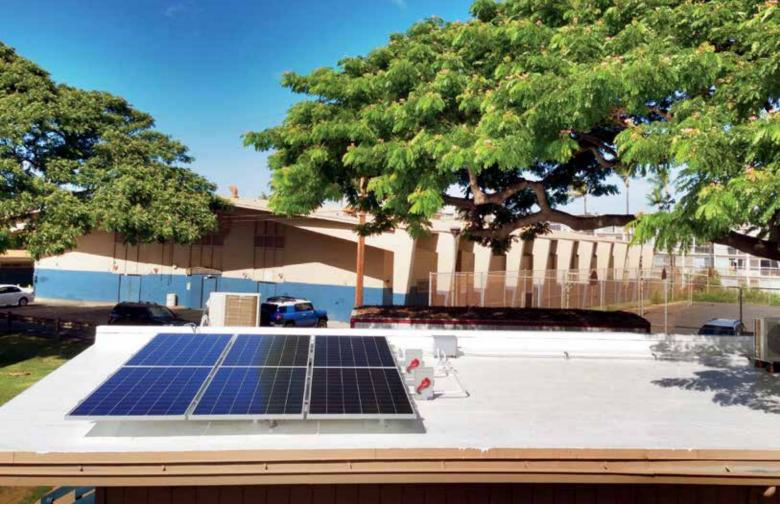
1. Trends: In what direction are proposed solutions moving?

Back to the basics of energy conservation. Energy audit firms have been operating in this sphere of energy conservation for years. Use only what you need and be mindful of how we are consuming electricity. Reduce the overall load with energy-saving technologies and practices and then address how to supplement power from renewable sources. With the grid saturation, rising cost of electricity and plateauing energy usage for PV-powered homes and buildings, we come back to being responsible with consumption and helping to maintain a minimal draw at the peak demand hours.

A load-shifting "mentality." Our local utility is responsible for "keeping the electric grid stable to prevent unplanned outages when electricity demand may exceed generation capacity." (HECO website, Business Solutions) With all the PV that is coming online managing our distributed energy infrastructure is a challenge and monitoring fluctuations and demand is constant. Hybrid innovations such as low-energy zero-emissions air conditioners don't touch the grid, but reduce the draw from the grid by supplementing with directly absorbed renewable solar energy to the unit during peak sun operating hours. The result is more savings to the consumer and less electricity drawn from the utility at peak demand hours when the sun can power the appliance.

Batteries and storage. Capturing the renewable energy produced from PV systems during the day and shifting that energy to storage units to be accessed in non-sunlight hours is a direction many entities are looking into. The biggest challenge today for batteries: the cost and the real estate to host it. It's not unusual to see typical solar PV ACs installed at costs of about \$7,500, depending on location, and upwards of \$20,000 with battery storage.

Takeaway: The hybrid solar AC takes the best of "known" technologies like PV and AC and syncs them to-



Two hybrid solar ACs were installed as a pilot project out at Waianae High School to reduce the heat in one of the hottest portables on campus.

gether to function as a self-sustaining unit (similar to solar hot water) that educes the overall load on the grid during peak sun hours by shifting the power input from grid to renewables at peak demand periods like 10 a.m.-2 p.m., thus achieving a lightened load on the utility during peak demand hours. More energy is saved by shifting the load at peak demand periods, capitalizing on peak sun hours to power an appliance that affords us cool air at lower costs.

2. Perspective: What are the long-term goals and incentives set by the big dogs, and can we play within the bounds?

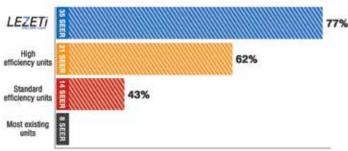
As with any strategic approach to winning a game there must be an intentional position taken on the understanding of how the state as a whole is moving. A slow-moving giant, but a giant nonetheless. For Hawaii, two policies are rising to the fore:

- 1. Integrating more renewable energy sources to power a clean energy Hawaii, thus reducing our reliance on imported fossil fuels. The state's goal is to move from 21 percent to 100 percent renewable energy by 2045.
- 2. Conserving energy through energy-efficient practices.

Two activities in Hawaii top our electricity bills: heating water and cooling interior spaces. The first is typically ad-

LEZETI VS STANDARD

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Energy Savings (\$)

dressed by long-standing proven solar hot water heating systems that are energy-efficient, require minimal maintenance, EnergyStar rated and result in a small rooftop footprint for the solar hot water panels. The second is addressed with the installation of fans or air conditioners, the latter being more prevalent.

There are new innovations in the realm of cooling. Solar PV air conditioning is one of those hybrid appliances that replaces standard fossil fuel power with renewable energy (direct to the unit) with a highly efficient EnergyStar® rated SEER21 split system. What sets this unit apart is that it is designed to receive solar power directly into the unit to supplement power that is typically drawn from the grid. With hybrid input sources powering the AC, the unit

will draw less from utility power and more from renewable solar energy, thus reducing the overall electricity costs to keep cool.

Takeaway: In light of Hawaii's energy goals, integrating an energy-efficient solar PV AC would help lighten the load of cooling across many homes and small businesses during peak demand periods around 11 a.m.-1 p.m. and 5-9 p.m. This unit can work for most HOAs to help lower the cost of cooling in common areas, and more universally in single-family residences, townhome and duplex and low-rise units if PV is going to be roofmounted. With no utility approvals required, units can be installed immediately.

3. What Are People Saying?

In an effort to get the community association's feedback on newer energy-efficient technology such as solar powered air conditioning, an informal survey was conducted during Hawaiiana's annual Meet & Greet. Some of the findings:

• What type of AC is currently installed in your home? Window units (55 percent), no AC (23 percent), central AC (14 percent), ductless split systems (9 percent)

- 1-3 people (61 percent), 4-5 people (26 percent), 6+ people (13 percent)
- How many hours a day do you run your AC? 7-10 hours (33 percent), 4-6 hours (33 percent), 1-3 hours (24 percent), 12+ hours (10 percent)
- What time of day do you run your AC? After work 6-9 p.m. (41 percent), overnight (32 percent), tie: 10 a.m.-2 p.m., 2-6 p.m. and all day (9 percent)
- What problems currently exist with your AC?

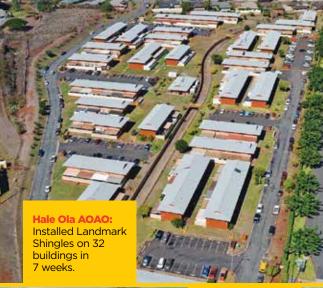
 1. high utility bills, 2. too noisy, 3. uneven air flow
- What factors mattered most in your AC purchase? 1. Cost of the system, 2. EER/SEER, 3. BTU/system size

We were able to conclude that most people are using window units that draw up to double the energy as a stan-



Outside PV and condenser units with indoor wall mounted-evaporators. Inside, the house has a standard ductless split system AC.







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dard ductless split system. This could be why the biggest problem reported about existing ACs was the high utility bills. Window units, while often cheaper upfront, are not the most energy-efficient and are noisy.

Also, with a majority of people running their ACs for seven to 10 hours and often during peak demand "after work" hours and averaging three people in the home, what better opportunity to keep the home cool on timers during peak sun hours? This maintains a cool space powered by free and abundant sunshine, to allow for a lower energy draw by sipping on the electricity in the evening times.

Takeaway: Associations are always looking to lower their CAM and stay within their budget. Keeping cool can be among the highest expenses for the average homeowner. The first step is always energy efficiency; get the interior space of the building as close to neutral to lower the amount of energy needed to cool the space. High-performance coatings, membranes and solar reflective roofing materials with high reflectance and low emissivity are the first lines of defense against the elements on the exterior of the building. The second step is to integrate energy-

About Solar PV Air Conditioning

The defining characteristic of a Low Energy Zero Emissions solar PV air conditioner is that it is "solar ready" but not purely reliant on the sun as a hybrid unit. During lowlight, cloudy or evening hours, the unit can draw from grid power to run the AC.

A few things that it is:

- A ductless split system SEER21 EnergyStar® unit without the PV
- Comparable in cost to name brand 12,000BTU systems
- Defined as a standard appliance by Intertek labs with no ability to export power
- A heat pump that allows for both cooling and heating very efficiently
- Incredibly silent as a DC-driven unit

And what it isn't:

- Does not feed back to the grid; it is a standard appliance, tested and certified by Intertek®
- Does not require a utility approval
- Does not cost more than a comparable ductless split-system installed (without PV)
- Does not have an inverter as a DC-based unit
- Does not need more than 3 PV modules to power the hybrid input feature
- Does not draw more than 20 amps even in full sun power



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efficient practices such as lighting and cooling that achieve maximum results with minimal resources.

The integration of energy-efficient technologies and high-performance materials that address high-ticket operating expenses of heating water and cooling down space can reduce energy costs for associations and buildings. We arrived at this possibility with Low Energy Zero Emissions Solar PV ACs for single- and multi-family units. It is not the end-all solution to keeping cool, but does fall in line with a methodical approach to achieving cost savings from reduced energy consumption that can be invested back into other improvements for the building.

We have a great opportunity here in the Islands to capitalize on unique innovative solutions that allow us to harness local natural resources while still upholding long-term sustainability initiatives that reduce our carbon footprint.

Guy Akasaki, president & CEO of Commercial Roofing & Waterproofing, Hawaii Inc. and Briand Achong, president of Greenpath Technologies Inc., have



collaborated on several projects initiated by the roofing and renewable energy sectors looking for solutions in energy



Guy Akasaki

savings and the integration of new technological innovations that provide long-term sustainable approaches.

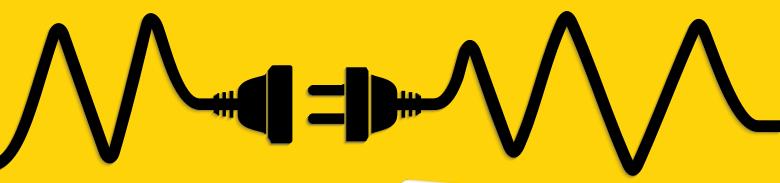




What to Know About an Incident Energy Analysis

Options include an arc flash hazard assessment and the NFPA 70E Table Method

BY MICHAEL M. DILLARD



ome facilities on Oahu have been contacted by Mainland firms claiming to be able to provide them with an "arc flash study" at a third of the usual cost and completed within a fraction of the usual time it takes to perform such a complex engineering study.

These companies informed the facility management that they would be able to provide arc flash hazard warning labels prior to the performance of an incident energy analysis. Basically, as soon as the contractors arrived on site, they would affix these arc flash warning labels on the equipment in the facility.

This practice of short-cutting the precise and accurate engineering process of an arc flash hazard assessment that was taking place in Hawaii should be a major concern to property owners and managers.

By now, most risk control managers, insurance companies, AOAOs and facilities in Hawaii are well aware

of OSHA's requirement for host employers to "assess the workplace to identify employees exposed to hazards from flames or from electric arcs." This requirement holds host employers responsible

for making "a reasonable estimate of the incident heat energy to which an employee would be exposed" to if they were involved in an arc flash incident on-site. The 2015 edition of the NFPA 70E echoes the same requirement.

One of the challenges that host employers face is that these studies are costly and can take three to



five months to complete. Another challenge for management is that they have a limited number of options for estimating incident heat energy, which, by the way, has nothing to do with infrared (IR) thermography.

There are two methods which

can be used: IEEE 1584 Guide for Performing Arc Flash Calculations (better known as an "arc flash hazard assessment") or NFPA 70E Table 130.7(C) (15) (A) (a) (better known as the "NFPA 70E Table Method"). There are pros and cons to both methods and it is up to the facility manager to perform due diligence in



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UNITS:

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15

BUILT: 1976

DURATION: 2 Months

PROBLEM:

Severely corroded drain, waste and vent piping.

SOLUTION:

Sagewater replaced deteriorated DWV piping on time and under budget. This required removal and re-installation of bathroom vanities, light fixtures, mirrors and toilets. Sagewater exceeded expectations of the construction manager, resident manager and residents.



"SageWater's superb performance at Parkland Gardens was top notch and most commendable."

 EDWARD CHOJNOWSKI, Resident Manager deciding which method will accurately assess the hazard at their facility and, ultimately, decrease or increase the facility's liability in the case of an arc flash-related injury or death.

NFPA 70E **Table Method**

PROS

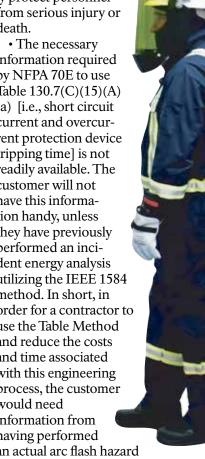
- Low cost
 - Quick to perform

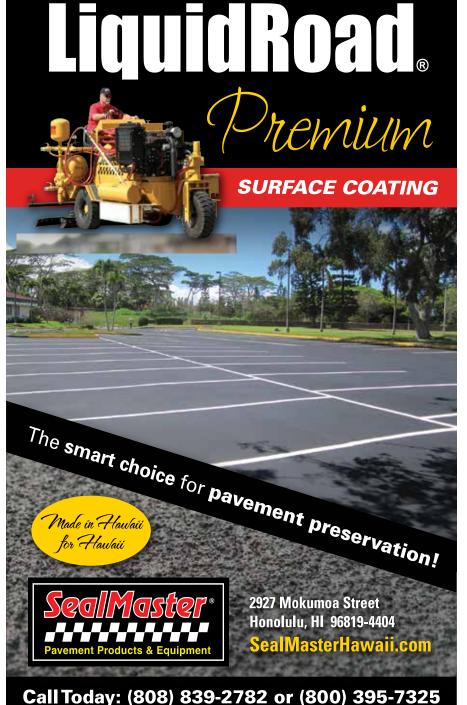
CONS

- This method can be used by contractors when the hazard is not readily known by the customer and some sort of personal protective equipment (PPE) must be ascertained prior to beginning work. It was never intended to replace the performance of an actual incident energy analysis.
- The reliability of PPE recommended by this method is questionable due to the manual calculations

and may not adequately protect personnel from serious injury or death.

 The necessary information required by NFPA 70E to use Table 130.7(C)(15)(A) (a) [i.e., short circuit current and overcurrent protection device tripping time] is not readily available. The customer will not have this information handy, unless they have previously performed an incident energy analysis utilizing the IEEE 1584 method. In short, in order for a contractor to use the Table Method and reduce the costs and time associated with this engineering process, the customer would need information from having performed an actual arc flash hazard analysis.





IEEE 1584 Method

PROS

- · An arc flash hazard assessment requires the use of up-to-date singleline diagrams. The creation of an updated single-line diagram is a side benefit of the study.
- · An arc flash hazard assessment requires a short circuit analysis be performed. This is also a great side benefit to help ensure that your personnel and equipment are protected by establishing proper interrupting ratings.
- An arc flash hazard assessment requires the collection of overcurrent protection device data.
- · An arc flash hazard assessment requires a coordination study be performed. This study maximizes your power system selectivity by isolating faults to the nearest protective device.
- · An arc flash hazard assessment provides easy tools for the evaluation of arc flash hazard mitigation.
- · An arc flash hazard assessment provides mitigation recommenda-

Make the Right Choice

There can be adverse consequences of using the NFPA 70E Table Method as opposed to performing the incident energy calculations with the IEEE 1584 method. This example shows one location at a facility:

• Equipment: 2500 kVA Transformer

• Impedance: 5.79 %

Voltage: 480 volts SecondaryTransformer type: Delta/Wye

 Protective device type: 3000 Amp Gould Shawmut class L Fuse, Model No. A4BQ

Short circuit current: 52.345 kA
Arc Fault Current: 24.999 kA

Results

• By Table 130.7(C) (15) (A) (b)] [Other 600-V class equipment]: Maximum of 65 kA Short Circuit Current - Category 2

• By IEEE 1584: Incident Energy = 78.9 cal/cm2 - Category 4, Dangerous

tions in order to lower identified hazards from the assessment, such as adjustment settings of overcurrent protective devices.

An arc flash hazard assessment provides detailed documentation of the

facility's electrical distribution system.

CONS

- Cost
- Time

Again, there are two methods available for determining incident heat energy. Performing due diligence and knowing the pros and cons of both methods will empower the property or facility manager to make well-informed decisions when deciding on which method to implement at their facility.

Michael Dillard, (CTR, MAM), is a TEGG Diamond award-winning consultant and the Regional Director for Commercial Accounts with American Electric.



Michael Dillard

A retired Navy Chief Petty Officer with 22 years of engineering experience, he also authors iOn Reliabilit, a blog on electrical safety.



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endance & Technology endance concrete

Extend the life of your property with timely repairs to cracks caused by corrosion

BY PRISCILLA PÉREZ BILLIG

oastal environments and concrete make for a rocky relationship. Since concrete construction was introduced to Hawaii in the early 1900s, structural engineers have sought high-performance concrete products that will stand the test of time and function. They look for the latest science and technology available for repairing concrete and extending the time interval between repair cycles.

"The coastal environment we live in contains high levels of chlorides/salt," says Joe Miller, president of Seal Masters of Hawaii. "When the chlorides penetrate the concrete and come in contact with the reinforcing steel, the reinforcing steel expands causing the concrete to crack."

Miller recommends that all elevated concrete structures, most notably buildings and parking structures,



loe Miller

be waterproofed with elastomeric coatings. "These non-permeable coatings protect concrete from water that carries harmful chlorides," he says. "Reinforcing steel will not cor-

rode if it is kept dry and protected from water."

Cracks in newly poured concrete are generally caused by shrinkage of the outermost, or 1/16-inch, of the surface of the concrete, Miller adds. He says these surface cracks can be reduced and eliminated by pouring the concrete in the evening hours so that the concrete has several hours of curing time before the sun heats up the concrete surface. Admixtures, reducing the amount of water in the concrete mix, will also help prevent cracking of the concrete.

Paul Santo, bridge design engineer for the Hawaii Department of Transportation, says advances in the technology of concrete admixtures have greatly improved the performance and behavior of concrete. Their properties include water redution, shrinkage reduction, corrosion inhibition, polymer-based air entrainment, hydration stabilization, viscosity modification and structural fibers.

Duane Lee, structural engineer and principal at Wiss, Janney,

Elstner Associates Inc., says the general public is usually misinformed on the development of the deterioration or spalling.

"The misconception is that when concrete



Duane Lee

containing embedded steel reinforcement is exposed to moisture or water, spalling will develop," Lee says. "To the contrary, the fact is that the alkalinity (pH) of the concrete provides



Spalled concrete is expanded corroded steel which causes the concrete to fall away from the structure.

a passivating film over the embedded steel reinforcement that initially protects the reinforcement against corrosion even with the presence of moisture or water and oxygen."

Lee says the passivating protection can be negated if any one of the two following conditions occurs:

- The chlorides at the level of the embedded reinforcement exceed the threshold levels for corrosion.
- The concrete carbonates at the level of the reinforcement. Carbonation is defined as the carbon dioxide in the air that penetrates the concrete to react with the calcium hydroxide to form calcium carbonate and water. As a result of this reaction, the alkalinity of the concrete is reduced to negate the initial protection provided by the passivating film from the concrete.

As the reinforcement corrodes, the corrosion product expands many times the initial volume of the steel, initially cracking and eventually spalling the concrete cover.

"All exposed concrete structures in Hawaii are surrounded by an ocean



Experts Recommend:

Seal Masters of Hawaii

SikaTop 122 Plus: A two-component, polymer-modified, Portland cement-based, fast-setting, trowel-grade, high-performance repair mortar for horizontal and vertical surfaces with the additional benefit of Sika FerroGard 901, a penetrating corrosion inhibitor.

Sika Armatec 110 EpoCem: A three-component, solvent-free, moisture-tolerant, epoxy-modified, cementitious product specifically formulated as a bonding agent and anti-corrosion coating.

Sika Galvashield XP: Embedded galvanic anodes used in concrete rehabilitation to prevent the formation of new corrosion sites adjacent to completed patch repairs.

Bonded Materials Co.

Cortec Corporation's MCI 2020: Water-based, non-flammable, organic, surface-applied, migrating corrosion inhibitor.

Penetrates cementitious materials in both liquid and gas phases through the pore structure, forming a protective molecular layer on embedded reinforcement.

Offers protection against carbonation, chlorides and other contaminants, extending the life of concrete structures. Migrates independent of orientation up to 3 inches in 30 days.

environment and saltwater-containing chlorides. These chlorides can be airborne and deposited on, and penetrate, the concrete surface by the cyclic wetting and drying of the concrete. Thus, concrete structures are vulnerable to spalling-type deterioration," Lee says.

To prevent the spalling or extend the time for development, Lee suggests the following:

- Provide concrete cover of a minimum of 1 1/2 inches over the embedded reinforcement. A majority of conditions requiring repairs contain concrete cover less than 1 1/2 inches and develop premature deterioration.
- Use quality concrete that reduces the permeability and the penetration to chlorides and carbon dioxide.
- Prevent the contamination of the concrete by the introduction of chlorides during the manufacturing or while in service.
- Other supplemental surface treatment to the concrete and embedded steel reinforcement to prevent the

Newly installed corrosion-inhibiting coating on rebar. The surface on a large deck is now clean and ready to receive new polymer modified corrosion inhibiting concrete.

penetration and the effects of the chlorides.

Lee adds that with the above, laboratory measurements of the chloride content and profile and the carbonation depth can be undertaken from a concrete core to determine if the concrete is susceptible to spalling in the near future prior to undertaking costly preventative measures to delay the deterioration. Some of the preventative measures will require periodic maintenance, including reapplication to renew the serviceability.

"Chemistry is making concrete stronger with admixtures that prevent shrinkage, require less water, inhibit corrosion, strengthen reinforc-



Lauren Tolentino

ing and make concrete more durable," says Lauren Tolentino, architectural and engineering consultant with Bonded Materials Co. "Engineers are keeping up with the technol-

ogy now available."

5 Ways to Manage Energy Usage

With the options available, there's no excuse for not curbing how much electricity gets burned

BY GAIL SLAWSON-EICH

Property managers and AOAO boards are tasked with what at times seems to be the impossible: Keep the property safe, legal, insured, looking good and feeling good, while at the same time keeping tenants happy and costs down. You can do a fantastic job at almost everything, but if the cost of operations is on a steady incline, ain't nobody happy.

It's no secret that energy costs are on the rise for almost every type of property, so what can you do to manage energy usage and keep expenses down? Here are five ways to reduce energy consumption by over 50 percent:

Lighting: Let's start with the easy stuff. You know those ugly 4-foot florescent lights in the hallways, conference rooms and parking garages? They used to be considered energy efficient, but not by today's standards. Making the switch to LED lighting will save 60 percent to 80 percent of lighting costs. Plus, you'll be updating your lighting to a more modern look and feel. You need to change out those CFLs, too. Pick up a pack of screw-in LED bulbs and you're good to go.

Controls: Let's take your lighting one step further by installing smart technology lighting with built-in controls. There are LED lights with occupancy and daylight sensors built into the fixture. And a lot of this technology is now wireless, so no need to run a bundle of wires through your walls and ceilings. After the easy installation, if there is no movement in the hallway for five minutes, then the lights will dim themselves to your predetermined light level of say 10 percent, 50 percent, etc. During the day, the lights next to the windows will sense the daylight and reduce





themselves accordingly. Imagine saving an additional 25 percent to 50 percent on lighting costs by switching to smart LED lighting. You may see your lighting costs diminish to a mere 10 percent of what they were originally.

The other areas to implement timers and controls include air conditioning, bathroom ventilation, hot water heaters, pool heaters, sprinkler systems, etc. Air conditioners should be set on thermostats and timers. Don't just have it set to run 24/7 cooling the air if no one is there. Have it set to turn on at 9 a.m. and turn off at 5 p.m. Go ahead and sweat a little the rest of the time, it's good for you. Water heaters should be set to a lower temperature between 10 p.m. and 4 a.m. Water coolers should automatically turn off at night. Bathroom lights and ventilation should be controlled by occupancy sensors.

Solar PV: If you have the space, then you have no excuse not to imple-

ment solar. Even if you are an AOAO nonprofit and can't take advantage of the tax credits, you have options. If you are a for-profit entity then you should purchase a solar photovoltaic (PV) rooftop-mounted system and enjoy the 60 percent or more tax credits from the federal and state governments. Those tax incentives won't last forever, so you should get it done by the end of 2016. If you purchase a PV system, it usually pays for itself within three or four years. If you are a nonprofit, then consider leasing a system or entering into a power purchase agreement (PPA). Typically a new 30-year roof is included in the package with these programs. The owners of the system enjoy a tax credit while the folks leasing the system enjoy a new roof, free maintenance of the system and a reduced electricity bill. While leasing and PPAs are not as cost-effective as purchasing, in most cases it's better than doing nothing.

If you don't have enough roof space for a full PV system, you could implement solar-powered air conditioning for a few keys areas, like your elevator and electrical rooms. There are specially designed split AC systems that are powered by PV panels mounted on the roof. Some systems also include a bank of batteries. Imagine running your AC on nothing but sunshine. No HECO approval is required for solar AC.

Power Conditioners: It's likely

that you have some heavy-duty equipment at your property that is both expensive and gobbles up lots of energy. Your job is to protect that equipment while using less electricity. Examples include HVAC systems and elevators. Power conditioners are pieces of electrical equipment installed in your electrical room that "clean up" the power that is delivered to your equipment. Power conditioners provide excellent noise filtering and surge protection to safeguard equipment against damage, degradation or malfunction. This leads to more equipment up-time, lower maintenance costs and longer equipment life. Power conditioners also increase the power factor and reduce harmonics waste, both of which lead to a reduction of energy consumption and a lower electricity bill.

Energy Management & Tracking Systems: If you're ready to take your energy reduction measures to the next level, you'll want to implement an energy management data collection and reporting system. With these systems you can track the exact amount of energy each piece of equipment or group of equipment is using at any given time during the day or night. You'll be able to track trends

and abnormalities, make informed decisions regarding maintenance, implement operational changes to

reduce spikes in electrical usage and determine when it's time to replace inefficient equipment. You'll also be able to tell if the utility company is overcharging you. With detailed equipment level energy usage data at your fingertips you'll be transformed into an energy management ninja warrior able to slash energy expenses while protecting your valuable assets.

If you are ready to get started, contact an experienced electrical contractor that specializes in energy efficiency for an initial energy management consultation.



Gail Slawson-Eich

Gail Slawson-Eich is the co-owner of OceanHead Solar & Electric, a full-service electrical contracting company specializing in energy efficiency and solar. She has

worked in the technology and construction industry in Hawaii for nearly 20 years and received her MBA from the University of Hawaii at Manoa.



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6 Steps Toward an Energy-efficient Building

Weigh all the options and look to the future when upgrading your property

BY BRUCE EKIMURA

About \$400 billion is spent on energy each year in the U.S. to operate commercial and industrial buildings, according to *Today's Facility Manager*—and 20 percent to 30 percent of this energy is wasted.

Today's facility managers realize that energy efficiency can reduce costs. There's an overwhelming number of options to increase your building's efficiency, including solar photovoltaic systems, solar water heaters and the latest crop of energy-efficient appliances and lighting.

But if you're like most facility managers, you're wondering: Where do I start? How do I prioritize? What are the easiest and most inexpensive upgrades I can make at my



facility for the greatest energy savings right now? Here's some steps to consider:

Know Before You Go Green

The first and most important step toward energy efficiency is to know what you're working with. Install a simple energy monitoring device to all your loads. This will enable you to not only be conscious of your energy usage, but will allow your renewable energy contractor to identify the inefficient, energy-sucking bad guys and create a proper strategy for reducing the building's energy usage

With today's technology you can track electrical usage via the Internet, monitoring individual tenants' usage in real time and even breaking down reports to specific areas such as air conditioning or hot water heating. You can also monitor photovoltaic production.

A system called eGauge is a user-friendly energy monitoring system that puts an incredible amount of data at your fingertips in an easy-to-understand format. You'll be able to identify undue usage and correct it immediately (rather than learning about it in a utility bill 30 to 45 days later), determine where to invest in efficiency upgrades and guard against billing errors by comparing bills to actual usage.

Banish Hot Air

Solar ventilation removes the hot air in the upper levels of your building so your HVAC system doesn't have to work as hard to cool the space. As the sun radiates heat onto your roof, your roof's shingles or tile become extremely hot. This heat is transferred through the roof and in turn heats up the air inside your building. While insulation slows this process, it does not eliminate the heat transfer entirely.





Solar ventilation removes this heat before it can radiate into your facility. The less heat that is transferred into your building, the less work your HVAC system will need to do, saving you energy and money. Best of all, solar ventilation qualifies for state and federal tax credits. And once it's installed, it costs absolutely nothing to run.

Out With the Old

The next priority is to replace old "energy hog" HVAC units with to-day's ultra-efficient, high SEER-rated ductless units. This will save 20 to 30 percent in energy usage.

Always go with a trusted manufacturer. Mitsubishi Electric, for example, often sets the gold standard for home cooling. Its AC units offer the industry's highest SEER efficiency ratings, efficient ductless technology and inverter-driven compressors which can instantly and automatically adjust to changing room environment conditions. Not only does the new technology from a trusted brand save you money, but you have the peace of mind that the company will be around to honor its warranties for decades to come.

See the Light

Another bright idea: Ditch the old-school light bulbs. Light emitting diodes (LED) use at least 75 percent less energy than incandescent lighting, won't break like a regular bulb and last a long time. Good-quality, Energy Star-qualified LEDs have a useful life of 25,000 hours or more, lasting 25 times longer than traditional light bulbs. Your maintenance crews will spend considerably less time up and down ladders replacing lighting.

Another bonus: Unlike incandescent bulbs, which release 90 percent of their energy as heat, LEDs use energy far more efficiently with little wasted heat. That can translate to real savings in air conditioning use.

Ride the Wave

Once you've got your efficiency basics covered, it's time to look at the road ahead. The state's green energy initiatives mean more buildings will be mandated to provide EV-charging stations. Consider "Smart Charging" stations that allow facilities to charge per kilowatt hour, according to their own fee structure.

ChargePoint offers smart charging, the stations are aesthetically pleasing with retractable cables and single, dual or quadruple access points, they offer programmable screens for advertising or other messaging and they utilize cellphone or credit card payment options.

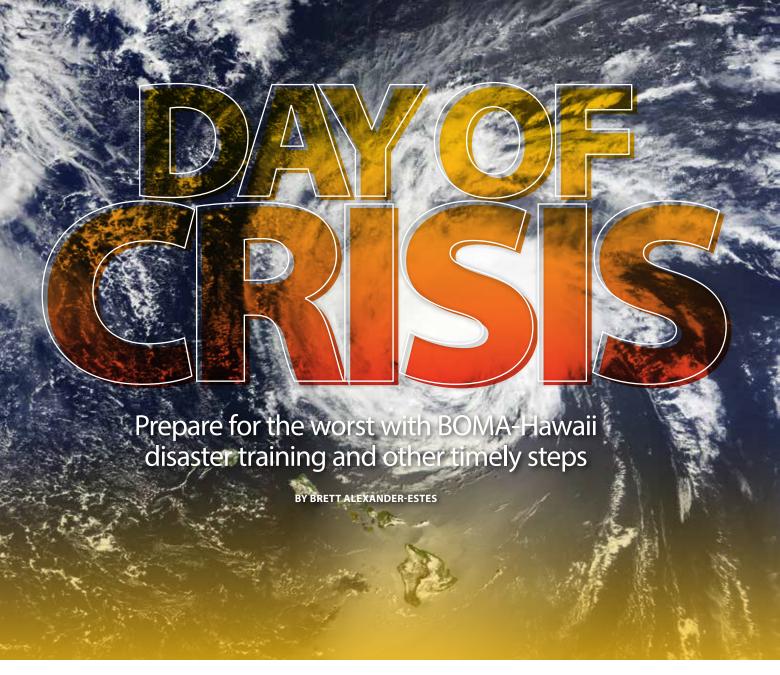
Look at the Big Picture

Most operations budgets are tight. Whether you plan to make sweeping

energy changes or just upgrade your efficiency little by little, it helps to have a sense of the ultimate goal. A good renewable energy contractor can help you integrate all your energy-saving options as part of an overall strategy, avoiding mistakes and saving you money.

Bruce Ekimura founded Alternate Energy Inc. in 1993. AEI is a full-service energy-efficiency contractor offering energy monitoring, PV, onsite energy storage, HVAC, licensed electrical contracting, solar attic fans, solar water heating and EV charging.





he crisis is hours away.
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abruptly changed course. It is now
headed straight for your building.

The storm packs sustained winds of 98 miles per hour, torrential rain and an expected six- to eight-foot storm surge.

Your building, its staff and its nearly 200 occupants have already lost power.

What is your first responsibility? What is the first, absolutely critical decision that you must make?

People Come First

As a property manager or a member of an AOAO, you have the responsibility to protect your building's staff

and occupants.

Your contract or agreement may spell out your responsibilities in terms



Maria Lutz

of your fiduciary duties and the physical plant. But when push comes to shove, as may happen following death or injury on building premises during a disaster, your legal obligation to prevent

"reasonably foreseeable" danger has been upheld in many U.S. courts.

Maria Lutz, American Red Cross director of disaster services and one of the speakers at a BOMA seminar scheduled this month, says emergency preparation and prevention begins as soon as a person becomes an employee or resident in your building.

"Create an environment where neighbors know each other with informational meetings and social events," Lutz says. "This will create a better sense of community within the building."

Such solutions will be offered by officials and experts from international and governmental agencies and leading Hawaii companies at "Day of Crisis: Disaster Preparedness 2015," a forum presented October 13, by the Building Owners and Managers Association (BOMA) of Hawaii at Waikiki's Hawaii Prince Hotel.

Survival Seminar

BOMA's "Day of Crisis" comes in the wake of September's drenching

downpours and mini-tsunami that flooded Island streets, fouled Island beaches and cost Island residents a pretty penny in damaged property.

Steve Sullivan

"(Hawaii) buildings got hit hard in the last few weeks," says Steve Sullivan, one of the organizers and speakers at the BOMA "Day of Crisis" seminar, describing the impact of

the September deluge.

The seminar, says BOMA event chair Tiera Covington, is the orga-



Tiera Covington

nization's annual Disaster Preparedness program, and will show BOMA members and other commercial property professionals how to safeguard lives and property dur-

ing catastrophes like hurricanes and tsunamis.

Speakers include Julie Greeley from the Pacific Disaster Center and officials from the U.S. Department of Emergency Management, FEMA, the American Red Cross and the Small Business Administration. Five local property managers, including Sullivan, who is a Shidler Pacific Advisors LLC operations vice president, will present their experiences in managing disasters at their respective properties and the steps they took to prevent damage.

BOMA Hawaii presents Disaster Preparedness 2015 DAY OF CRISIS

Tuesday, Oct. 13 Hawaii Prince Hotel

Survivor Tales: Hear Accounts of How Real People Dealt with Real Life Disasters & Mini Trade Show

10:30-11:30 a.m.—Mini Seminars

- Maria Lutz, American Red Cross
- John Cummings, Department of Emergency Management
- Larry Dove, FEMA
- Jane Sawyer, District Director, U.S.
 Small Business Administration

11:30 a.m.-12:30 p.m.—Keynote Speaker, Membership Luncheon

• Julie Greenly, Pacific Disaster Center

12:30–1:30 p.m.—Property Managers' Case Studies

- Marleen Akau, General Manager, Royal Hawaiian Center in Waikiki
- Bobbie Lau, Senior General Manager, Howard Hughes Corporation
- Jeff Shinagawa, Area Director,
 Reit Management & Research LLC
- Steve Sullivan, Vice President
 Operations, Shidler Pacific Advisors
- Tom Morris, General Manager, General Growth Properties

Registration Deadline: Oct. 7

Non-BOMA and BOMA members register at BOMA Hawaii at 847-0143 or via Nicole@bomahawaii. com. (BOMA members can also register at bomahawaii.com).

Start Planning Now

"Have a plan!" urges Peter J.S. Hirai, state Department of Emergency Management deputy director, and

recommends the "many planning templates at www. ready.gov."

To prepare for hurricanes, tsunamis and other threats, "associations and managers should download our 'Ready



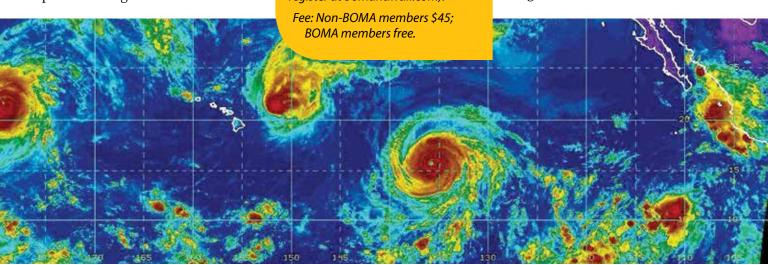
Peter J.S. Hirai

Hawaii App' from the iTunes store or Google Play store to better prepare themselves with information," Hirai says, adding that managers can "learn how to mitigate and protect common critical areas—and how residents can protect their own units—against hurricanes by calling the city Department of Emergency Management at 723-8960."

Occupant evacuation preparation includes the basic Red Cross disaster supply kit: water and food (five to seven days per person), a can opener, a flashlight, batteries, cell phones and chargers, cash, first aid and personal hygiene supplies and copies of critical information.

If sheltering in place, occupants should have at least seven days worth of food, water, medication and personal care items, and a designated "safe room" within the building.

"Hurricane Sandy – Lessons Learned Study," a 2013 report by BOMA-New York, recommends that managers plan for disruptions lasting longer than one week and ensure that



provisions for operating without critical security and life safety systems are included in emergency plans.

Furthermore, says the report, managers' plans should include "emergency staff contact information, tenant/ occupant emergency contact information, staff actions and responsibilities, vendor contacts for critical systems and supplies (to include equipment and food emergency supplies), and communications and messaging templates."

As you construct your plan, "you can test the strength of your emergency plan on http://www.readyrating.org/," says Lutz. "Even though this site is geared for businesses, it is an applicable tool for school planning and larger facilities too."

To keep abreast of developing conditions, Hirai recommends that managers sign up for the City and County of Honolulu Department of Emergency Management Nixle service. "Text your ZIP code to 888777 or go to www.nixle.com/dem to get notifications on disasters and emergencies," Hirai says.

Escape Water Damage

"The new Tsunami Evacuation maps show the traditional Tsunami Evacuation Zones in red and new Extreme Tsunami Evacuation Zones in yellow," says Hirai, who adds that the red zone was updated in 2010, and the yellow zone was updated in 2015.

story building or higher," Hirai says. "Being on the fourth floor or higher ensures everyone is high enough above the water; being in a 10-story or higher building ensures the building will be robust enough to withstand wave and debris action.

"You also must be above the fourth floor within the tsunami zones to avoid hurricane storm surges."

If forced to evacuate, says Hirai, "do not wait until the last moment! Give yourself enough time to use your vehicle to get out of the zone or to go to a hurricane shelter." Other emergency evacuation measures include filling up and covering bathtub or clean water containers before occupants leave their units.

"Have enough water for seven days per person," Hirai emphasizes. "Backup generators should not be in the basement, and should be off the ground to avoid being flooded by tsunami waves or hurricane surges."

This last recommendation, says Sullivan, may pose special challenges for Hawaii high-rises. Sullivan explains that both commercial and residential high-rises in Hawaii are usually designed with backup equipment—backup generators, fuel storage, fire pumps, main electric rooms and electrical vaults—on the first floor or in the basement levels. "This is ideal for most normal operational situations," he says, "but not during storm surges caused after a hurricane or tsunami."

And during torrential rain, a flat roof can invite destruction from above.

"How much does one inch of water across a 100-square-foot area weigh?"



Guy Akasaki

e-foot area weigh?" asks Guy Akasaki, Commercial Roofing & Waterproofing Hawaii Inc. president and CEO. "Answer: 500 pounds for 60 gallons of water.

"With rapid rainfall like we've been seeing, the

weight of water on your rooftop will add up quickly," Akasaki says. "One inch of water can very easily turn into two inches in a matter of minutes, doubling the weight on your rooftop if water is backing up."

Akasaki recommends scrupulous

8-Point Roof Protection Disaster Checklist

- 1. Clear rooftop drainage & scuppers
- 2. Clear downspouts, headers, boxes & gutters
- 3. Check for crumpled downspouts at the exit point
- 4. Check & clear internal gutters (warehouses)
- 5. Make sure intended water exit points are open
- 6. Weep holes cleared (skylights, window frames)
- 7. Check the PV penetrations are watertight
- 8. Replace/secure missing or loose roofing/flashing

CRW President Guy Akasaki recommends that building managers also:

- Check that there are no exposed roof vents or vent pipes, electrical conduits, penetrations from solar panels or cracked tiles.
- Check that window frames, flashing details and duct seams on the A/C ducts are intact.
- Check the drainpipe for condensate lines that often lie along the roofing platform and have vertical and horizontal cracks in the pipe—another common source of leaks.
- Inspect and evaluate the performance of your roof's waterproofing system.

Source: Commercial Roofing & Waterproofing (CRW) Hawaii Inc.

Rehearse and Update Your Plan

Once your building's emergency plan is finalized, the National Fire Protection Association website recommends that it serve as a building's Emergency Action Plan (EAP) and used as the basis for "all-hazard drills—training exercises in which building occupants are familiarized with and practice the procedures for remain-in-place, in-building relocation, partial building evacuation, and total building evacuation, in accordance with an EAP."

"If a property falls within either zone, (occupants) should plan on evacuating inland," Hirai says.

In Kakaako, for example, the traditional red zone extends from the waterfront to Kapiolani Boulevard; the new yellow zone extends from the waterfront to King Street.

"Evacuate beyond the red zone for all tsunami warnings," says Hirai. If the Tsunami Warning Center announces an Extreme Tsunami Warning, he says people should evacuate beyond the red and yellow zones.

"In either case, evacuate vertically to the fourth floor or above in a ten-

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regular maintenance of drains, scuppers and downspouts, and ensuring that your roof material is the best choice based on its slope, drainage and other factors.

Block Wind Damage

Hawaii's multi-unit condominium and office properties face different wind hazards based on their structure.

High-rise buildings generally have hurricane-resistant glass that can withstand hurricane-force winds. However, airborne debris—such as torn-off metal—is a significant hazard.

"In a hurricane, in addition to going up to the fourth floor or above (in a building of 10 stories or more) everyone needs to secure and lock all glass windows and doors, draw all curtains and shades to minimize glass entry, and shelter-in-place in a safe interior room without windows or evacuate to a hurricane shelter," says Hirai.

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For a "high wind event" such as a hurricane, the lower floors (above the fourth floor) of a high-rise building are safer than those at the top, says Lutz.

High-rise buildings are usually flat-roofed. Low-rise buildings, in contrast, often have more fragile exterior glass, and may have pitched roofs that need hurricane clips to prevent lift-off. Generally, the steeper a roof is pitched, the more susceptible it is to hurricane uplift.

Update Your Insurance

"Preparing for a disaster is an unrelenting process," says Joshua German, Insurance Associates account executive. "First and foremost, your building's insurance policies should be reviewed annually with your insurance agent and the following three key questions discussed:



Joshua German

Are the buildings insured for the full amount it will cost to repair or replace them in the event of a disaster?

Insuring to value is the most important concept of your insurance coverage. Most homeowners insurance policies contain an inflation guard endorsement which increases the building coverage limit every year by a specified amount, typically 4 percent. This is important to make sure the building can be rebuilt with materials and labor in our

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current economy.

Commercial insurance policies purchased by condominium associations and apartment building owners work differently in that they rely on the associations or owners working with their insurance agent to increase the building value every year upon the policy's renewal.

The policy limits should also be updated anytime an additional building is added to the association's policy or any renovations are done to the association's common elements that use higher quality materials than those originally used to construct the building.

Are we insured for all perils that could potentially damage our building?

Fire and water damage are the most common causes of loss to condominium and apartment buildings. Hurricane coverage in Hawaii is required by lenders and, depending on the construction type or insurance carrier, can have a deductible between 1 percent to 5 percent of the building's value.

For larger buildings, a 1 percent difference in deductible can translate to hundreds of thousands of dollars in loss retained by the insured. Flood insurance is also required if you are located in an area that FEMA has designated as a Special Flood Hazard Area (SFHA). Other types of coverage that typically aren't included but should be considered include Earthquake, Equipment Breakdown, and Sewer Backup.

Does our insurance company have the financial strength and stability to pay all of its claims in the event of a large disaster?

Flood insurance is purchased through the National Flood Insurance Program and backed by the U.S. government. Hurricane insurance is purchased from private insurance companies and backed by the company's policy holder surplus and the reinsurance it purchases from global reinsurers.

Condominium unit owners and apartment building owners should

be aware that the Hawaii Insurance Guarantee Fund will only provide up to \$300,000 of property coverage per claimant in the event of a default by an admitted insurer. It's important that these owners purchase their insurance from a reputable insurer with an Excellent or Superior financial strength rating from A.M. Best whenever possible."

Hurricane Sandy: Lessons Learned

"Day of Crisis" will include many of BOMA-New York's strategies that were developed in the aftermath of Hurricane Sandy and are particularly applicable to Honolulu, a similar sealevel urban center.

The testimony of many BOMA-New York building manager members may also be presented. Almost all report that Sandy confronted them with hazards that they did not anticipate. Says one: "I never dreamed to put backup batteries for systems above the basement level."



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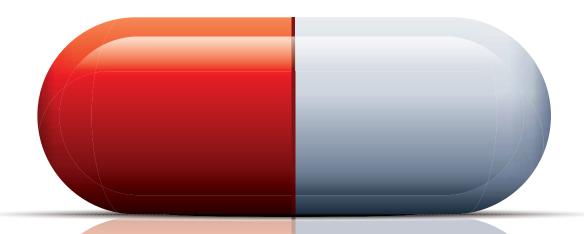


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Is renter's insurance like taking medicine?

Many tenants cite cost as a main reason for ignoring the need to insure their belongings



BY SUZANNE ROIG

An estimated six out of 10 renters do not have insurance to cover their belongings, liability or loss of use if there's a fire, a flood or someone slips and falls in their home, according to a new survey by insuranceQuotes.com.

The reasons vary: cost, their landlord has insurance or they believe their belongings don't amount to much money. But insurance officials say all of these reasons aren't true. sons have been renting the same East Honolulu home. "But the stuff that we have that has any value is sentimental and cannot be replaced anyway."

According to the insurance Quotes. com study, about 45 percent of Americans say they lack renter's insurance because it is too expensive. However, more than 80 percent of Americans don't even know how much it costs or believe that renter's insurance is just out of their budget. The study was done in January 2015 by phone

are worth about \$30,000. The same survey estimated it would take renters three years to replace everything in their homes if lost to a disaster.

Typically, millennials—those who range from 18- to 34-years-old—don't carry renter's insurance, and it's because of a lack of understanding, according to the survey. It's especially troublesome, insurance officials say, because 60 percent of the 18- to 29-year-olds are renters, according to insurance Quotes.com.

The same survey found that people age 50 to 64 were the least likely to have insurance coverage, with about 64 percent uninsured, according to the survey.

Landlord's insurance only covers the structure, walls and fixtures, says

Gordon Ito

valls and fixtures, says Hawaii Insurance Commissioner

Gordon Ito.

The survey's nationwide findings are no different here in Hawaii, Ito says. He says that all it takes is one loss for people

to realize that the landlord's insurance doesn't cover loss of use of a rental

In Hawaii there are currently no laws that require homeowners or renters to have insurance.

For some residents it's an issue of cost. The Cisneros family has lived in the same house for nearly a dozen years without renter's insurance. It's just too costly when weighed against other household costs, says Cathy Cisneros.

"If we had anything of real value, we might consider it more," says Cisneros, who along with her husband and three interviews of more than 2,000 people. The margin of error is plus or minus 2.7 percent.

The true cost of renter's insurance, however, averages about \$187 a year, according to the National Association of Insurance Commissioners.

What's more, according to another recent study done by Allstate Insurance, the average renter's possessions

unit or loss of personal property in the wake of a fire or disaster.

"People assume that their landlord's policy will cover any loss that occurs," Ito says. "You lose your own personal property, it isn't covered under the landlord's policy."

What often happens is renters under estimate the value of their household items and when there's a loss they have trouble replacing their items, Ito says. Everyone should take a picture of their items and keep an inventory, he says.

"It's a lack of knowledge and a lack of understanding the need for renter's insurance," Ito says. "Owners only have insurance to cover the structure. Owners don't usually carry liability or personal property coverage."

Mortgage lenders generally require homeowners to have insurance for loss, Ito says. But renters are not required to have insurance and if the home or condo is paid for, generally homeowners don't carry the required coverage from the lender, he says.

Some landlords do require their tenants to have renter's insurance as a condition of the lease, says Stephany Sofos, a Hawaii real estate consultant

Where to get more information

The state Department of Commerce and Consumer Affairs Insurance division has a comparative shopping guide on its website for renter's insurance. Go to www.cca.hawaii.gov/ins/files/2015/01/Renters-Premium-Comparison-January-2015-UPDATED.pdf for up-to-date information on renter's insurance costs.

and author.

"I try to encourage my renters to get insurance because if anything happens they can replace their personal items," Sofos says. "I require them to have insurance especially if they have an animal, like a dog, because of liability issues."

Sofos would prefer that tenants she rents to provide proof of renter's insurance as a protection for the tenants. In Hawaii, that's not likely to happen, as it's a requirement that must be established by lawmakers, Ito said. There are currently no laws that require homeowners or renters to have insurance.

Renter's insurance adds to the costs of housing, says Sue Savio, president of Hawaii-based Insurance Associates. But insurance is like medicine:

You use it when you need it.

"No one wants to spend more money than they have to," Savio says.



"I tell people to look at the clothes, pots and pans, dishes and furniture. If you have less than \$30,000 in everything, then you don't need insurance, but many

people under estimate the value of their possessions."

East Honolulu renter Cisneros says she will review her insurance and see if it can be bundled with their auto insurance. She says if renter's policies work like auto where discounts are given if there are no claims, she might be able to afford it.



Associa Hawaii Offices Renamed

Community management company Associa has united its Hawaii branches to become known as Associa Hawaii.

In May, Associa's Hawaii First office in Kailua-Kona was rebranded Associa Hawaii and, in early August, the three Hawaii First offices on Kauai, Maui and Oahu also took on that identity.

"Hawaii First has long been a part of the Associa family, and taking on the Associa name assures communities of the affiliation with the largest and most respected firm in the business," says **Jon McKenna**, Associa Hawaii president. "Uniting with the other Associa Hawaii locations is a natural process for us reflecting the overall family spirit of the company. It's great to see that we are all now one Associa."

The other Hawaii First offices will continue to operate with the same staff and community management services under the name Associa Hawaii.

Texas-based Associa operates more than 170 branch offices in the United States, Mexico, Canada, the United Arab Emirates and South Africa.



Hawaii Build + Buy Green Set for Oct. 21

The 2015 Hawaii Build + Buy Green show, hosted by the U.S. Green Building Council (USBGC) Hawaii Chapter, will be held on Oct. 21 from 8 a.m. to 4 p.m. at Aloha Tower Marketplace. The event will include workshops and tours.

Tickets are \$20 until Oct. 14 for members of the USGBC, Building



Trade's Redmayne Honored

Barry Redmayne of Trade Publishing Co. was recently selected by Associa Hawaii as Board Member of the Year for Oahu. Redmayne, associate publisher and advertising director at Trade, serves as president of the board of directors of the Crosspointe Community Association.

The Associa Hawaii began presenting the annual award in 2010 to recognize "outstanding service of a community association board member who gives his/her time, talents and resources to ensure the success of his/her association."

Barry and Tessie Redmayne (center) are joined by Associa Hawaii's (from left) Tom Tobbacco, director of management services; Stacey Tokarin, chief operating officer; Jon McKenna CEO; and Kristi Hirota-Schmidt, senior vice president, business development.

Owners and Managers Association (BOMA), Architects Institute of America (AIA), the General Contractors Association (GCA), Urban Land Institute (ULI) and the American Planning Association (APA). General admission is \$30.

Tang Joins Hawaiian Airlines

Rock Tang was named senior director of corporate real estate at Hawaiian Airlines. He will manage the airlines' corporate real estate interests, including its business relationships with domestic and international airports, lease negotiations, concessions, properties, projects and construction, facility planning and design.

"Rock's wide-ranging experience managing all aspects of real estate,



Rock Tang

from planning to project execution, makes him the ideal candidate to lead this new department as our real estate and facilities needs grow along with the rest of the company,"

said **Hoyt Zia**, Hawaiian Airlines senior vice president.

Tang most recently was senior real estate manager at Walgreen Co., and previously was regional director for real estate at both CVS Caremark Corp. and Longs Drug Stores California, Inc.

Many Mahalos to the sponsors of Hawaiiana's

Meet & Greet 2015: **Right Resources, Right Results!**

Hawaiiana welcomed over 700 Board Members, Residential Managers and Management Executives to the recent event which showcased 151 vendors who serve Hawaii's Condominiums and Homeowner Associations. Because of the generosity of sponsors, over 200 prizes were given out to attendees during the event! Many mahalos to our sponsors!







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Are You Building the Right Team?

To ensure greater success, blend staff members' skills and creativity with proven methods.

A building manager is only as good as his team. When managing a large property it is physically impossible to do everything yourself, so surround yourself with qualified, competent people—and don't be afraid to hire specialists smarter than yourself.

Your team is not just the people who work directly for you; it also includes contractors and vendors. And, like any large team, there may be multiple coaches (board members) who, although not playing in the game, exert great influence on the team's overall performance.

One measure of a manager's ability is in his capacity to hold together and work constructively with a team of individuals with different points of view and disparate ways of doing things. Everyone has a blind spot, both physically and psychologically; we all see things a little differently and subjectively. If you make an effort to build a support staff who have various skill sets, outlooks and abilities, then they can compensate in areas where you as an individual may be deficient.

The success of the team becomes your success as a manager. Be more concerned with the results of the day-to-day operations than with the process (though both are important). Each person should be allowed to express creativity and do certain things their way. As long as they can contribute to the overall well-being of the property and do things in a way that is both legal and ethical, then you as the manager should have the flexibility to allow them as individuals to perform their jobs in their own way.

The biggest challenge is when employees believe that their way is the only way. I'm aware that my way is just one way, and while I may think it's the best way, I know it's possible that somebody else may have a better idea. So it's to my benefit as a manager to allow ideas to flow forth when collaborating with upper or lower management.



Tips for Building Teamwork

- Don't be afraid to cut off loose ends. Sometimes the best thing you can do is save someone the trouble of getting themselves fired.
- Do your best for your people and they will do their best for you; look out for their well-being, guide them, lead them and let them be.
- Promote diversity in your workplace, for yourself and for your community. Don't be intimidated by people that are different from yourself, celebrate it and use it to everyone's advantage.
- Good teams work together. Set clear goals and expectations make sure you communicate with them clearly. Train your people to follow through.

The same applies to your "coaches." If you have too many dominant, overbearing coaches with different personalities, then they can be pulling the individuals in the team in different directions without any cohesion. The result is the team will tear itself apart or the building will suffer. You may need to communicate with your other coaches the simple fact that if we don't establish a clear chain of command our community is going to be weakened as a whole.

So a manager's challenge is to integrate those points of view that are different in a manner that contributes to the growth of your property. As a good manager it's not enough to just stay on the fence. You have to help your board and community leadership forge a consensus from their own disparate points of view. And sometimes it may be necessary to remind everyone that as a community there will always be a minority that disagrees with the majority's choice for paint color.

The bottom line is that managers are here to serve our communities, and the more diversity that can be promoted then the better it can be for everyone. Large communities consist of many different individuals and we can better serve the majority by incorporating diversity into our small team or work crew that interacts with the different people.

Now, with all that said, the property manager or general manager is still the boss or head coach. You can't be afraid to replace members of your team if they're contributing to the demise or decline of your people and property. One bad apple can poison the batch.

On Site is dedicated to the many readers of Building Management Hawaii magazine who are residential and commercial building managers in Hawaii. This page is your forum to address common problems and share insights that might help you in your profession.

The guest columnist for this issue is Atrious Alexander, general manager



Atrious Alexander

for Moana Pacific, the second-largest condo in Hawaii. He holds the ARM designation from IREM, the CMCA from CAMICB, and the AMS from CAI, along with his Hawaii real estate license. He's

been active in the real estate management industry for a decade.

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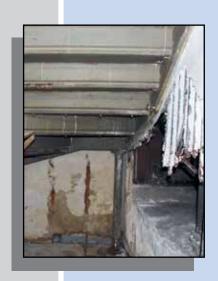




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