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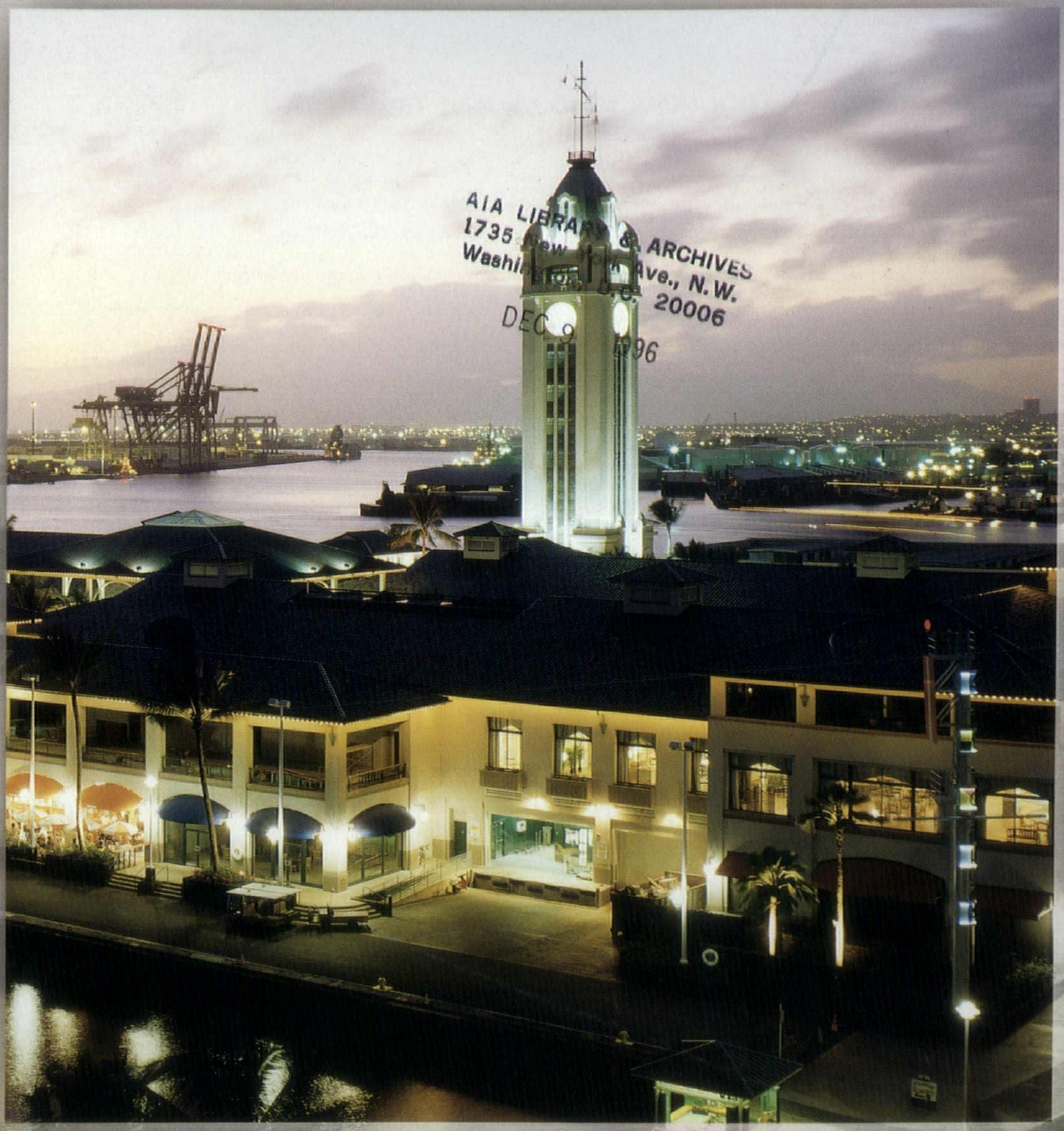
Hawaii Pacific Architecture



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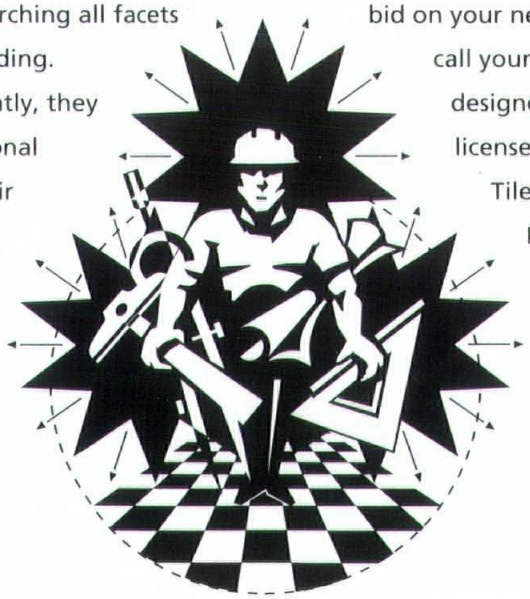

HAWAII CERAMIC TILE, MARBLE & TERRAZZO PROMOTION PROGRAM

Volume 3, Number 11

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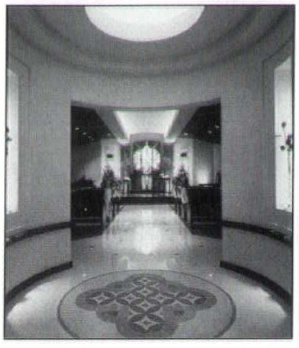

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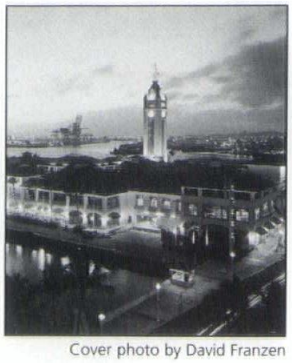
IN THIS ISSUE ...

Hawaii Pacific Architecture focuses on lighting design. Rick Moss looks ahead at the future of lighting. Michael Souter offers insight into the illumination of Aloha Tower Marketplace while Rick Chong shares the challenges of designing the lighting for the Ilikai Wedding Chapel. Howard Wiig examines the Model Energy Code and its potential for savings.

This month's cover features the Aloha Tower Marketplace at night.



Cover photo by David Franzen

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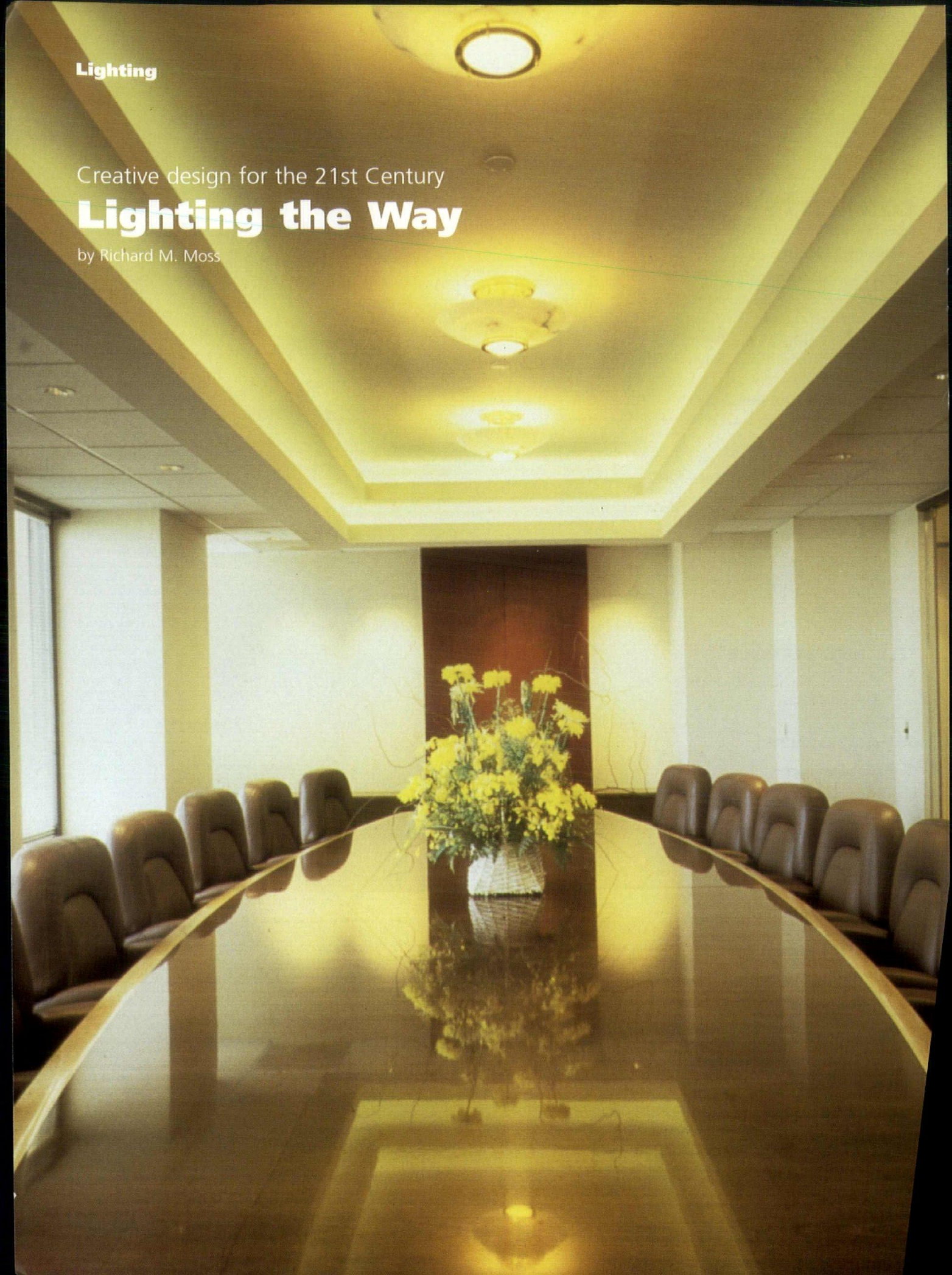
Creative design for the 21st Century

Lighting the Way

by Richard M. Moss



Creative lighting design is an interactive process involving the architect and engineer. To achieve a great lighting solution, the lighting engineer must be involved early in the design process. A couple of hours spent reviewing the architectural concept relative to the lighting can mean dramatic differences in the feasible solutions.

The trend toward increasing code limitations and energy costs has resulted in the development of new luminaires and lamps. This has created benefits for lighting designers and architects as many new, creative solutions are possible.

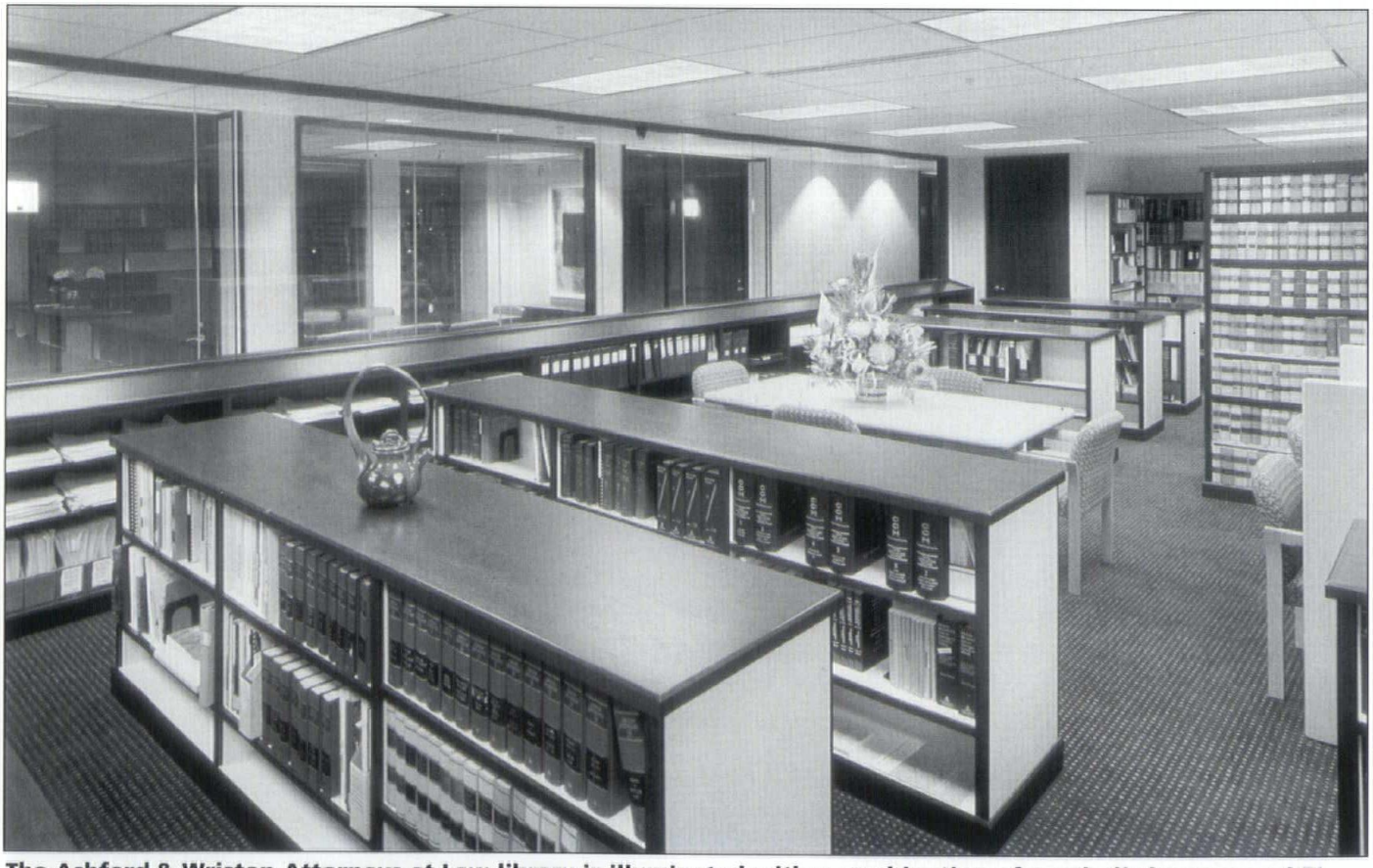
The result is mandated energy limitations are dictating footcandle illumination levels be lower. Therefore, the quality of illumination must be increased, requiring new, creative solutions as 2-by-4-foot recessed prismatic luminaires are no longer acceptable for modern office spaces.

While the incandescent lamp — including halogen — will always be around, the mandated energy limitations have almost made incandescent lamps a "specialty" luminaire for the commercial market. Incandescent lamps are most appropriate for accent illumination. Many architects have discovered this can actually result in a more dramatic and aesthetically pleasing, architecturally illuminated space.

One of the most popular alternatives to the incandescent lamp has been the Compact Fluorescent "PL" series lamp. When used properly, this lamp can provide general and soft accent illumination that is attractive as well as energy efficient with a long lamp life (8,000 vs. 800 hours). However, a disadvantage of PL lamps is that they do not throw as well as "point source" incandescent lamps. Therefore, they don't have such a bright accent. They are also more expensive to dim because special dimmer switches and ballasts are required.

One advantage to PL lamps is the variety of colors available. This makes them ideal to match either the incandescent color (2,700 degrees K) or the color of the other modern fluorescent lamp (T-8) used in modern offices (3,500, 4,100 and 5,000 degrees K).

For general office illumination, parabolic louver luminaires have quickly become "industry standard." This is due to several factors, including mandated energy limits, the increased cost of energy and the increased



The Ashford & Wriston Attorneys at Law library is illuminated with a combination of parabolic louvers and PL downlights. Opposite page: Ashford & Wriston firm board room uses neon and incandescent lighting to create the desired effect.

use of computers. These factors dictate a higher quality of lighting. Parabolic louvers increase the quality of illumination by decreasing the ceiling brightness and controlling the glare.

A combination of PL downlights and parabolic louvers with matching color lamps was used for the Ashford & Wriston law firm. The combination provides pleasing general illumination with uniform color, while the architecturally pleasing look of downlights enhances the character and accents the appearance of office walls and surfaces. Another advantage is that they can be connected to the same 277-volt lighting system.

These different lamps were combined throughout the First Hawaiian Center, which will soon be completed. Recessed PL downlights and wall wash downlights were used in conjunction with 1-by-4-foot, 2 lamp, recessed parabolic luminaires. The use of 1-by-4-foot luminaires should increase because 2 lamp luminaires can be installed in a spacing pattern that provides good quality illumination. Two-by-four-foot 2 lamp luminaires look strange and their usage will probably decrease. Since 2 lamp 2-by-2-foot luminaires look better, there should be an increase in their use, despite the fact they are more expensive.

Another solution becoming more popular is indirect lighting. This technique is somewhat opposite to the parabolic louvers theory because it reflects light off the ceiling and spreads it uniformly on the task. An advantage is that with lower illumination levels, the quality of lighting is increased since shadows created by point or linear sources are virtually eliminated. Disadvantages can include increased costs and higher ceiling heights.

Another technique is cold cathode (or neon tubing). This technique can be used to accent the architectural ceiling coves or irregular shapes and can fit in small spaces.

This technique is not always energy efficient and requires trade-offs, but allows for dramatic accent of architectural surfaces.

The best way to figure out the future of lighting is to wait until it arrives. However, having discovered that this is impractical it is best to combine practical knowledge and observation. It is very easy to see what does and does not work in architectural lighting. Those who know how the lighting was achieved can expand the techniques for their own projects — and avoid making the same mistakes.

Richard M. Moss, P.E., president of Moss Engineering Inc., has been a consulting electrical / lighting engineer in Hawaii for more than 20 years. He has received numerous national and Hawaii Illuminating Engineering Society awards for creative, architectural lighting. Moss is a past president of the Illuminating Engineering Society - Hawaii Section and the Consulting Engineers Council of Hawaii.

Creating the perfect lighting situation

Ilikai Wedding Chapel

by Rick Chong

Whoever said the Japanese are losing interest in getting married in Hawaii needs to look at the number of wedding services in and around Waikiki that cater to the Japanese wedding market.

Recently, existing services expanded and two more opened for business. One of the new services, Ilikai Wedding Chapel, opened at the end of 1995.

Basically, like its competitors, Ilikai Wedding Chapel is a one-stop wedding service that provides everything including gowns, tuxedos, make-up, videos, a photographer and a minister. But what sets it apart from the others is the chapel within the facility.

The inclusion of a chapel has provided a unique advantage in the marketing of wedding packages. It also provides control over chapel availability, while competitors have to use common church facilities throughout town.

As the important feature in the wedding service package, the chapel had to be more than just a simple room with an altar. It needed to feel like a chapel and not just a room stuck in an existing space at the Ilikai Hotel. The chapel had to be an experience of spirit and harmony.

The chapel also had to have the real feel of the larger, stand-alone churches. Therefore, lighting had to be an integral part and play a strong role in executing the design goals set for the chapel.

The lighting had to reinforce the spiritual aspect as well as enhance the space, its volumes and its surfaces. Luminaire selection, placement and focus had to create drama

The chapel at Ilikai Hotel uses lighting to capture the spirit and harmony of a church.
Photo by Augie Salbosa

and provide detail. The lighting had to create moods through differing intensities. It also had to be flexible yet provide adequate illumination for video taping and still meet strict energy code requirements.

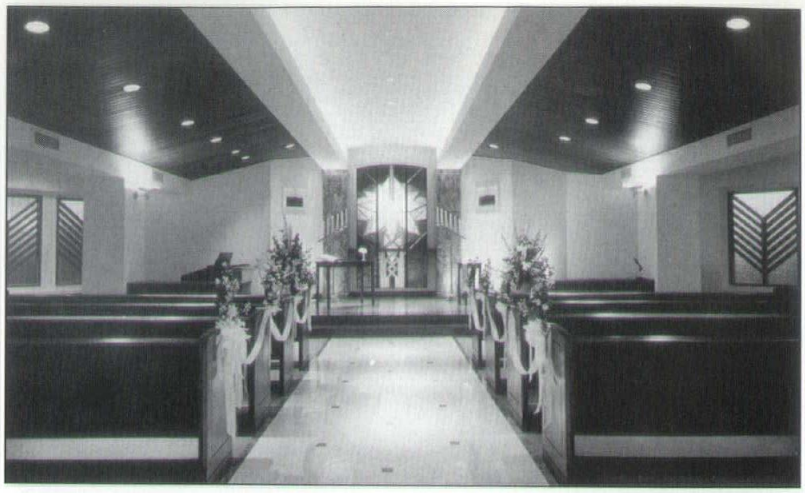
From a soon-to-be-married couple's point of view, this is the experience they would encounter.

The entry is illuminated with a large elegant pendant and accented with low-voltage adjustable downlights with MR16 lamps. From the entrance, the couple can see down the richly detailed corridor that leads to the chapel. Matching sconces on both sides of the corridor continue the elegant rhythm introduced by the entrance pendant. Downlights and adjustable accents provide additional visual stimulation by painting architectural columns with light and setting the etched glass doors aglow.

As the couple passes through the etched glass doors, they step into a rotunda. A heavenly glowing ceiling is created with an indirectly illuminated cove, crisply accented niches and illuminated with pin spots. Off in the distance, beyond the aisle, is the altar — the focus of the chapel.

Paralleling the aisle, a vaulted-ceiling indirectly illuminated with low-voltage strip lights guides the focus to the altar area. Friends and family can witness the ceremony from pews that are illuminated by low wattage halogen par lamps in recess downlights. The characteristic sconces continue the elegant rhythm and add visual detail to the chapel.

The altar is set against a spiritual stain-glass art piece backlighted with quartz base halogen floods. Focus of the floods brings intensity to the central cross-like form. Adjacent wall panels are balanced and emphasized by flush well-type uplights in the raised floor.



The Ilikai Wedding Chapel was designed to crisply outline detail.
Photo by Augie Salbosa

Standing at the altar, the couple becomes the focal point through the use of adjustable recessed low-voltage luminaires. Multiple aiming angles are used on the couple to provide top, key and fill lighting that create depth and form. The entire system is controlled by dimmers to further balance and create the desired effects.

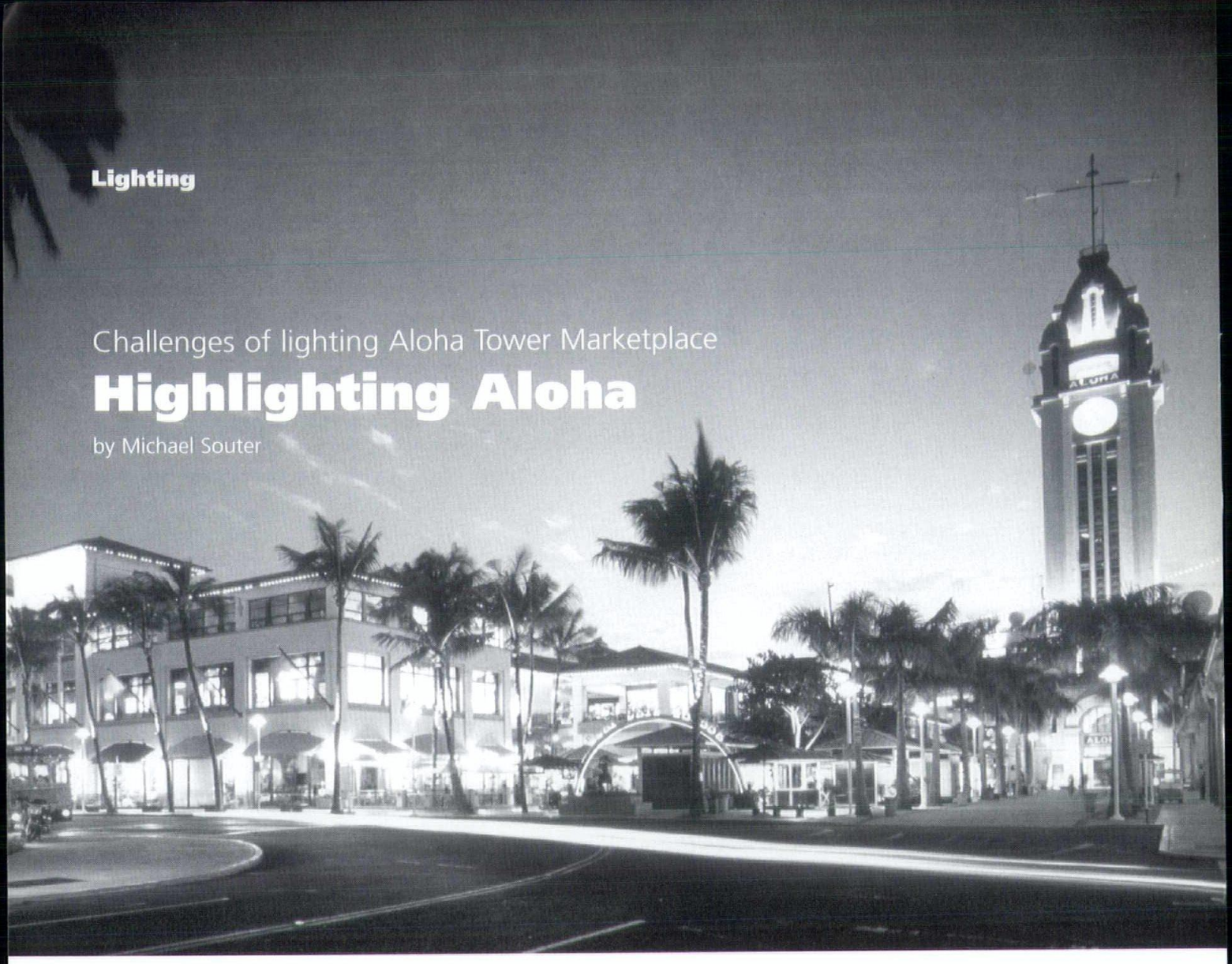
In complete unison with the interiors, the lighting plays an integral part in the entire experience. The lighting succeeds in painting vivid colors, providing elegant detail, crisply outlining detail, filling volumes, evoking emotion and creating harmony and spirit.

Rick Chong is vice president of Albert Chong Associates Inc.

Challenges of lighting Aloha Tower Marketplace

Highlighting Aloha

by Michael Souter



The romance of Aloha Tower is restored with an ambiance of elegance enhanced by the lighting.
Photo by David Franzen

Back in the days before airplanes transported visitors to Hawaii, Aloha Tower was a famous landmark that served as a welcome beacon for cruise ships from all over the world. Natives would swim or paddle their canoes out to greet the ships with a traditional "aloha" welcome.

However, over the years, the area surrounding this waterfront beauty became more and more industrialized. The base of the tower eventually succumbed to a maze of warehouses and other unsightly structures.

In an effort to breathe life back into the decaying wharf and to restore the romance of days gone by, a major renovation of the area was commissioned. After a design team was selected, plans were developed to remove the unsightly architecture that blocked views and access to the tower. The team also designed a marketplace for shops, restaurants and special events. Despite the renovations, the area still had to function as a working pier and ship terminal.

Each of the multiple functions and tasks involved in this waterfront renovation required individual attention and special lighting considerations. Issues included landscaping, pedestrian safety, display, ship loading and terminal and decorative lighting. To meet the many functional requirements of the project, a family of luminaires was custom designed to harmonize with the adjacent architecture while meeting each of the projects' lighting needs.

Fixture types included pole-mounted pier work lights, wall-mounted and pole-mounted pedestrian pathway lights, decorative accent luminaires, special signage, landscape, water features and building facade lighting.

As a working pier, separately controlled higher lighting levels for loading and unloading cargo was an important requirement. This was met by using pole-mounted 250-

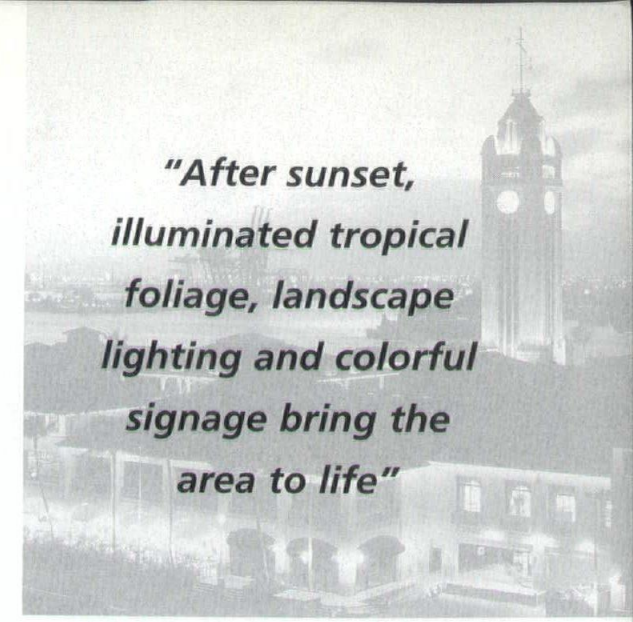
watt 3,000K metal-halide luminaires with sharp cut-off reflectors. These luminaires concentrate light on the task area while preventing harsh light from trespassing back into the marketplace. Light poles are also used to mount pathway light fixtures and decorative banners, disguising the area's industrial functions.

Wall- and pole-mounted decorative luminaires with 70-watt, coated, 3,000D metal-halide lamps provide safe and comfortable pathway illumination around the marketplace's perimeter. The warm-tone, phosphor-coated, 3,000K color temperature lamps were selected for their superior and pleasant color rendering (75 color rendering index) characteristics, which are flattering to skin tones and surrounding colors. The lamp coating also softens glare and improves visual comfort.

After sunset, illuminated tropical foliage, landscape lighting and colorful signage bring the area to life. Long-life incandescent strip lights trim roof lines, providing radiance and drama to the marketplace.

The final challenge was to illuminate the tower as an accent beacon and marketplace centerpiece. However, lighting had to be restrained so the tower would not be too garish and overpowering. The selected lighting technique subtly shapes its form with accents of light and shadow against colorful sunsets and surrounding nighttime illumination.

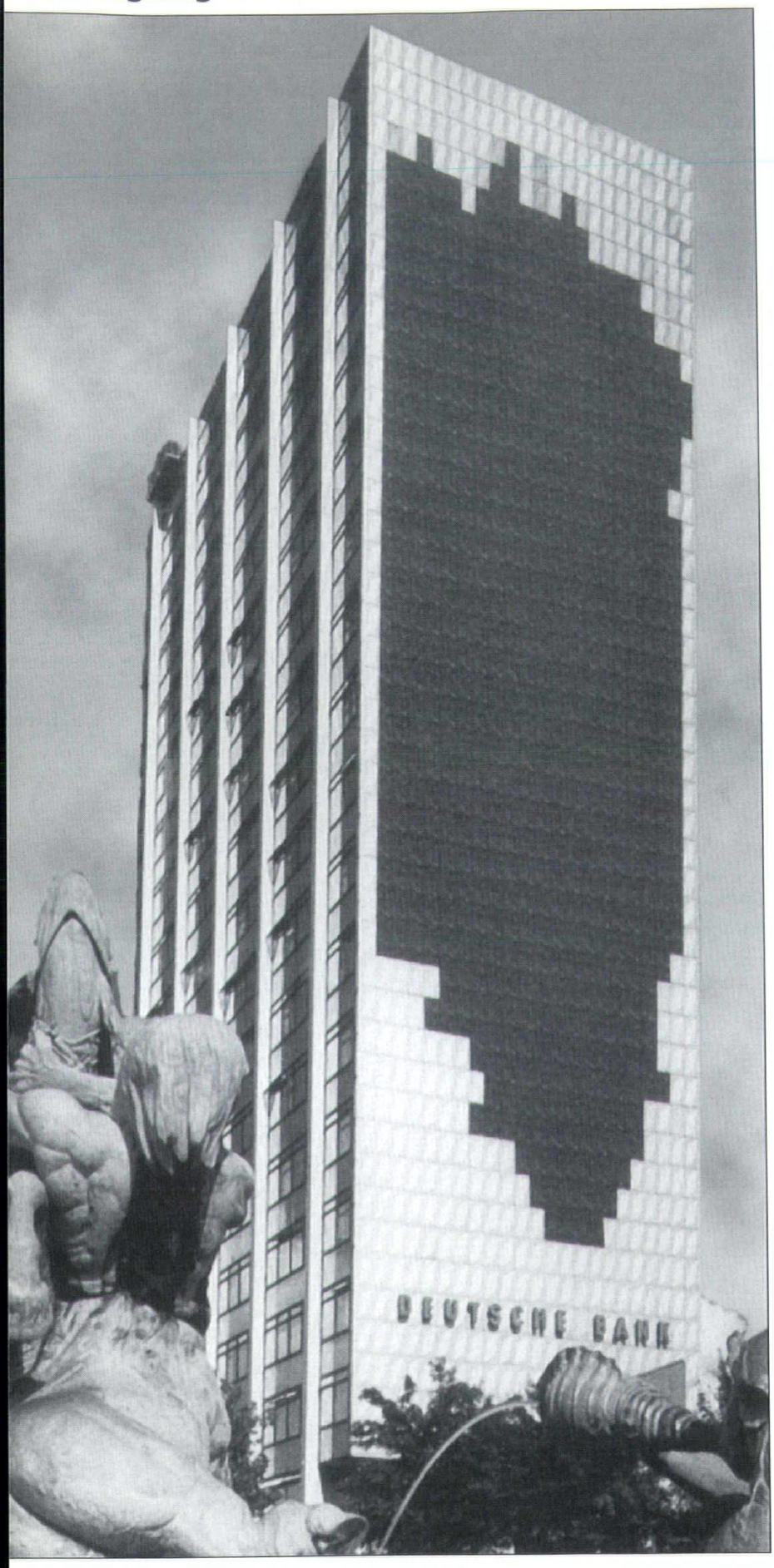
The tower's lighting was achieved by mounting a series of various wattage 3,000K metal-halide luminaires at its base, as well as several higher points hidden from view by architectural details. The light fixtures have efficient asymmetrical reflectors so all lighting is projected upward to illuminate each facade. A fluorescent light box was built behind the clock faces so they appear evenly illuminated and easy to read.



On all four sides of the tower, the word "Aloha" is pierced through the concrete guard rail of the observation deck. The words are backlighted with fluorescent lighting for higher visibility from a distance.

The coordinated lighting of signage, landscape, marketplace and tower provide a friendly and welcoming visual experience. This great landmark is once again a dramatic focal point on the Honolulu Harbor for visitors and locals to meet and enjoy the aloha spirit.

•• Michael Souter, ASID, IALD, CLEP, is president and design director for Luminae Souter Lighting Design. The Aloha Tower and Marketplace was one of the projects under his direction with a design team including Bradley Bouch, David Orgish and Jackie Hui. He is a senior member of the Association of Energy Engineers, a professional member of the American Society of Interior Designers, a member of the Illuminating Engineering Society of North America and a corporate member of the International Association of Lighting Designers.



Photovoltaics for Hawaii and the Pacific islands

Clean Power

by Stephen Meder

Energy use and environmental impacts due to development are issues common to Hawaii and other Pacific island countries. Ninety percent of Hawaii's energy comes from burning fossil fuel. The 50th state ranks first in the United States for oil-to-energy conversion. Hawaii also endures one of the highest electricity rates in the nation.

This reliance on imported oil and the associated energy costs may seem shocking, however, these same aspects are of even higher proportion in other Pacific island locations.

Forty percent of all the energy consumed in the United States is used in the materials, construction and operations of buildings. At least 30 percent of Hawaii's overall energy consumption is dedicated to the demands within buildings.

With these figures in mind, it is clear that architects can take significant steps to lower energy demand and promote solutions that benefit the environment and people of both Hawaii and the larger Pacific community. One of these solutions is photovoltaics.

Pocket calculators, the emergency phones on the Pali Highway and satellites floating in space are all powered by PV cells. Simply put, the PV effect is the direct conversion of light into electricity.

Silicon, a semiconductive material, is the primary element in the PV products that are commercially available. Photons (the units of energy in sunlight), not heat, activate electrons in the outer valence of the silicon atom,

The Deutsche Bank building in Hamburg, Germany, makes use of building integrated photovoltaic systems in the curtain wall.
Photo courtesy of Greenpeace Solar Energy Project.

generating a photovoltaic process. A heat buildup in certain types of PV cells can substantially diminish conversion efficiency.

The Pacific islands are a convincing example for the viability of photovoltaics. High electrical costs, remote locations, an abundance of solar resource and the need to develop environmentally benign, self-sufficient energy sources are all variables in the energy equation that make PV-generated power the leading option to fossil fuel-generated electricity for the Pacific islands.

Tremendous progress has been made in building integrated photovoltaic systems during the last five years. Gone are the days of awkward appendages that not only detract from the built form but jeopardize its weathering skin.

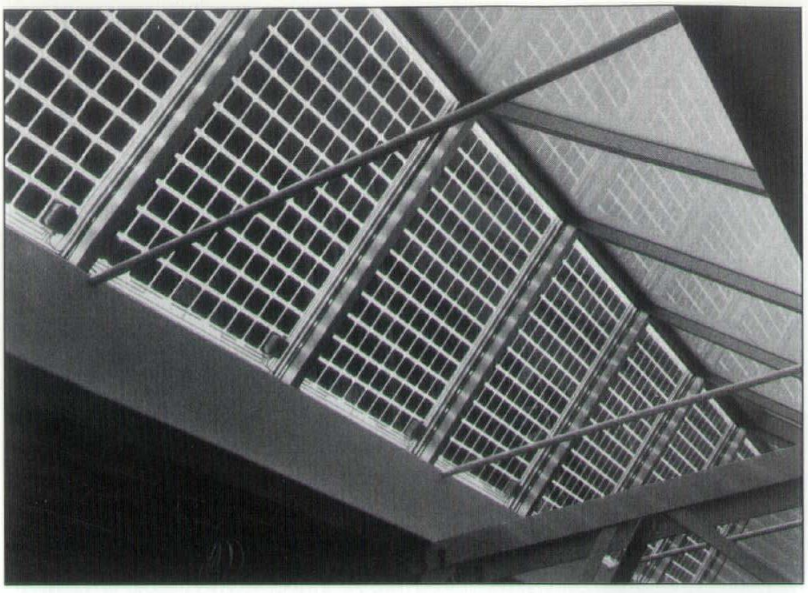
Today, PV roofs, walls, skylights, awnings, curtain walls and even windows serve as building materials while generating energy. American manufacturers have developed a BIPV-roofing shingle that can be nailed to the sub-roofing like the asphalt shingles it replaces. The Japanese industry is producing a shingle that clips into a roof-mounted wiring network.

BIPV systems can improve a building's thermal performance. They can be articulated to enhance the building's aesthetics or be hidden from view. BIPV uses existing real estate, building structures and trades. Architecturally integrated PV systems displace, to varying degrees, the cost of standard building materials, and can actually cost less than high-end commercial finishes.

In Honolulu, PV-generated power is still more expensive than utility-supplied electricity. Studies have shown pay-back periods begin at 15 years for installations of favorable mainland location and design. This scenario does not consider tax incentives or high energy costs like those in Hawaii.

With Hawaii's higher energy costs and current federal and state tax incentives, which combined reach about 40 percent for commercial buildings, the envelope of viability is pushed closer to reality.

With the power company's cooperation, utility interactive systems are even more cost effective. Commercial energy demands often run coincidental with the high points of the PV yield. This allows the BIPV building to directly feed the electrical demand within it. Surplus PV-generated power — which is unlikely for a commercial load — would be sent to the grid, and the utility would meet the building's demand beyond the time or capacity of the PV system.



Photovoltaic skylights generate energy at a building in Solothurn, Germany.
Photo courtesy of Hunn & Tonggweiler "Photovoltaics in Architecture"

The difference between Hawaii and other Pacific islands is the depth of the Hawaii building stock.

In Hawaii, especially on Oahu, there is an abundance of buildings, many of which are in favorable configurations for PV retrofits. A large number of these buildings, chosen from the existing inventory, is inefficiently consuming energy.

Air conditioning is a very large draw on a building's electrical demand. PV window awnings and sunscreens can diminish the building's cooling load, while supplying it with electricity. PV-roofing systems can protect the most exposed surfaces from further heat gain, while producing significant amounts of electricity, if installed properly.

Hawaii's energy demand

Hawaii's over-reliance on an external fuel supply jeopardizes the stability of the state economy. Fossil fuel is a finite resource. Its exclusive over-use, transportation, processing, storage and disposal presents a clear danger to the islands' limited land, water and related habitats. Fortunately, Hawaii's abundant solar resource could be directed to effectively use photovoltaics as a significant contributor to the state's energy demand.

The state Legislature addressed these issues in Hawaii Revised Statutes 226-18. According to the statute, it is the objective and policy of the state to "... increase energy self-sufficiency" ... "create greater energy security in the face of threats to Hawaii's energy supplies and systems" and ... "promote the use of renewable energy sources."

Acknowledging the problem is the first positive step toward solving it. PV is a proactive approach toward achieving these state energy policies.

Workers install photovoltaic panels on the Impact 2000 House in Brookline, Mass.

Curtain walls offer the most dramatic showcase for BIPV systems, but they are irrelevant for Hawaii's 20-degree latitude.

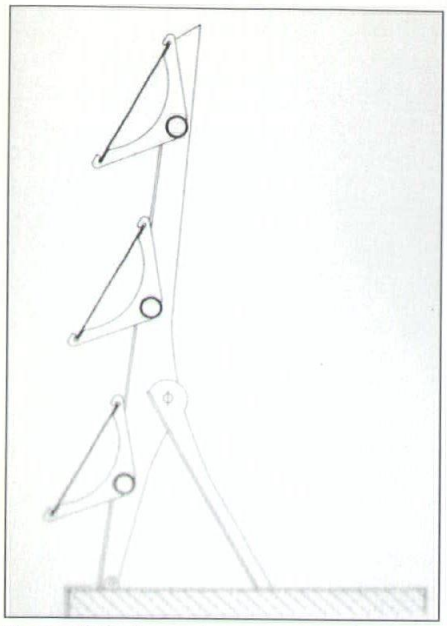
The most effective design angle for a PV array is to match the location's latitude plus or minus 15 degrees. Therefore, in Hawaii, nearly horizontal to a 35-degree incline to the south — in the northern hemisphere — is the most efficient orientation, depending on the load-matching strategies. Roofs, awnings, skylights and canopies all offer design opportunities that can be aesthetically appealing and environmentally supportive.

In Japan, Germany and Switzerland, governments, utility companies, businesses and private citizens are working to equip buildings with PV systems that are contributing megawatts of renewable power.

The utility company in Sacramento, Calif., has led the way in the United States with its Roof Top Pioneers Program. By the end of this year, the Sacramento Municipal Utility District will have hooked up 5 megawatts of UI residential retrofits on rooftops.

In 1995 HELCO, the Big Island's utility company, installed a 15-kilowatt, UI rooftop array on the Kailua-Kona Gymnasium. HELCO may also be supplying PV packages to many potential off-grid customers. Tonga recently contracted with the European Union to power Tonga's entire Haapai Island group with PV by the year 2000. The opportunities are here.

On its own, PV will not be able to handle the base load in Honolulu or other large cities in the foreseeable future. It does have the capacity to quietly and cleanly contribute substantially to the



Retrofitted awnings are angled to capture the power of the sun.

overall energy picture.

Cost is the greatest barrier to PV proliferation. Prices have dropped from $12 to $5 per installed watt over the last five years. However, the price must come down further. Three dollars per watt is considered the bench mark for commercialization. Volume will bring the prices down and the efficiencies up. Long-range commitment to growth will make this renewable technology an accessible and affordable power source in the near future.

Conservation is paramount in the energy equation. It makes no sense to throw good energy after bad. Therefore, effective passive design strategies must proceed even the most efficient active technologies. The energy demand of buildings in Hawaii must be diminished through designs that promote conservation and positive environmental interaction. PV can supply power while mitigating environmental degradation. BIPV has the potential of reversing the paradigm of buildings as energy consumers to energy producers.

↦ *Stephen Meder, a principal of Architecture Studio, is a research affiliate at the University of Hawaii's School of Architecture.*

Model Energy Code shows savings potential

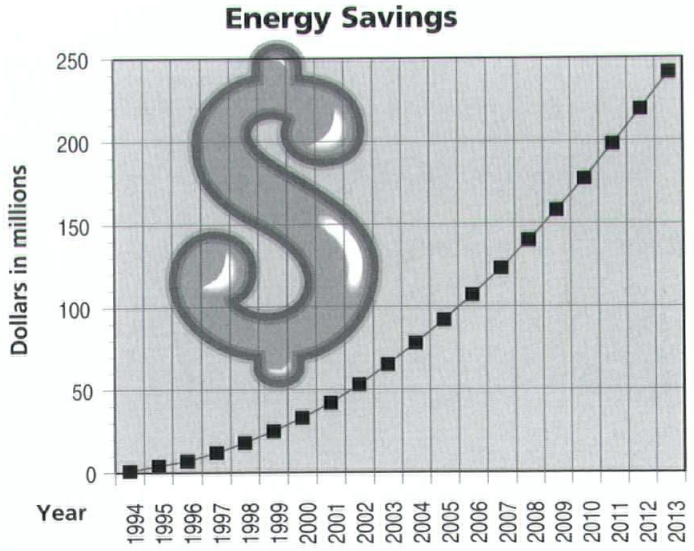
Eliminating Energy Waste

by Howard C. Wiig

The Energy, Resources and Technology Division of the Department of Business, Economic Development and Tourism has long recognized that building codes requiring energy-efficient equipment and design are one of the most effective methods of eliminating energy waste and improving Hawaii's economy through reduced oil and utility costs.

In 1989, DBEDT hired Eley Associates of San Francisco, a leader in building efficiency codes, to create a Model Energy Code unique to Hawaii's climate. At the time, Hawaii was using an energy code adopted in 1978 that reflected outmoded equipment and design standards.

A long process of design, review and revision followed. Finally, it culminated in legislation requiring the counties to adopt updated energy building codes by Oct. 24, 1994. This date was selected because the National Energy Policy Act of 1992 imposed similar requirements on states.



The County of Hawaii adopted the commercial building portion of the MEC in November 1994. Honolulu was the next to adopt the code in April of 1995, with Kauai County following suit in January 1996. Maui County is expected to adopt a similar code in the near future.

Hawaii's MEC is unique because it contains no space-heating requirements. Its envelope focus is on reducing solar gain through roofs and windows. The water heating section emphasizes high-efficiency equipment and heat recovery.

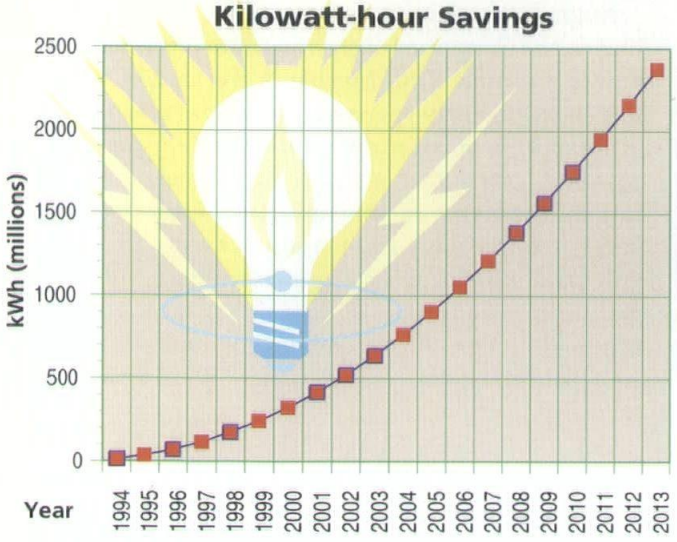
The lighting section is far more stringent than the 1978 code, reflecting the widespread use of high-efficiency items such as T-8 fluorescent lamps, electronic ballasts and compact fluorescent lamps.

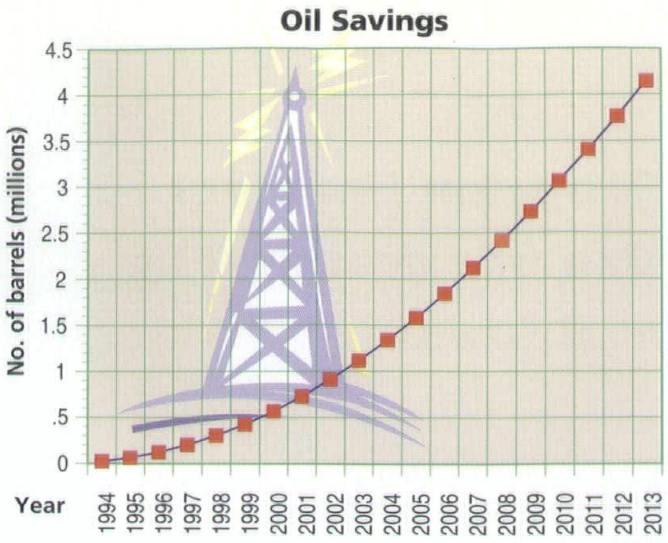
Lighting also accounts for most of the savings achieved. The new equipment is about 35 percent more efficient than older lamps and ballasts, and produces very little heat, thus substantially reducing air-conditioning loads.

The savings achieved by the MEC are impressive. The added cost of code compliance is about $1 per square foot, which is recouped in about three years through reduced utility costs. The return on investment is about 30 percent per year.

When the MEC is adopted statewide, the total cumulative savings over a 20-year period is projected to be $240 million in reduced utility costs, 2.4-billion kilowatt hours of electricity and 4.1-million barrels of oil. The savings is equivalent to supplying electricity to about 28,500 homes. In 20 years, the cumulative peak electricity demand savings will be more than 50 megawatts — equivalent to a mid-sized power plant.

Much of the MEC was based on the Amer-





ican Society of Heating, Refrigerating and Air Conditioning Engineer's 90.1-1989 standards. However, "glitches" were found, notably in the lighting section.

Hawaii's lighting designers discovered that the software provided to test for compliance was not user-friendly. Therefore, DBEDT and Eley Associates entered into a joint project to develop new lighting compliance software from the ground up.

Titled "HiLight," the software is being tested by Hawaii's lighting designers. Once any "bugs" are worked out, HiLight is expected to be used by other states with similar codes. This means Hawaii could achieve a technological breakthrough that can be quickly transferred nationwide.

Although the commercial sections of the MEC were adopted, the residential sections were not because of concerns over housing costs. Some of the savings projected in the residential water-heating section are being achieved through rebate programs offered by Hawaiian Electric Co. and other utilities.

Eley Associates' studies indicate that residential roof insulation is extremely effective in Hawaii. R-19 insulation can result in a naturally cool house, while uninsulated roofs may produce the need for air conditioning. DBEDT recently produced a brochure about the benefits of residential insulation to encourage developers and homeowners to voluntarily insulate their roofs.

In an age of rapidly improving, high-efficiency equipment and building design techniques, DBEDT does not expect the current MEC to be the last word in building efficiencies. However, Hawaii's accomplishments to date put it among the more efficient states in the nation. Hawaii's economy and homeowners are reaping the benefits.

↔ *Howard C. Wiig is an institutional energy analyst with the Department of Business, Economic Development and Tourism.*

Program Furthers Use of Ceramic Tile and Stone

Established more than two decades ago, The Hawaii Ceramic Tile, Marble & Terrazzo Promotion Program is a unique industry organization dedicated to encouraging the use of ceramic tile and stone materials in the construction and remodeling of homes and commercial buildings throughout Hawaii.

Members of the program are actively involved in the continued process of establishing and enhancing open lines of communication between architects, interior designers, general contractors and developers as to the latest trends and innovations concerning ceramic tile products.

Augmenting this on-going interaction within the industry, the Promotion Program, in cooperation with the Hawaii Ceramic Tile, Marble & Terrazzo Contractors Association, jointly sponsors an annual trade show and seminar. This major event offers a wide variety of tabletop and booth displays and features speakers who are nationally known in the industry. Topics covered include timely issues such as the effects of the Americans with Disabilities Act on the construction industry and the latest noise ratings of floors. The speaker seminars also serve to introduce trend-setting new techniques for the application and maintenance of ceramic tile and stone products.

Roy Uesugi, president of The Hawaii Ceramic Tile, Marble & Terrazzo Promotion Program, views the upcoming year as a time of recovery and unique opportunity. He and other Promotion Program members see 1997 as a year of even more creative applications of existing ceramic tile materials along with the emergence of exciting new ceramic tile and stone products. All of these innovations coupled with the encouragement and awareness campaigns of The Hawaii Ceramic Tile, Marble & Terrazzo Program, will help lead the way in the future economic growth so vital to Hawaii's construction industry needs.

Submitted by The Hawaii Ceramic Tile, Marble & Terrazzo Promotion Program

New Products

Isle CellCrete concrete systems introduced

F.H. "Shorty" Kuhn, general manager of Island Ready-Mix Concrete Inc., recently introduced Isle CellCrete products, a group of versatile new lightweight cellular concrete systems developed by the firm.

Although lightweight cellular concrete isn't a new concept to the industry, Isle CellCrete delivers a new level of consistency in density/strength accuracy. "Production quality control at the plant is the primary reason these products provide such consistent field results," Kuhn said.

Isle CellCrete offers design and placement advantages in a variety of structural, nonstructural and civil applications.

Isle CellCrete wall, partition and deck systems reduce foundation requirements and dramatically lower forming, placing and finishing costs for poured-in-place structural and nonstructural applications.

Isle CellFloor provides an alternative to gypsum-based floor leveling systems. Isle CellFloor is a cementitious material that offers moisture resistance for interior and exterior use at much lower installed costs.

Isle CellFill improves placement and consolidation in CMU block grouting, void filling and underground pipe lining applications, while providing greater insulation values than normal weight concrete.

Paint Supply of Hawaii opens

Paint Supply of Hawaii Inc. recently opened at 419-D Waiakamilo Road in Kalihi, according to president Steve High and vice president Rick Lipton. The firm has more than 9,000 square feet of store and warehouse space and offers the full line of Pittsburgh Paints.

High and Lipton were long associated with Ameritone Paints in Hawaii and then with its successor, ICI.

Hi-Tech, AMS merge

Hi-Tech Building Products has merged with AMS - Acoustical Material Services. Hi-Tech owners Ernie Daligcon and Paula Kajiyama made the transition to AMS in September.

AMS is located at 2312 Kamehameha Highway, Building G, in Honolulu.

News Briefs

Sanders to Speak at November Meeting

Ken Sanders, AIA, will be the guest speaker at the Honolulu Chapter of the American Institute of Architects' general membership meeting Nov. 21 at the Japanese Cultural Center.

Sanders is associate partner and manager of information services at Zimmer Gunsul Frasca Partnership, an architecture, planning and interior design firm based in Portland, Ore. He was the 1995 chairman of the AIA's National Computer-Aided Practice Professional Interest Area.

Sanders will speak about the "nature of automation." He will discuss the history of automation, how it evolved, where we are today and what may be expected in the future. He will specifically address current issues related to the Internet.

Pupus and cocktails will be served at 5:30 p.m., with the program beginning at 6:30 p.m.

The program is free for AIA members who have paid the speaker fund fee and students who are AIAS members. The cost for other AIA members is $12. For non-AIA members the cost is $15 and for non-AIAS member students $5. The cost for pupus is $18.

For more information, contact HC/AIA at 545-4242.

Miyabara Elected to 1996 Class of ASLA Fellows

Michael T. Miyabara has been elected to the Council of Fellows of the American Society of Landscape Architects. The fellows jury convened in Washington, D.C., in May and selected Miyabara, along with 28 other nominees from across the country.

The jury chose to honor Miyabara for his outstanding accomplishments in the category of direct service to the society. Miyabara has held every office at the chapter level and is completing his last term as national trustee of the Hawaii chapter.

Michael Miyabara

Miyabara is the principal of Miyabara Associates, a Honolulu-based landscape architectural and planning firm.

Shimabukuro Re-elected Hawaii Flooring Association President

Norman Shimabukuro, Floors of Hawaii president, was recently re-elected president of the Hawaii Flooring Association. His two-year term began Oct. 1.

Other officers elected were Vice President Roy Tokuhama, Abbey Carpet; Treasurer Lori Matsushige, Homeowners Design Center Inc.; and Secretary George Fern, Kauai Floors Inc.

Norman Shimabukuro

Elected as directors for the organization were Satoru Yamamoto, Ace Flooring Co. Inc.; Nelson Masamune, Allied Floor Corp.; Harris Nakamura, Alii Flooring Inc.; Jack Shizuru, Holby's; and Wally Miura, Wally's Flooring Inc. Les Tokuhisa, Island Flooring Inc., is the immediate past president.

Neighbor island directors are Fern, Kauai; Wilfred Tokuuke of Paul's Enterprises Ltd., Big Island; and Warren Orikasa of Maui Carpet and Drapery, Maui.

Associate members of the board of directors are Mike Takamoto, Pacific Home Furnishings Co. Ltd., and Madeline Kawaakoa, World Carpets.

Tim Lyons, president of TLC - The Legislative Center Inc., continues to serve as the executive director.

Condos Present Big Risks for Architects

Architects who design condominiums are among the most likely design professionals to be sued for errors or omissions — and they face some of the most costly claims — according to DPIC Companies' 1996 "Focus on Claims." This study is based on more than 8,600 closed claim files from 1989 to 1995, representing more than $269 million in claim payments.

The study showed that DPIC-insured architects generated only 1 percent of their fees from condominium projects. However, these projects accounted for more than 7 percent of architects' total closed claims and consumed 14 percent of the total claims dollars expended by DPIC on behalf of architects.

By comparison, commercial/industrial projects generated 26 percent of architectural fees, but made up only 18 percent of closed claims and consumed less than 13 percent of claims dollars.

Colleges and universities also appear to be relatively low-risk projects for architects. They made up 9 percent of architect fees while generating 7 percent of closed claims and consuming 5 percent of claims dollars.

Roofs have been the most common element involved in architect claims, but wall problems have had the biggest drain on claims dollars. Roof problems were involved in 10 percent of closed claims and consumed 11 percent of claims dollars. Walls made up less than 9 percent of claims but consumed 13 percent of claims dollars.

Award-winning lighting design projects

Ideal Illumination

by Dave Waller

Lighting at Hawaiian Electric Co.'s Ward Avenue office was improved with an indirect lighting system—the T-8 fluorescent, electronic ballast system.

Each year, the Hawaii Chapter of the Illuminating Engineering Society of North America recognizes several individuals for their professionalism, ingenuity and originality in lighting design. This recognition is part of the society's International Illuminating Design Award program.

There are four groupings in this award's program: interior lighting, outdoor lighting, residential lighting and energy-efficiency lighting in commercial buildings. Two award-winning projects are highlighted in this article.

Eltro Milano at Princess Kaiulani

Eltro Milano is a chain of high fashion accessories stores in Waikiki. The owners wanted to retain the characteristic of their previous stores while working in a smaller space.

Expanding this smaller space with innovative lighting and emphasizing the merchandise posed a challenge for lighting expert Rick Chong of Albert Chong Associates Inc. To achieve the desired effect, light had to be

Lighting that emphasizes the products was crucial in the lighting design of Eltro Milano. The dark wood-paneled wall is detailed with xenon lamps.

Photo by Augie Salbosa

incorporated in display fixtures and architectural detailing.

Vaulted ceilings were illuminated with cove-mounted, low-voltage xenon lamps and signature custom pendants. Characteristic frosted panels on the top of fixtures were "back-lit" with channel-mounted "biax" lamps. Dark wood-paneled wall displays were detailed with xenon lamps to conceal low voltage strips and provide uniform accenting.

Taking maintenance into consideration, the project used lamps with a minimum life of 4,000 hours that were dimmed to provide longer lamp life.

Lighting Retrofit at Hawaiian Electric's Ward Avenue Office

When the decision was made to retrofit the lighting at Hawaiian Electric Co.'s Ward Avenue office, the objectives identified included eliminating glare from the video display terminals, improving energy efficiency and providing a flexible, ergonomically sensitive work environment.

The solution was to replace the existing surface-mounted fluorescent luminaries with an indirect lighting system. Lighting levels were enhanced by patching and painting the ceiling.

Efficiency of the lighting system was improved by replacing the T-12 florescence, magnetic ballast system with the T-8 fluorescent, electronic ballast system. An additional layer of lighting was added by T-8 task lighting.

Overall, the project was very successful at providing glare-free illumination and eliminating shadows at the work stations. The efficient lighting system cut the energy consumption in half and freed up several, badly needed electrical circuits for an ever-increasing number of computers.

The design team on this project included Wendy Nakano of Hawaiian Electric and the firms of Ferraro Choi and Associates Ltd., Lighting

Integration Technology of San Francisco and Bennet Drane Karamatsu Electrical Engineers Inc.

Dave Waller is director of customer technology applications for Hawaiian Electric Co. Inc.

How to submit a project for an IIDA

Participation in the IIDA program is relatively simple. Each entrant must complete a short application form, provide a 250-word or less description and submit not more than 10 35-mm slides for the project. Entry is not limited to IES members and anyone can nominate a project. Entries are usually requested by the end of January.

If you are interested in a 1997 entry form, or wish to learn more about the Hawaii Chapter of the Illuminating Engineering Society of North America, contact Dave Waller at 543-4794.

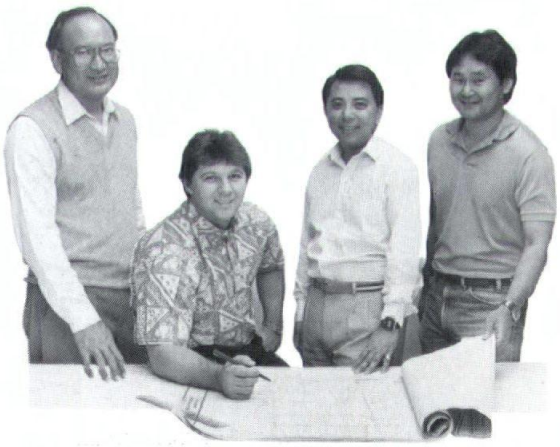
Market Place

When you can't halt hospitality... Allied comes through

Major improvements in scattered areas at the Princess Kaiulani Hotel called for a supremely accommodating contractor. Even as beautifully redesigned lobbies emerged, envisioned by the Gulstrom Kosko Group, and the popular Ainahau Showroom expanded with the overview of Ted Garduque, AIA, the hotelier continued to serve.

"We were on a tight timeline facing a holiday opening," observed Garduque. "Allied's crews were always responsive and concerned with quality execution. Even when the normal problems in renovation occurred, they stayed on top of things."

Adds GKG's David Chung, AIA: "Allied reacts well to the design professional. Beyond this, they know that change at hotels cannot interfere with visitor pleasure. They worked odd hours and with diplomacy when hotel guests were around."



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Architect David Chung, Hotel Food and Beverage Manager Chip Bahouth,
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