



SAABE TIMES

A Publication of the San Antonio Association of Building Engineers

April, 2000

Mark Your Calendar —

CPS to Speak on Commercial Rates and Bill Information

For more than 50 years, City Public Service has provided the energy needs of the San Antonio metropolitan area. Today, CPS has more than 530,000 customers, making it the second largest municipally owned utility in the country.

On April 19, 2000, Mr. Charles Nuemann, CEM, and Senior Commercial Representative for City Public Service will discuss commercial electric rates at the SAABE membership luncheon. During his presentation, he will cover CPS's three commercial rates and information on a commercial bill.

A life-long resident of San Antonio, Mr. Nuemann has been employed by CPS for over 30 years. His background has been in the Customer Service Division. As a Certified Energy Manager, Mr. Nuemann's duties include commercial energy audits, rate analysis, power quality and CPS employee training.

Interested in Sponsoring a Luncheon?

If your company would like to sponsor an upcoming SAABE luncheon, please contact Mike Alvaraz at 824-7683. Presentations should be "generic" (not a sales pitch) and informational in nature. When a sponsor is a vendor company, their sponsorship must include payment for lunches. The cost is approximately \$450 to \$600. The only exception is when a non-vendor entity (government and non-profit agencies, etc.) is providing the program. Each exemption for payment must be approved by the board on a case-by-case basis.

Education Corner

by Mike Lusk

GLOBALCON 2000 — Energy and Facility Management for the new Millennium Exposition. Presented by the Association of Energy Engineers. Dallas, TX Convention Center, April 19-20, 2000. For more information, check out www.aeecenter.org or call me. I have more information and some complimentary tickets.

Want to know what the local ASHRAE is offering in HVAC education? Call Bob Gleeson at 646-8661. Courses are taught locally in the evening and are very inexpensive.

NTT Seminars: 1-800-922-2820 for registration or more information.

- Refrigeration and Air Conditioning: San Antonio, May 9-11; \$985.00
- AC & DC Variable Speed Drive Technology: Houston, April 25-27; San Antonio, May 2-4; Dallas, May 9-11; \$1195.00
- Electrical Safety: Dallas, June 26-27; El Paso, June 28-29; \$695.00

The University of Wisconsin-Madison has some HVAC courses you can still catch this year:

- Chilled Water Plants for Central Cooling Systems: May 8-12
- HVAC Systems for Industrial Buildings: May 15-19
- Psychometric Processes and Load Calculations: September 11-15
- Refrigeration for HVAC equipment: October 16-20
- Air Distribution: November 6-10

Contact their Engineering Professional Development Department at 1-800-462-0876. Or <http://epd.engr.wisc.edu/> or custserv@epd.engr.wisc.edu

Hey, remember that Association of Facilities Engineers Facilities Assessments Seminar that was scheduled for March 23 at the Pearl Brewery? Well, you didn't miss it after all. It has been re-scheduled for May 11, 2000. Mr. Kissmann tells me everything except the date remains the same, so see last month's newsletter for a synopsis. To sign up, call Claud Kissmann at 522-2923.

continued on page 5

Above the Ceiling

by Paul Thompson

en•gi•neer (ĕn' jə nêr') n- Runs the Engine!

Well, it's finally here. We've formed committees, talked about it, had meetings, sent it to the lawyer, revised it, sent it back to the lawyer again and held the final meeting for the final draft. Presenting the San Antonio Association of Building Engineers' newly revised Certified Building Engineer application — fully Y2K compatible and coming soon to a location near you!

For those of you new to the area, the trade, or simply born yesterday — here's a little bit of SAABE history. SAABE was formed back in 1985 with a mission: to raise the bar on the Building Engineer *profession*. To that end, we've had our monthly meetings/educational seminars, the Newsletter, Trade Show, Directory and networking. We've worked with TEEEX, IEC and others on classes. We've taken tours of each other's buildings (in the early days and in the not-to-distant future). We've worked with similar organizations and will continue to reach out. Very early on, we realized that *educating* ourselves was the key.

What does it take to run a building? Is it enough to know that sewage runs downhill and payday is Friday? How many mice it takes to screw in a light bulb? That the elevator trade has its ups and downs and electricians do it with no shorts? What kind of qualifications does it take to go toe to toe with contractors, other trades, professional engineers, architects, owners, managers, fire marshals, inspectors and mostly with the building itself? How many dozens of plumbing fixtures, hundreds of AC units, thousands of individual components, miles of wiring, cable, ducting and piping, acres of grounds, parking and hundreds of thousands of square feet?

And what about codes? Are you in compliance with the National Electric Code? Are you testing your fire sprinklers as per relevant National Fire Protection Association standards? How about your fire alarms? How often must your backflow preventers be tested and who has jurisdiction — SAWS or City of San Antonio? Are there codes governing the grease trap? Is your ductwork going up in compliance with the Uniform Mechanical Code? Do your firewalls meet Uniform Building Code? Are you good as per ASHRAE 62-89? What about its revisions — do they apply to you? You better find out — those possible new tenants will want to know and guess what? U da Man. Keeper of the Gate, Defender of the Castle. You are the one that has to answer the questions...

...and looking forward, SAABE found there were no standards for us, the Building Engineers. No criteria, no license or certifications required to do the job. Electricians, plumbers, AC technicians, pest control, fire alarm inspectors, the list goes on and on — to work in their field and to work in *our buildings*, they've got to show that they've met basic requirements. They know their stuff...let's see your card. But for our trade, well...if you've got a screwdriver in your back pocket, you've got a job. So, the idea of the CBE was born, and the first one was issued in 1991. It is basically a way for SAABE to fill a void — to set some basic standards for the profession and to show what you know! The different levels of the CBE correspond to what is standard in any trade: Apprentice, Journeyman and Master. For each level, the requirements both of time in trade and education go up. And the bar is purposefully high for a reason; if *anyone* could do this job, why do they need *you*?!

As a SAABE CBE holder, you'll be in good company. At least three past and present Building Engineer of the Year award winners have theirs: Phil Anderson, Robert Andrews, and Charles "The Charlie" Mikolajczyk.

So, after a year and a half absence, you now have the opportunity to climb on board the Certified Building Engineer train. Because you can't RUN THE ENGINE from the caboose.



- **Mary Parker** is now the SAABE representative for Five Star Electric Motors.

Life Safety Code: The Way Out In An Emergency

Life Safety Code (LSC) began as a pamphlet from the National Fire Protection Association in 1912 called "Building Exit Codes" and dealt with stairways, fire escapes, exit facilities, and fire drills. The Coconut Grove Night Club fire in 1942, in which 492 lives were lost due to locked exit doors, along with several disastrous hotel fires began a drive to convert the code from a reference document to mandatory application to be adopted into law. The 1967 edition began a 3-year revision cycle and publication, which continues to the current edition. Although the City of San Antonio has adopted the 1977 edition of the Uniform Fire Code, the principles of the Life Safety Code still apply.

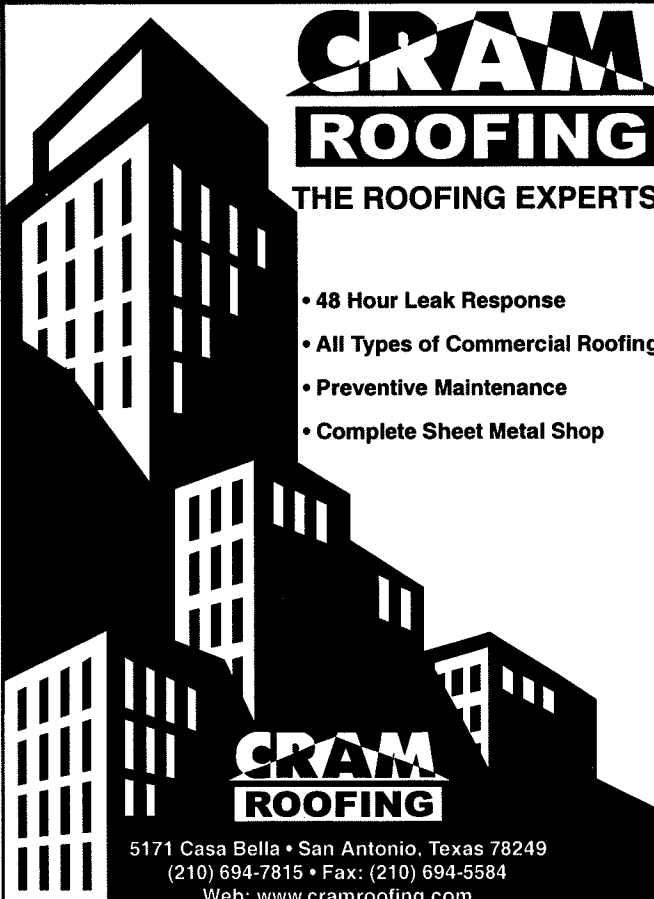
The means of egress (path of travel out of a building) include corridors, stairwells, landings, doors, areas of refuge, escalators, exit signs, and aisles. Exit signs should be clearly visible from all directions for 100 ft. to the exit and be fully illuminated. The San Antonio Fire Department recommends weekly inspections and records be maintained along with emergency generator power with a maximum switchover time delay of 10 seconds. For battery operated exit lights, runs should be made a minimum of monthly and ideally every two weeks. At least twice per year, exit lights should be allowed to run 30 minutes on battery power to simulate a real emergency and to test the battery's ability to fully recharge. Emergency lighting is required to operate 1-½ hours for exits and may not contain any means of manual disconnect from emergency power. Access to stairways (aisles, corridors, alcoves, etc.) are to be considered sacred according the SAFD. Inspections should verify that furniture, filing cabinets, storage boxes, mops and brooms, coats, etc., are not in these areas and that they are cleaned regularly.

Doors that are part of the means of egress are never to be locked to path of travel and must open fully with a maximum of 7" from the face of opening hardware to the wall. Doors must swing with the path of travel and should require 15 to 30 lbf to unlatch and swing open, including the force of a pressurized stairway. Door breaker bars and push-pad panic hardware should be clear of the egress for 28" in existing buildings and 32" in new buildings — maximum opening is 48". No door may be controlled by keypad or keycard type electronics. Exit doors are required to have a ¾-hour fire rating and surrounding walls a 1-hour fire rating.

Stairwells and landings are to be lighted continuously and adequately, and inspected regularly. Stairs should have a 44" width with a 3-½" protrusion for handrails. The City of San Antonio has recently amended the fire code to include stairwell pressurization testing and recording 4 times per year with a minimum of 0.5" wc pressure to exclude smoke from these areas.

Good housekeeping and regular inspections / testing will provide a safe and secure means of egress during and emergency for your tenants. Once a fire has begun there is no time for repairs — lives are at stake.

Our thanks to Captain Rick Mazuka, who is a fire inspector, and Lieutenant Roger Dominguez of the public education department of the San Antonio Fire Department, for their assistance in compiling information for this article. They are available to answer your questions at 207-8410 and 207-7953 for the public education department.



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Equipment Failure or Human Error?

We've all had our share of equipment malfunction. Whether it be a catastrophic failure, or infant mortality of a component. One thing is for certain, about 70% of the failures associated with bearings can be directly related to human error in one form or another!

Bearing Selection

In selecting the proper bearing for a given application, several factors need to be considered including unit costs, desired life, load rating, environment, maintenance, and mounting configurations. It is recommended that research be conducted in the actual environment to determine if a particular bearing unit is suitable for an application because of the many variations which can occur including environment, RPM, temperature, shock load and supporting structures. Additionally, shipping a failed bearing unit to the manufacturer for analysis helps eliminate a lot of the guesswork.

For most of our industry, the commonly used bearings are either pillow blocks, flange, or roller bearings. Pillows and flanges are pretty much cut and dry. However, in many cases, a sealed bearing was installed in a motor and a grease fitting was installed as opposed to a plug. If this has happened, it don't matter how much grease you pump, it ain't getting to the bearing. If you prefer the sealed variety, remove the grease fitting and plug it so someone else doesn't come along and try pump grease into it (rule of thumb; if it has a fitting, grease it)!

Selecting a Lubricant

Lubricants have evolved from simple choice, to a conglomeration of products. Today, there are many manufacturers with a lubricant for almost every application. More specifically, the choices of bearing grease which are from food-grade to synthetic, can leave one thoroughly dazed and confused. In having a rather lengthy experience in this field, the best choice we can offer is to carefully choose your lubricants and consult your supplier about this. This is highly recommended due to certain types of grease having an adverse reaction if mixed with that of another. If you are purchasing your lubricants off the shelf, or you have changed lubricants, use caution. Additionally, your equipment manufacturer should be able to provide you with a list of approved lubricants. However, we have found that some have not been current with R&D as has the petroleum industry. Again, there are many factors such as speed, heat and environment to consider when choosing a lubricant. Typically, a grease you may be using on the tower bearings

may not be the best lubricant to use for a pump or motor. Lubricants and grease guns are inexpensive. It is not that difficult to have two or three different grease guns on hand for specific tasks — just be sure to have them identified for each application.

To Grease, or Not to Grease?

Having come from an era where bearing grease was only available in pails, and most of the equipment was outfitted with a grease cup as opposed to a grease fitting, a lot of change in the intervals between lubricating has occurred. The methods of equipment lubrication have evolved from a quarter twist of a grease cup every hour or so, to bearings that only require a quarter of a pump for every 400 hours of operation, to greaseless or sealed bearings. Bearing failure associated with frequency is caused both by over-greasing and under-greasing. What is right? If your present program works, stick with it! Again, consult your manufacturer or petroleum expert about the recommended intervals between lubricating. However, if you're communicating with an equipment manufacturer, be sure to ask if the sheet is current and up to date with the most modern lubricants.

Closing Quote: Engineers build weapons, architects build targets! Who would you rather be with?

"Just a Maintenance Man"



Education Corner

continued from page 1

Last, but certainly not least, here are some tidbits of interest to all you sparkies out there from the Independent Electrical Contractors:

- Journeyman's Exam Preparation Course starts Monday, May 15 thru July 17. Classes are from 6:00 p.m. - 9:00 p.m. every Monday.
- Electrical Apprenticeship Program: Classes begin September, 2000. Don't fiddle around until the last minute. There is an application process involved with this that starts well before then, so apply between April 1 and June 30. You may need some refresher math courses and documentation of other sorts.
- Registered Electrical Maintenance Technician: (section (k) of Chapter 10), new City requirements. If

you do any electrical work in your facility (change ballasts, repair 120v switches, ceiling fans, etc.) you must have completion of a minimum of 20-hour course approved by the Electrical Examining and Supervisory Board. This course has been approved. The cost is \$125.00 per person. Courses are conducted at 803 Jerry St. Friday evenings (May 5, 12, 19) and Tuesday evenings (May 9, 16), 6:00 p.m.-10:00 p.m. Dates of the next class have not been determined, so you had better jump on this one if you are in need. For more information, call 736-4567 or fax 736-6319, Diana Foster. Also check the sign-in table at the next SAABE luncheon. I will try to place copies of schedules and application forms there.

a name you can trust



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SAABE TIMES April Issue

Employment Opportunity —

Assistant Building Engineer needed. Minimum four years commercial building maintenance experience with a background in electrical, plumbing and HVAC. Fax resume to (210) 524-9441.

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Lynn Forester
Association Coordinator

(830) 981-5223

Membership Luncheon April 19, 2000

Time: 11:30 a.m.

Location: Tex's Restaurant
in the Airport Hilton

Topic: City Public Service presents
answers to billing questions

Sponsor: City Public Service

**Upcoming Luncheon
May 17 at Tex's Restaurant**

The SAABE Times is produced monthly for the San Antonio Association of Building Engineers by:



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