



SAABE TIMES

A Publication of the San Antonio Association of Building Engineers

February, 2000

Education Corner

by Mike Lusk

The University of Wisconsin-Madison College of Engineering has a series of ten courses dealing with HVAC. Piping systems for HVAC (Feb 14-18); Direct Digital Controls (March 6-10); Operation and Maintenance of Control Systems (March 20-24); Design of Air Systems for Commercial Buildings (April 3-7); Testing, Adjusting and Balancing (April 10-14); Chilled Water Plants for Central Cooling Systems (May 8-12); HVAC Systems for Industrial Buildings (May 15-19); Psychometric Processes and Load Calculations (Sept. 11-15); Refrigeration for HVAC Equipment (Nov. 6-10). Call 1-800-462-0876 if interested, and ask for Chuck Dorgan or Mary Danielson.

IEC has several courses coming up this quarter. There are too many to list all the dates here, so call me to get a faxed copy of the schedule. Better yet, call IEC directly 736-4567 for more information or to enroll. Not on the schedule but starting February 21 and running for ten weeks is the Journeyman Prep Class. Classes are from 6-9 p.m. Other courses are:

- Review of SA Chapter 10
- Branch Circuits: Feeders & Services
- Overcurrent Protection
- Grounding
- Motor Controls

If I can remember, I will place application blanks on the table at the entrance to the February general meeting.

Gerloff Company, Inc. offers continuing education classes in first quarter.

- February 18, 2000: Post Fire Structural Cleaning and Deodorization (2hr)
- March 17, 2000: Plumbing Systems and Failures (3hr)
- Call James Gregory at (210) 490-2777.

Upcoming NTT seminars: 1-800-922-2820

- Hydraulics Training: San Antonio, March 7-9, \$985.00
- Troubleshooting Electrical Circuits: San Antonio, March 28-30, \$985.00
- Centrifugal Pumps: San Antonio, March 16-17, \$395.00 for day one, \$695.00 for both days.
- Electro-Pneumatics Training: Houston, March 7-9, and Dallas, March 14-16, \$985.00
- OSHA 10 & 30 Hour Safety: Attend day one and two to earn OSHA 10-hr card (\$695.00). Attend all four days to earn OSHA 30-hr card (\$1195.00). San Antonio, Feb. 28-March 2.

Performance training Associates, Inc. presents Basics of Industrial Electricity.

Day one is Fundamentals of Basic Electricity in Industry, \$395.00. Day two is Application of Basic Electricity in Industry, \$395.00 (Both sessions, \$695.00). San Antonio, March 22-23. 1-800-208-6108 to register or for more information.



The Envelope Please...



Please join us Wednesday, February 16, 2000 as we announce the Building Engineer of the Year at our General Membership Luncheon. The following engineers have done an outstanding service to our industry and we congratulate them all on their nominations:

- Robert Andrews, Concord Plaza
- Bernardo Chapa, Crowne Plaza St. Anthony
- Rhondo Jauer, Bank of America Plaza
- Tom Lasater, The Carlyle
- Charles Mikolajczyk, Jr., Forum Building
- Paul Thompson, Pyramid Building

Above the Ceiling

by Paul Thompson

Canary in a Coal Mine

The call came in from the 6th floor northeast side; a complaint of a bad smell. If there is anything I've learned about Indoor Air Quality (IAQ) complaints, it is to take them seriously and act quickly. So we all went up there — me, Tim, Bill and Gloria, but we didn't smell anything — at all. Margaret, who made the complaint, has asthma. She said sometimes the smell was so overpowering she had to leave. But none of us could even get a whiff of it — even the other people in the area, if they smelled anything at all it was very faint.

So we looked. Was there an open plumbing vent accidentally left uncapped above the ceiling? I'd seen that before, after a construction buildout. Under certain conditions, a fan-powered AC unit could pull the odor in through its recirculating air opening and diffuse it out a hundred feet away. That wasn't the case here, though. Could it be something in a trash can? Again, no. Could the copier, the fax or the printer be putting out something? In some of our most recent buildouts, we have provided exhaust for all copiers to the outside air. But this was not a problem here.

How about (ugh) the possibility of a dead animal? You've got to check it out, even if the chance is slight. We had one IAQ flare up when I could have sworn something had died. The smell was that strong and localized. Turned out to be a tenant had over-watered a plant. It rotted and the skunky water soaked into the carpet. Another time, a dozen red roses delivered that morning turned out to be the culprit. Yet again, a very similar (dead) smell was traced back to a bad power supply in a phone cabinet. We had to pull the whole thing out of the building. None of these things were the case this time, however.

How about mildew from damp sheetrock? Remember the flood of '95 and all the water? But we'd pulled out all the wet carpet, pad, ceiling tiles, etc. and dehumidified everything completely dry. No, mildew was not the problem here.

We know it wasn't from construction dust. We work hard to keep that and other odors like fresh paint, carpet, VOCs, etc., from becoming a problem by strict construction practices and things like "flushing" the construction floor with 100% outside air.

Could we have internal insulation breaking down in a fan-powered box and releasing particulates in the air? We had dealt with this problem in other places, but it tends to be very localized. Not the problem here.

How about a hole in the sheetrock, in the perimeter wall above the ceiling? That *could* allow odors in from the

outside through the ventilated building "eyebrows", even if it does seem quite a stretch. We know for a fact that a similar hole caused localized high humidity in the return air of a corner office and caused the supply air diffusers to condensate profusely. And, sure enough, we did find a hole. Sheetrock, taped and floated it, patted ourselves on the back for our clever detective work, got the order signed and walked out.

...Only to get called back two days later. Same smell, different day. Need more info. Well, it's a greasy smell and seems strongest around 11:00 a.m. and 2:00 p.m. Well, we *do* have a cafe on the first floor, but this is the sixth. As it turns out, they clean the grill at 11:00 a.m. and 2:00 p.m. And since we have a built-up HVAC system, there is a common return air...

Bingo! Problem finally traced back to an out of balance venthood. Air flow measurement of the vent system supply and exhaust ductwork, along with "smoke stick" testing, conformed that some grill smoke was getting into the building return air system. From there, it was being distributed throughout the entire building, although in a very diluted form.

Once the problem was isolated, the solution was pretty straight forward. Some bad dampers were replaced, air flows were adjusted and the system was re-tested to provide positive smoke removal. The problem went away.

...Or so we thought until the complaint came through again, but this time on a Saturday (when our cafe is closed). Bill was working that day and he had the good sense to check our outside air inlets. Sure enough, it was the same smell. Turns out the restaurant next door (200 yards away) was cleaning their grills. Some things you can't do anything about.

But some you can. I know of a hospital where the surgeons used to complain of car exhaust smells in the operating rooms! Turns out the outside air fan (feeding the ORs) was right at the emergency entrance where the ambulances would leave their engines running!

Another building I know of had their outside air intake on the roof — not more than ten feet from the cooling tower! Can anybody say "Legionnaire's Disease"? A lot of times, the engineers who design these systems make mistakes. But they don't have to live there — we do. Keep your eyes open.

In the old days, miners used to take canaries down into the coal mines. The bird, being much more susceptible to bad air than humans would act as an early warning system for danger. Listen to your canary.

And the Building Engineer of the Year Award Goes To...

As many of you know, we are well under way in reviewing the nominees for the 1999 Building Engineer of the Year Award. A special congratulations goes out to all of the nominees.

We are striking the fear of God into the nominees, as this year the committee is doing a physical inspection of their properties, as well as an interview. None of the nominees have any prior knowledge as to what the criteria is for judging, so there really is no time for preliminary preparation, which is what we wanted. We wanted to see the "natural environment" of the building and its every day condition to be able to give an accurate assessment.

For your information and that of future nominees, following are some of the critical components of our assessment:

- General Building Appearance
- Safety Equipment Inspections Up-To-Date
- Licenses, Registrations, and Certifications Held By Nominee

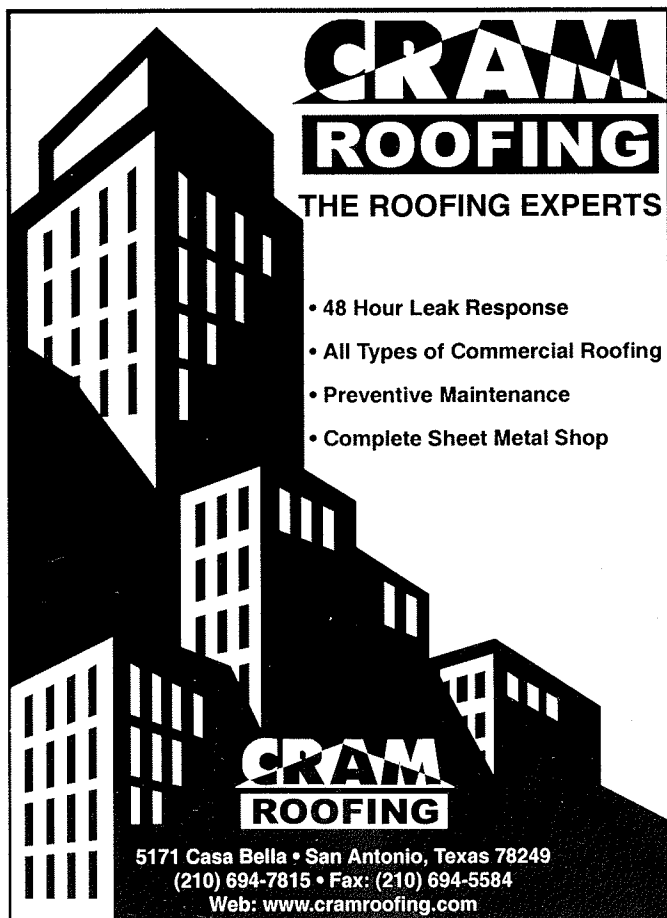
- Overall Cleanliness of Mechanical Room
- Size of Building and Number of Assistants/Subordinates

We also added an area for additional comments, in which we include statements about person's professional demeanor, special affiliations with other organizations, and specialized training pursued by the nominee.

All aspects are graded on a scale of 1 through 3, with 3 being superior.

This has been a great experience for us, as we have been amazed at the amount of preparation and planning it takes to be a good building engineer. We encourage more participants next year and we look forward to making our award at the February membership meeting. Again, congratulations to all the nominees for a job well done.

Thank you to the Building Engineer of the Year Committee: Mike Alvarez, David Webb, Joan Woods and Perry Wornat.

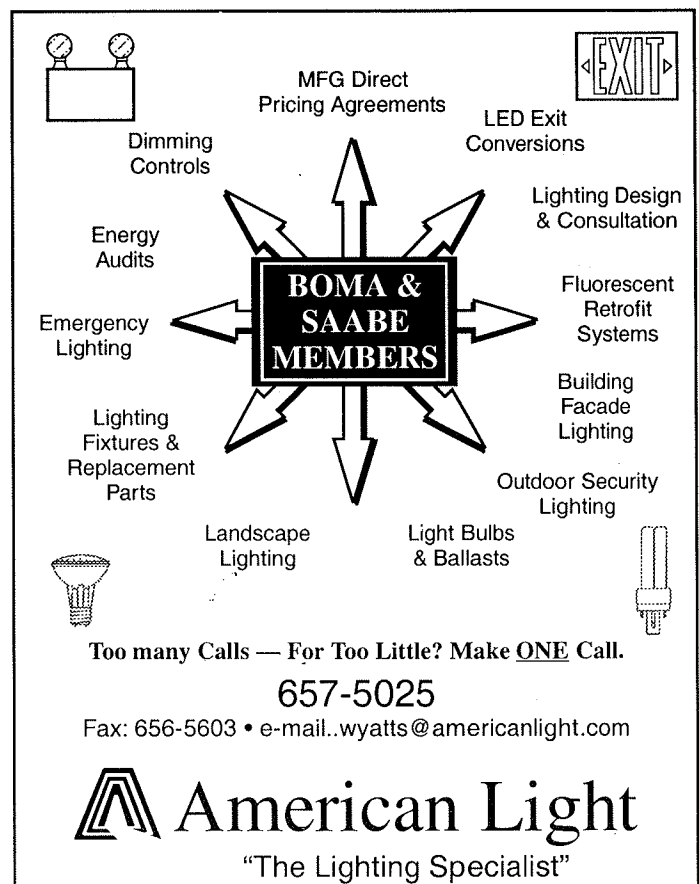


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Tech Talk #33

by The Charlie

How Secure is Your Building?

Secure (si-kyoor') adj. 1. Free from danger or attack. 2. Free from risk or loss; safe. 3. reliable; dependable. 4. Free from fear, anxiety, or doubt. 5. Not likely to fail, or give way.

Warning! The contents of this article may not be suited for some individuals. Although parental guidance is not necessary, your continuation may lead to a sudden urge for nicotine or alcohol.

Only He Who Stirs the Pot, Knows What Is In It!

For all those involved with property management there is a security factor. Job security! For several years the market was dormant. However, a large amount of properties have changed hands and a lot of engineers, management companies, etc., were shuffled due to this. What is lurking out there is that a lot of these properties have undisclosed criteria which effects all. One of the largest unknown factors is that these properties are merely investments with a specific pro forma. At the end of the pro forma is usually a "date of return on investment". What this means in layman's terms is that a lot of buildings are short term investments (at time of closing were 3-5 year deals), and that the changes everyone seen from 96-99, will probably occur again in the near future. Uh oh! A new can of worms.

The only thing certain about property management is the uncertainty. There really is nothing secure in this field of occupation unless you have managed to work your way up

the food chain. Some have seen the light and jumped ship to work directly for tenant owned buildings. Others have moved around, maybe gotten increases, and are laying on the beach basking in the sun not realizing there is a tidal wave approaching. A few may feel cozy and sign large mortgages which will naturally overrun their job expectancy. One thing is guaranteed, we all change our lifestyle and no matter what, "the more you make, the more you spend".

Well, here is where all the property managers, managing directors, etc. get squirmy. Just ask them about the specific plans the present owner has for your building. Someone said that it never hurts to ask a question. This is true, for the pain is usually found in the answer. So don't go and jump on the first ship that comes along — it may be the Titanic. Instead, have all of your ducks in a row, enjoy your job and do it well, increase your knowledge and expertise as this adds to your being marketable. Network with others, and obtain as much knowledge as you possibly can about the marketplace and stay up to date.

Station KSAABE signing off, for next month we haven't a clue on what we'll write!

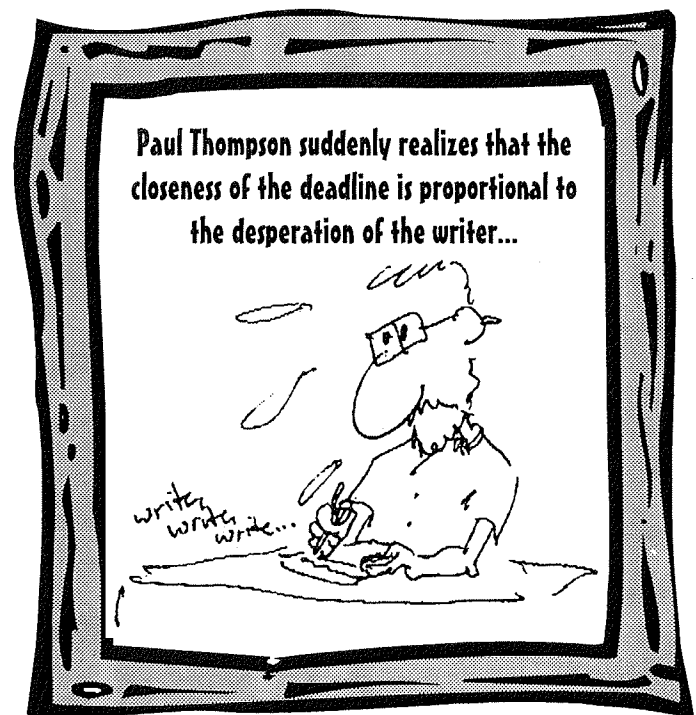
Closing Quote: To the optimist, the glass is half full. To the pessimist, the glass is half empty. To the building engineer, the glass is twice as big as it needed to be!

"Just a Maintenance Man"

Employment Opportunity

West Teleservices is seeking a Maintenance Team Leader. Would be responsible for leading a staff of three maintenance men. Supervise and participate as necessary, in activities of assigned maintenance staff. Oversee activities associated with installing and relocating systems furniture. Provide excellent Customer Service. Maintain tool and furniture inventory.

Needs prior leadership experience, some computer knowledge (simple typing and email), knowledge of generator. Also responsible for coordinating maintenance at San Antonio site, as well as 15 other sites out of town or state. Please call Marcy Barber at 699-4000, ext. 3340.



Ask Tio SAABE

by Tom Lasater

Hazardous Material Waste — the Stuff Nobody Wants*

**except for a price*

With the arrival of the material data safety sheet (MSDS), useful products/chemicals when no longer useful or leftovers became in most cases hazardous material waste with untold and confusing state and federal regulations concerning their transportation and disposal. These regulations require containerization of each separate item (acrylic paint, batteries, muriatic acid, mercury vapor lamps, antifreeze, etc.) for transportation by a licensed disposal company for direct deposit to a disposal site. These materials cannot be stored at the company location.

Cost of disposal can range from \$50.00 for a gallon of acrylic paint to \$250.00 for a 55-gallon drum of parts cleaner solvent plus \$50.00 for the drum. With a charge for each item, which must be containerized separately, the cost can easily skyrocket. Several companies operate in the San Antonio area and are listed in the yellow pages under hazardous materials disposal.

One of these companies offers a "lab pak" program to handle various small quantities on a case by case basis. The company will send a representative to your building to itemize the waste and build a "lab pak" for your individual needs. This same company offers a "cab pak" program in 12, 17, 30, and 45-gallon sizes for a yearly cost of under \$1,000.00. This program provides you with a fire resistant cabinet for a one-time setup fee of \$175.00 to contain the waste you facility produces. The waste is then removed from your facility on an as needed basis.

As you can see hazardous material waste disposal can be an expensive part of building operations, but some alternatives are available. Automotive type waste such as oil, antifreeze, and in some cases batteries can be taken to auto parts stores, lube centers, or radiator shops in small quantities for proper disposal. One radiator shop in our town is listed in the yellow pages as an antifreeze-recycling center. Also the companies that supply your building with chemicals will provide for waste and empty container disposal. For cooling tower chemicals such as acid, those containers are returned to the supplier via the delivery company and recycled for reuse. Containers for inhibitor

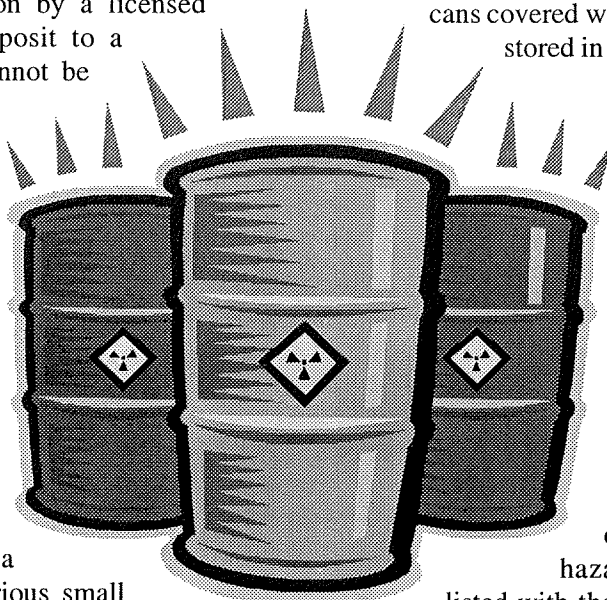
generally can be rinsed/diluted and trashed. Paint that is usable but no longer needed can be donated to Habitat for Humanity and put to good use.

As for paints and solvents the National Paint & Coatings Association has some suggestions to keep paint from becoming waste: 1) order minimum amounts needed-its easier to order more than to get rid of excess, 2) excess paint cans covered with plastic before replacing the lid and stored in an inverted position will last for years to be used for touch up or as primer later on, 3) donate paint to churches, schools, community groups, etc., and 4) latex paint mixed with shredded newspaper or cat litter and air-dried is safe for normal disposal.

If you have questions concerning the classification of materials the MSDS (material safety data sheet) included with the product gives that information. Section 7 lists spill or leak procedures and includes waste disposal; section 10 will give the hazard class. Also the phone number listed with the company name gives you access to their trash disposal procedures. Solvents such as paint thinner, strippers, cleaners, etc. are somewhat different due to evaporation and the plastic container that will crack and split over time. A few are water based and biodegradable and are safe for dilution and trash, but most should be given away or considered for hazardous waste disposal. The MSDS sheet offers you a method to determine their disposal recommendations.

A note of thanks to the following companies and individuals for assistance in preparing this article.

Safety Kleen	Charles W. Bean Jr.	648-0744
Alamo Environmental	Richard Schribar	225-0888
Bio-Zap Company	Mark Allen	805-9199
Habitat for Humanity		223-5203
Klean-Strip Company		1-800-238-2672
National Paint & Coatings Assoc.		1-202-462-6272



Deaths and Injuries in the Workplace

Work injuries cost Americans \$125.1 billion in 1998 — that's equivalent to nearly triple the combined profits reported by the top 5 fortune 500 companies in 1998. There were 5,100 workplace fatalities in 1998 due to unintentional injuries. A sobering thought related to workplace violence — approximately an additional 1,200 deaths in the workplace are due to homicides and suicides each year.

* At work, there is a fatal injury every 103 minutes and a disabling injury every 8 seconds.

* In 1998, 3.8 million American workers suffered from disabling injuries on the job.

* The four leading fatal events and exposures are highway traffic incidents, homicide, falls to a lower level, and being struck by an object.

* For women workers, homicides were the leading cause of workplace injury deaths.

Recommendations to reduce workplace deaths and injuries:

* All workplaces should operate with a comprehensive safety and health plan and address security issues that can prevent workplace violence.

* With the increase in federal spending for highway construction projects, the Council recommends increased efforts for construction zone safety on both sides of the barricades. This means — drive safely!

* Every company or organization should have a strict safety belt policy that requires all employees to buckle up on the job.

Our thanks to the National Safety Council (www.nsc.org) for this information.

SAABE Welcomes New Members

Regular:

Norwest Bank

J.R. Iniguez
PO Box 6000 MAC T5600-012
SATX 78286
phone 210-856-6152

Renaissance Plaza

Floyd McDonald
70 NE Loop 410, Suite 1050
SATX 78216
phone 210-340-7888

QVC

Roger Fraser
9855 Westover Hills Blvd
SATX 78251
phone 210-522-4332

Rector Management

Henry Aguirre and Frank Gonzalez
540 Madison Oak, Suite 120
SATX 78258
phone 210-494-9525

Associate:

Chemsearch

Paul Dockery
105B Gladiola
SATX 78213
phone 210-340-6392

A-1 Automatic Door

Brad Maze
PO Box 2193
SATX 78298
phone 210-732-1214

Thermo Air and Mechanical

Rick Summerville
5511 San Pedro, Suite 205
SATX 78212
phone 210-922-5640

Industrial Systems

Bob Harper
1888 W Bitters Rd
SATX 78248
phone 210-493-4200 ext. 205

Additional representative for existing Associate
Member Enviro-Tex: John Cook

Bits and Pieces

by Paul Thompson

A SAABE salute to Black History Month. In my lifetime, there has been much progress made toward an honorable country's goal of a just society. There remains much to be done and all of us play a part...

The SAABE CBE (Certified Building Engineer) revision grinds on! The lawyer combed through it and now it's back in our hands for a tune-up. More to come (but don't pin me down to a date).

We will be asking for volunteers at our February meeting to help vendors (or others) to put on presentations and sponsor lunches. Anyone interested in working with Mike Alvarez on the Program Committee, sign up at that time or contact him by phone.

We are in the process of making contact with other local organizations similar to ourselves. We have just started exchanging newsletters with SABOMA and AAFAME

(Austin Association of Facility and Maintenance Engineers). We're also looking into doing the same thing with IREM (Institute of Real Estate Management) and AFE (Association of Facility Engineers). We hope to create closer ties in the future. P.S. — special thanks to "The Charlie" for starting this ball rolling.

Plans are in the works for more special events this year. Look for a "mixer" in March. More on this to come.

Please remember to bring your used eyeglasses to the February meeting. We will be donating them to Eye Care San Antonio.

Lastly, but not leastly, y'all come down to the February meeting to help honor SAABE's Building Engineer of the Year. Nominations have been made, the committee has interviewed everybody, so now...drum roll please!

a name you can trust



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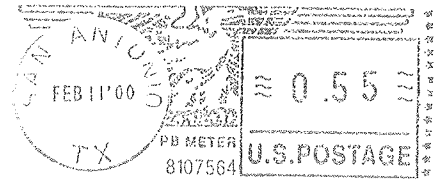
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SAABE TIMES
February Issue

Have your 2000 dues have been paid?

2000 Board of Directors

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Rhondo Jauer <i>Treasurer</i>	225-1119
Mike Lusk <i>Education Director</i>	340-2533
Mike Alvarez <i>Vendor Representative</i>	824-9581

Lynn Forester (830) 981-5223
Association Coordinator

Membership Luncheon February 16, 2000

Time: 11:30 a.m.

Location: Tex's Restaurant
in the Airport Hilton

Topic: Presentation of the
Building Engineer of the Year Award

Sponsor: SAABE

Upcoming Luncheon
March 15: Beldon Roofing

The SAABE Times is produced monthly for the San Antonio
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