SAABE TIMES

A Publication of the San Antonio Association of Building Engineers *April, 2001*

Mark Your Calendar —

Disability Insurance

Kelly Welker from Edward Jones Investments will discuss the advantages and disadvantages of disability insurance. She will briefly discuss cost factors, work load factors, and needs analysis. Ms Welker will briefly touch on the advantages of contributing to your retirement plan and her special guest, Kirk Pearcy from Hartford Mutual Funds will discuss investment strategies for mutual funds during a down market.

Kelly has a Series 7 securities license, a Series 63 securities license, and Texas insurance license. She specializes in the financial education of women and works exclusively with individual investors and small business owners. Kelly's expertise is in small business retirement plans. She currently holds a BS in Business Admin and an MBA in Marketing. Kelly has won many production awards and was recently named the New Investment Representative Support Specialist for the San Antonio region of Edward Jones.

7th Annual BOMA/SAABE Trade Show

Please join us Thursday, May 10, 2001 for our best trade show yet! The fun begins at 4:30 at the Airport Convention Center

In addition to out-of-this-world food and camaraderie, there will also be door prizes and give-aways. Prizes will be awarded to best exhibit and best costume, so get those ideas flowing!

Education Corner

by Kenny Aguilar

Classes being offered:

Facility Forum 2001: Dallas Convention Center, Dallas, TX, Pre-Conference April 22, 2001; Conference and Exhibition, April 23-25, 2001. Contact Kenny for registration information and passes.

Evening HVAC 2-100 hours: Texas Engineering Extension Service, Starts June 2001 Tues. and Wed. 6:00-10:00pm, Tuition—Same as for HVAC 1; Contact Leanna Ramirez at 210-633-1065, 210-633-1064 FAX for enrollment information.

I.E.C. Electrical Classes: CE004-Grounding: General requirements and bonding of electrical installations per Article 250. April 10th and 11th, $40 IEC members, $45 non-members; IEC Trust, 210-736-4567, 210-736-6319 FAX, 8am-9pm.

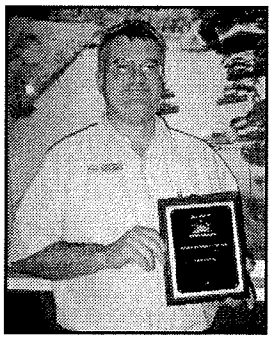
Introduction to the National Electrical Code 1999: San Antonio, April 3-5, Houston, April 24-26, $985.00; NTT 800-922-2820.

Basic Industrial and Basic Industrial Electricity II: San Antonio, April 10-11, $349.00; Lewellyn 800-872-9397.

Fundamentals of Refrigeration and Air Conditioning: San Antonio, April 17-19, Houston, April 24-26, $1095.00; NTT 800-922-2820.

Doug Graves Named Building Engineer of the Year

The March General Membership Meeting featured the presentation of our BEOTY award for Building Engineer of the Year. This year's nominees were Henry Aguirre with Rector Management, Phil Eastman with Mack Cali, and Doug Graves with Hines Interests. Congratulations to all three of these outstanding candidates, and especially to **Doug Graves**, who was named our newest Building Engineer of the Year. Special thanks to the awards committee — Mike Alvarez and last year's co-winners Bernardo Chapa, and Charlie Mikolajczyk. Individual evaluation of all nominees included interviews and site visits to their properties.



Doug Graves, Building Engineer of the Year

A Message from the President

by Elena C. Castillo

Spring Cleaning

Many of us can relate to cleaning out your closets, putting away your winter garments, preparing flower beds for the spring flowers, etc. But — I don't mean spring cleaning at home, I mean the office!

We've gotten used to the way we keep our offices. The pile of "to do" projects on the corner of your desk, on top of the file cabinet, or even in the top left hand drawer. The box of letters and paperwork that needs to be filed, but we don't have a secretary to file for us. So the pile gets higher than the box itself because we just don't have the time to file... or we just don't want to. We know we need to do it, but we just have to find the time. It's on our minds to do it, but we will also get around to doing it... soon.

This one menial task can weigh heavily on one's mind, because it is always there. So get rid of this excess baggage, make the time to file your paperwork and get ready for the summer projects coming up!

You winterized the building last fall, now it's time to spring clean. For example, PM your air conditioners, change your filters, wash or clean your condenser and evaporator coils, check all wiring connections; after all, the energy costs have gone up, and operating your units at optimum performance is very crucial, especially if you have to absorb all utility costs.

Lighting usage can also be cut down. Instead of leaving a room fully lit all night, you may want to consider changing a few lights over to emergency lighting. This way, in case of a power outage, tenants or employees will still be able to find their way out of the building.

A power analysis can be performed on your building at this time during normal building hours to determine high usage times. There are several reputable companies willing to help you analyze where your peak KWs lie, let them help you lower power consumption.

Check your water usage. Compare last year's usage to this year's consumption through this month. Are you using the same amount of water? Do you meter cooling tower makeup water? Is it running the same as last year's? If not, what is the problem? Is the cooling tower making up more water this year? Does the float need to be replaced? Have the distribution panels been cleaned? Are the chemical levels balanced?

Irrigation systems have their problems, too. Metering these lines help monitor water leaks and usage. Taking daily or weekly readings enable the building engineer to determine how much water is being dispersed on the lawn. If the readings indicate higher water usage, you can determine if the water cycle has been extended or if there is a broken underground water pipe.

Other ideas include painting your equipment, mechanical rooms, office, etc. Spruce up your work area. New surroundings always seem to perk up people, motivate them, and make them more productive. In other words, if you have been at the same job for quite some time, it may be time for a change of scenery. Move your desk around, change your pictures to another wall, move your file cabinets, or simply repaint your office. It will definitely change your attitude and make you feel you did a great spring cleanup!

Heard It Through the Grapevine

- **J.R. Uresti** is now with Rector Management.
- **David Edmond** is now the SAABE representative for Orion Partners.
- **Henry Elizondo** is now the SAABE representative for RM Crowe at Tesoro Petroleum Building.
- The new SAABE representative for Trammell Crow at 8401 Datapoint is **Tomas Lobo.**
- **Jay Tillery** is the new SAABE representative for Joe Fly Company.
- **Brett Bunker** is Paschal Harper's new SAABE representative.
- The new SAABE representative for Pumps Unlimited is **George Worth.**

Ask Tio SAABE

Cooling Tower Types

Q: ***What are the different types of cooling towers, and how do they apply to various applications?***

A: Cooling towers are often categorized by the way they make air and water interact. The counterflow tower has air and water passing in opposite directions... the water falls vertically down while the air travels vertically up. In the crossflow tower, water flow remains vertically down while the air flow is horizontal. When a crossflow tower is constructed with two opposing air streams joining in a common plenum, the design is called a 'double flow', crossflow tower. Another distinction involves the location of the fan as in 'blow through' or 'draw through' and is determined by whether air is pushed into or pulled out of the tower.

Counterflow towers tend to be the most compact. This is because the coldest air is in intimate contact with the entire cross section of water just before it falls into the basin. Less space is needed because of this increased efficiency and lack of plenum space required for cross flow cooling towers. The down side, though, is the increased fan horsepower resulting from air flow in direct opposition to the water flow.

Crossflow towers enjoy considerable popularity primarily due to their operational cost savings. They often have the lowest initial cost as well plus a simple, easy to maintain design.

Blow through designs generally have easier mechanical component access because the moving parts are located at the base. They exhibit a reduced corrosion potential because they handle dry, ambient air instead of the saturated air of the draw through arrangement.

The type of fan (centrifugal or propeller type) can further categorize tower offerings. Centrifugal fans have the advantage of quiet operation and can also be used in conjunction with oversized motors to overcome the resistance to airflow imposed by connected ductwork or tight installations.

Conversely, prop fans are more noisy and generally lack the ability to handle duct work but display the highly desirable characteristic of consuming approximately half the horsepower of a centrifugal fan for the same thermal capacity.

Yet another distinction is made between factory and field assembled towers. Factory assembled towers are limited by the practicality of transporting oversize loads to the job site by trucks with maximum dimensions of 14'W x 12'H x 48'L. (This does not mean that a tower can ship in one piece with these dimensions because 48' length and 12' height are not mutually acceptable to the freight carrier.) Large factory assembled cooling towers ship in multiple sections for assembly at the job site.

When designing overseas projects, it is important to check the size restrictions imposed by the local authorities. Highways and bridges can be less capable in other areas of the world. Be careful not to ship a cooling tower abroad only to find it cannot be transported from the dock to the job site. It may be better to design the project with towers built to locally. Export fees, ocean freight, increased risk of shipping damage, etc. are eliminated and repair parts availability is greatly enhanced. Some domestic manufacturers have overseas manufacturing facilities.

The biggest single cell, US manufactured crossflow tower is about 1,050 nominal tons. For counterflow, it's approximately 1,350 nominal tons. Both must be broken into several pieces for transport. Multiple factory assembled cooling towers are often used but there comes a point where field erected cooling towers become more practical. They are built on site of wood, steel, fiberglass or concrete typically on a concrete basin although fiberglass or steel basins can be provided on smaller models.

Very large projects such as nuclear power plants can employ hyperbolic cooling towers. They are characterized by their distinct shape much like a tall cylinder with a tight belt around the waist. Such towers have the advantage of not requiring any fans, motors, gear boxes, etc. The design consists of a ring of wet deck surface arranged in a crossflow fashion encircling the base of the tower. The center contains a large, hyperbolically shaped chimney. Any warm air at the base of the chimney rises and accelerates as the cross section diminishes creating a negative pressure that draws additional air through the wet deck fill. The tall stack insures against recirculation. Such towers run largely on their own with capacity increasing along with the cooling requirement. Pumping costs would be quite high for conventional cooling towers built to the proper scale for such projects making one more advantage apparent... The low elevation of the hot water distribution basins offers substantial pump horsepower savings.

The designer must realize that each project is unique and that the site requirements should be matched to the most desirable characteristics of the available towers. Selecting a tower based solely on first cost or energy consumption is typically not the best approach.

Contact your nearest cooling tower representative for more information and to discuss these issues.

source: http://www.ctdoc.com

New Members

Regular: William Gilkey of
Tolin Mechanical Systems
300 Convent, Suite 1313, SATX 78205
phone 210-225-1119

Regular: Jim Many of Jones Lang LaSalle
3500 Wiseman Blvd, SATX 78251
phone 210-474-4594

Regular: Bob San Miguel of Mack Cali Realty
200 Concord Plaza, Suite 777, SATX 78216
phone 210-828-6998

Regular: Michael Skinner of Hines Interests
1020 NE Loop 410, Suite 530, SATX 78209
phone 210-828-7712

Associate: John Esley of
JOBS Building Services
5504 Bandera Road, Suite 306, SATX 78238
phone 210-684-0843
fax 210-509-3755

Associate: Kelly Gist of
Ed Flume Building Specialties
708 W Summit, SATX 78212
phone 210-732-6139

Associate: Ernie Welker of Hydro Solutions
3830 E Evans Road, SATX 78259
phone 210-857-7867

It Pays to Advertise!

Dimensions	1 Issue	3 Issues	1 Year
Full Page (7.25"w x 9.5"h)	$110	$280	1,000
Half Page (7.25"w x 4.35"h)	60	150	575
Half Page (3.5"h x 9.5"h)	60	150	575
Quarter Page (3.5"x 4.75"h)	30	75	280
Business Card (3.5"w x 2"h)	20	50	190

Send ad copy (camera-ready black and white laser, or black and white velox) and payment to SAABE, P.O. Box 691861, San Antonio, TX 78269.

Why Are Associations So Important?

Check out the March 23 issue of the San Antonio Business Journal - we're the 24th largest professional/trade association in San Antonio!

- Today, more than 140,000 associations exist in the United States, representing nearly every industry, profession, charity, hobby, cause, and interest. (A breakdown of this figure by Gale Research, publisher of the *Encyclopedia of Associations,* shows more than 116,000 local, state, and regional associations; 23,000 national associations; and 1,300 international associations headquartered in the United States.)

- Nine out of ten adult Americans belong to one association, and one out of four belong to four or more associations, according to a 1998 study by the American Association of Retired Persons.

- Americans are forming as many as 1,000 new associations each year.

- Ninety-five percent of associations offer educational programs to their members. Seventy-nine percent offer public information and education.

- Associations are the originating source for codes of ethics and professional and safety standards that govern such professions as law, medicine, banking, and manufacturing.

- Seventy-one percent of all associations conduct industry research or develop statistical information. Businesses and government depend heavily on associations for their statistical information, which is often not available elsewhere.

- More than 173 million volunteer hours in community service are documented annually by associations, often using members' skills for the greater common good.

Tech Talk #47

by The Charlie

Smoke and Mirrors, The Bottom Line!

(Part Two of Three)

During the same period, the Kw demand was being tracked. As reflected in the chart *(see Kw demand from last month)*, the actual Kw demand rapidly decreased as compared to the same months of previous years. In fact, almost 300 Kw was reduced from the Kw demand by utilizing heavy equipment delays with the new EMS system. Additionally, an all time low for the building was set in 1999, for the "seasonal provision" which the electrical utility company establishes the minimum billing demand (June thru September set Winter minimum billing demand)

By this time, numerous calls and meetings with our utility representatives were well underway. The installation of additional variable speed drives and lighting conversions were halted. This was due to the emphasis on installation based upon the payback in reduced utility costs. By August of 1999, wits were at end and the decision to ride out the year to see what it would bring was made.

Back to the cost per Kwh or unit *"unit cost is driven by hours use which equals consumption in Kwh, divided by the billing demand in Kw"*. In layman's term, take your electrical utility bill, take the units used and divide by the billing demand. This gives the hours use. The hours use is relatively used in the unit calculation. Basically, the closer you maintain your daily consumption/hours use to the peak demand, the more favorable the unit rate. Now, the only ways to decrease the unit cost which, is derived from Kw demand and hours use, is to; (a) flatten the graphical peaks during operating hours; (b) decrease the Kw billing demand as determined by the highest demand during a 900 second interval; (c) increase the amount of hours of operation.

As reflected in the cost per Kwh chart *(refer to last months Cost per Kwh chart)*, by June of 2000, hysteria was near! The further the consumption was reduced, the higher the unit costs. In July of 2000, an experiment of increasing the usage without raising the Kw demand started. This was to test the theory if usage rose, would the cost per unit decrease. This could be a dangerous decision, which could have catastrophically negative results if this failed. Sometimes, you just have to go out there, for there cannot be research if experiments are not performed!

Guess what? If you followed the charts, you already know the answer!

After reviewing the charts, it is very possible that once you have established a profile of your electrical usage, you may very well pay about the same amount (use less, pay the same/use more, pay less per unit)! As reflected in the Kwh consumption chart, since May 2000 the usage has been increased to offset the cost per unit. If you can use more to pay less per unit and increase Tenant comfort without affecting the bottom line, which way would you go? This will be further influenced by a profile of completely different building with different circumstances and the same results next month!

Finally, other installations cause unforeseen problems. For instance, in performing a complete lighting retrofit, be sure that the interior temperature will not be affected during the winter due to the removal of the magnetic ballasts. Too many times, the demon has raised its ugly head after a retrofit was performed.

Next Month: What happens when a building becomes vacant?

CHARLIE'S LAW: I know you think that you heard what I said, but are you sure that what you heard is what I meant?

JUST A MAINTENANCE MAN

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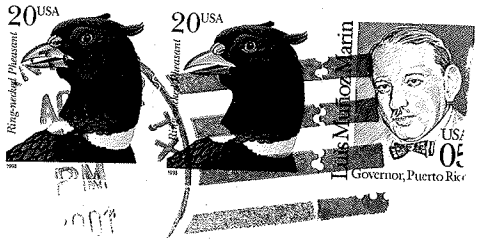

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SAABE TIMES
April Issue

Final Thought —

Most of us can keep a secret. It is the people we tell it to who can't.

2001 Board of Directors

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Lynn Forester (830) 981-5223
Association Coordinator (lynnfor@mindspring.com)

Membership Luncheon
April 18, 2001

Time: 11:30 a.m.

Location: The Barn Door
8400 N. New Braunfels Ave.

Topic: Disability Insurance

Speaker: Kelly Welker

Upcoming Luncheon:

May 16, 2001

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