



SAABE TIMES

A publication of the San Antonio Association of Building Engineers

April 2006

Mark Your Calendar—

JOIN US FOR OUR APRIL LUNCHEON

The next General Membership Meeting of the San Antonio Association of Building Engineers is set for 11:30 am on Wednesday, April 19 at the Alamo Cafe on 281 (just north of Bitters). This month, our speaker is Kim Baker with Business Solutions. Ms. Baker's topic is "Identity Theft Awareness." She'll tell you about new laws on how you must handle information from clients and employees; misconceptions surrounding identity theft; the six different types of identity theft; and emerging trends and new scams to be aware of. Business Solutions provides education and assistance for individuals and businesses surrounding identity theft issues. Her passion is providing protection from this growing problem.

The meeting will be held in the first floor Travis/Bowie rooms, to the right of the entrance. There is plenty of parking at the back of the restaurant. Please make sure to check in at the front desk when you arrive. Please do not leave valuables in your vehicle, as members have reported attempted break-ins in the restaurant parking lot.

Please RSVP to (210) 408-1699 by Tuesday, April 18. PLEASE RSVP so we can be sure to have enough meals on hand!

We hope to see you there! ❖

Second Annual

SAABE PICNIC

May 6th, 2006
Medina Lake / Joe's Marina
8:00am - ???

Horse Shoe Tournament:

Teams of 2. 1st place \$400, 2nd place \$150

Call 210-912-9283 to enter your team.

Tournament starts at 10:30 AM. Sign up cuts off at 10:00am

Fun for the Kids:

Water balloons, swimming, and squirty things for the kids.

BBQ and Refreshments:

Brisket and Sausage cooked by "THE CHARLIE" and Beans by "JOCK"

Please bring a side dish to share.

Park Admittance Fee: \$3 per car, \$5 per person, children 7 & under free, payable at the gate. Visit www.joesmarina.com for directions.

Please RSVP to Laura at 408-1699 or email laurabray@braycommunications.com or to Jeff Turov at 912-9283 jturov@trane.com ❖

A Message from the President

by Bob Beal

Accomplishments

Three and a half years ago, I was given the honor of being your President. I found myself surrounded by self-motivated and hard-working people. To this day, I am overwhelmed by the dedication given by everyone that makes SAABE the best it can be. Of course when I started, I had a vision. As it turned out, most of the people I talked with also had similar visions. As President, it was important to me to make sure the hard work of former Presidents and Board members stayed intact. It is also our duty to make some changes to make it better. Here is a list of some of the accomplishments of the past three years.

- We developed a more user-friendly environment for our vendors by providing more ways to sponsor our lunches and network with our members.
- We created more education opportunities by starting our last Thursday seminars.
- We now have a Code Compliance Committee headed by Charlie M., a CBE Committee headed by Jock Tilghman, and a Social Committee headed by Jeff Turov.
- Along with SABOMA, we persuaded the city of San Antonio to leave our Maintenance Technician designations intact.
- We developed better SABOMA relations by appointing JR Uresti to be our SABOMA Liaison.
- We have a working library headed up by Tom Lasater.
- We now have an annual Holiday Social and an Annual Picnic.
- We have created a Manager Appreciation program.

Vendors: We Need YOU for Last-Thursday Training!

SAABE is looking for vendors to offer lunchtime classes or seminars on topics of interest to building engineers. Our goal is to have a supplemental class on the last Thursday of every month (except November and December). Please contact Vendor Rep Allen Mangrum (412-1095) if you'd like to offer a training session to SAABE members. ❖

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- Our CBE is program is stronger then ever. By changing the Bylaws and creating a CBE committee, we have reviewed more applications than at any previous time.
- A new scholarship program has just recently been created.
- The BEOTY Committee headed by Doug Graves and Mike Halverson is strong.
- We purchased our own P.A. system and Dell computer.
- We provided a scholarship and an internship for a Judson School district student.
- We have had record-breaking luncheon attendance.
- We have expanded our newsletter by creating an Engineer Spotlight by Jeff Turov, Communications Check-up by Laura Bray, information on training and discussion groups by Tom Lasater, and we celebrated Charlie's 100th Tech Talk article.
- Our web site is better then ever due to Laura Bray.
- We are in the process of creating a SAABE history booklet; this effort is headed by Charlie M. and Tom Lasater.

We should all be proud; I know I am.

New Baby

By the time you read this, I will be the proud father of a little girl, Brooke Ann Beal. Wish me luck. *(Editors Note: She was born Tuesday, April 4. Congratulations!)* ❖



20+Years Old And Still On The Go

by Tom Lasater

One afternoon after work in the bowels of the Tower Life Building in 1985, a few building engineers gathered to discuss creating an organization to further the professionalism of its members, to provide educational opportunities, to create opportunities for fellowship at monthly meetings, and to develop a network to share information and knowledge. With the help and backing of Mr. H. B. Zachry, the San Antonio Association of Building Engineers was established (SAABE). John Boldt (Zachry's building engineer at the Tower Life Building) became the first President. Other founding officers included Jim Pruss (Interfirst Plaza/1st VP), Jim Stallings (Space Center at the Cypress Tower Building/2nd VP), Eddie M. Arguello (City Public Service Board/3rd VP), Elliot Floyd (San Antonio Savings Association/Secretary), and Casey Lopez (Fountain Head Office Park Building/Treasurer). Early monthly meetings were held at Morning-side Meadows. American Light Bulb presented a seminar on energy savings for buildings, along with computer analysis of building specifications provided by the building engineers.

From this pioneering work by these dedicated men, the San Antonio Association of Building Engineers recently celebrated 20 years of growth, development, and education with over 100 engineer members and over 70 vendor members in San Antonio

and surrounding cities. SAABE holds the monthly membership meetings on the third Wednesday of the month at the Alamo Café on 281. Other activities include monthly training seminars provided by vendor members, a BOMI Discussion Group, a Scholarship program, a Library, a website (www.saabe.org), and building tours. SAABE works cooperatively with the local chapter of the Building Owners and Managers Association (SA BOMA), the Austin Association of Facility Managers and Engineers (AAFAME), and the local chapter of the Institute for Real Estate Management (IREM).

Current SAABE officers and long-time members (some for the entire 20 years) met recently with the Founding Fathers (John Boldt and Pete Felts) to record the history of this active and vibrant organization. SAABE is seeking to locate and contact more members from the 1980s and 90s to expand its record of events and members who have continued to make SAABE a success.

If you have been a member in the past or know folks who have, please contact Association Manager Laura Bray at 210-408-1699 or laurabray@braycommunications.com. ❖

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<u>Dimensions</u>	<u>1 Issue</u>	<u>3 Issues</u>	<u>1 Year</u>
Full page	\$110	\$280	\$1,000
Half page	\$60	\$150	\$575
Quarter page	\$30	\$75	\$280
Business card	\$20	\$50	\$190

(call for ad dimensions, 210-408-1699)

Send ad copy (preferably in GIF or JPG formats) and payment to SAABE, PO Box 780785, San Antonio, TX 78278, or email (preferred) to laurabray@braycommunications.com.



Apply for the SAABE Scholarship/Educational Assistance Program

SAABE now offers a program to provide scholarships and educational assistance to SAABE members for participation in courses related to property maintenance (especially SMT/SMA* programs offered by the BOMI Institute).

Applicants must be regular members of SAABE and hold a position in the field of building maintenance. The place of business must be within the San Antonio geographical area. Applicants must have long-term career plans in building engineering/maintenance and must have at least two years of experience in the field. Applicants are responsible for a portion of the cost of any course.

For full details, rules, and an application, visit the SAABE website at www.saabe.org. ❖

* Systems Maintenance Technician and Systems Maintenance Administrator

Education Corner

SAABE BOMI Discussion/Action Group

- Every first and second Thursday at One Oak Park (1020 NE Loop 410), 11:30am-1:00pm
- Led by Tom Lasater.
- Free to SAABE members. B

Troubleshooting Mechanical and Rotating Equipment

- April 26-27, San Antonio; May 3-4, Austin
- A practical course designed for building facility maintenance technicians.
- Cost: \$895

Electric Motors and Control Circuits

- May 17-18, San Antonio
- Common motor problems, resolving issues in control circuits, how to save time and money.
- Cost: \$790

Math & Measurement for Maintenance, Repair and Operations

- April 24-25, San Antonio; May 1-2, Austin
- Learn how to measure, what to measure, and the calculations to help make it all make sense.
- Cost: \$795

All above classes are offered by American Trainco. To register, visit their website at www.americantrainco.com, or call 877-97-TRAIN.

Contact Laura Bray (408-1699) if you know of other courses or events. ❖

Welcome New Members

Tee Peterson
Broadway Bank
210-283-6524
tpeterson@BroadwayBank.com

Jim Ackerman
Cothron's Safe and Lock
210-391-5571
jimfromcothrons@sbcglobal.net

If you know someone who'd like to join SAABE, have them visit our web site at www.saabe.org to obtain a membership application. ❖

Miguel Rubio
Holes of San Antonio
210-349-5256

Bobby Jackson
The Inn at Los Patios
210-829-7357
bgjrancho@yahoo.com



Tech Talk #104: Refrigerants: An In-Depth Look

by The Charlie

Refrigerant is the necessary working fluid in a refrigeration system. The transfer of heat from one place to another is accomplished in the following manner—the heat is removed from the object or substance being cooled by the evaporating the liquid refrigerant. Then the heat is removed from the system by transferring it from the refrigerant vapor to the condensing medium (usually water or air), by condensing the refrigerant back into a liquid. Any fluid which can be evaporated from a liquid into a vapor and then condensed back into a liquid can be used as a refrigerant (even alcohol)!

Refrigerant History

Earlier we described how water was used as a refrigerant in some types of systems, but a very low evaporator pressure is required to obtain useful temperatures. Evolving from ordinary vapor compression systems and research of more suitable refrigerants has been used with great success. However, each new discovery loses popularity when a better one is found, or environmental issues arise.

Many moons ago, sulfur dioxide was the refrigerant for many household refrigerators. However, it was soon found that sulfur dioxide was irritating to humans and highly corrosive in the presence of water, so that a leak could be hazardous. Ammonia has a low boiling point and is relatively easy to obtain low temperatures needed to freeze ice and maintain cold storage. However, once again ammonia is irritating to humans and nationally recognized codes prohibit the use of ammonia directly in the evaporator of an air-conditioning system.

During the evolution of today's modern air conditioning and refrigeration systems, numerous refrigerants have been tried. Other compounds such as carbon tetrachloride and butane were tried but their toxicity and flammability ruled them unsuitable (remember carbon tet)?

Three properties make one refrigerant better than another for a particular application: Thermal Efficiency, Safety, and Physical Properties.

Thermal Efficiency

1. *High latent heat of vaporization* means that the higher the latent heat of vaporization is per pound of refrigerant, the fewer number of pounds must be pumped.

2. *Low boiling point* means that the boiling refrigerant will be cold enough to absorb heat as needed without requiring a very low pressure in the evaporator.

3. *Low condensing pressure and high condensing temperature* means that the work of the compressor will not be too great and the compressor will not have to work against high pressures. Also, the condensing medium (water or air) does not have to be very cool.

4. *Low specific volume (cubic feet per pound) of gas as compared to that of the liquid.* The greater the difference the greater displacement and work required by the compressor.

5. *Low freezing point*, so there will not be danger of the refrigerant freezing at temperatures likely to exist in the system.

Safety

For maximum safety, refrigerants should be, at the least, environmentally safe, non-flammable and not explosive, non-irritating, and not injurious to food or goods with which they may come into contact in the event of a leak.

Desirable Physical Properties

Non-corrosive, chemically inert (will not dissolve metal rubber, etc.), chemical stability, oil solubility, leak tendency and ease of detecting leaks, resistance to conducting electricity, and non-injurious to the environment.

Alternative Refrigerants

Alternative refrigerants fall into two categories, new compounds, and blends (of existing HCFC refrigerants). A large percentage of existing equipment can be converted to an alternative refrigerant. However, the selection of refrigeration oil is very critical to a retrofit conversion and may vary, even with the same type of refrigerant, according to temperature and application.

Numerous mixtures of halocarbon refrigerants are currently in use. These mixtures are generally divided into two categories—true azeotropes and blends.

Combining *two different refrigerants* so that they form an entirely new compound that is different from either of the two original components which produced this compound produces *true azeotropes*. Azeotropes are also unable to be separated by distillation. If vapor were released while at a saturated condition, the remaining refrigerant will retain a constant composition. In other words, the components leak in amounts equal to their percentage of concentration.

Near-azeotropes, or blends, do not behave in exactly the same manner. *Blends are mixtures of three refrigerants*. Although blends do exhibit unique pressure temperature characteristics that have an average boiling point, the component may boil at slightly different temperatures at a given pressure. The temperature at which boiling begins is referred to as the *bubble point*, and the temperature at which the last drop of liquid is evaporated is known as the *dew point* temperature. The temperature range over which the evaporation occurs is known as the *temperature glide*. Because of the difference in boiling points of the components, a partial distillation process known as *fractionation* can unintentionally alter blends. Such a condition could occur as the result of a small vapor leak, where the blend existed at a saturated condition.

Next Month: Evaporators 101

CHARLIE'S LAW: Ever notice that since cell phones have come out how difficult it has become to dial, drive, and reload at the same time?

JUSTA MAINTENANCE MAN ❖

Emergency Preparedness and Response

Effective workplace safety and health programs have many benefits, including increased productivity, improved employee morale, reduced absenteeism and illness, and reduced workers' compensation rates; however, incidents still occur in spite of efforts to prevent them. Therefore, proper planning for emergencies is necessary to minimize employee injury and property damage.

Planning

The effectiveness of response during emergencies depends on the amount of planning and training performed. Management must show its support for plant safety programs and the importance of emergency planning. The input and support of all employees must be obtained to ensure an effective program. The emergency response plan should be developed locally and should be comprehensive enough to deal with all types of emergencies specific to that site. When emergency action plans are required by a particular OSHA standard, the plan must be in writing; except for firms with 10 or fewer employees, the plan may be communicated

orally to employees. The plan must include certain elements; see <http://www.osha.gov/SLTC/smallbusiness/sec10.html> for a list of requirements.

The emergency action plan should address all potential emergencies that can be expected in the workplace. Therefore, it will be necessary to perform a hazard assessment to determine toxic materials in the workplace, hazards, and potentially dangerous conditions. For information on chemicals, the manufacturer or supplier can be contacted to obtain Material Safety Data Sheets. These forms describe the hazards that a chemical may present, list precautions to take when handling, storing, or using the substance, and outline emergency and first-aid procedures.

The employer must list in detail the procedures to be taken by those employees who must remain behind to care for essential plant operations until their evacuation becomes absolutely necessary. This may include monitoring plant power supplies, water supplies, and other essential services that cannot be shut down for every emergency alarm, and use of fire extinguishers.

For emergency evacuation, the use of floor plans or workplace maps that clearly show the emergency escape routes and safe or refuge areas should be included in the plan. All employees must be told what actions they are to take in emergency situations that may occur in the workplace, such as a designated meeting location after evacuation.

This plan must be reviewed with employees initially when the plan is developed, whenever the employees' responsibilities under the plan change, and whenever the plan is changed. A copy should be kept where employees can refer to it at convenient times. In fact, to go a step further, the employer could provide the employees with a copy of the plan, particularly all new employees.

For more information on emergency preparedness, visit OSHA's website at <http://www.osha.gov/SLTC/smallbusiness/sec10.html> ❖

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Communications Check-Up[®]

by Laura Bray

Spell-Check is NOT Your Friend

OK, admit it. You've been in a hurry to send an email, and you didn't proofread it closely enough, and you ended up referring to your manager as a "manger." Sometimes, spell-check is NOT your friend. Some common errors that spell-check won't help you with:

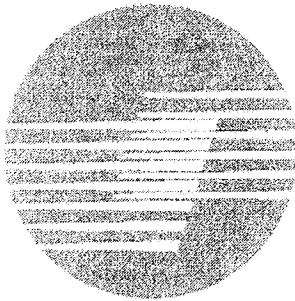
- their/they're/their (more on this next month)
- united/untied
- friends/fiends
- angels/angles
- And the #1 most embarrassing mistake that your spell-checker will miss: forgetting the L in the word "public"

Here are some tips for proofreading your emails (or any other written communication):

- Before you hit "send," take your hands off the keyboard and re-read what you just typed. Better yet, give yourself some time before writing and sending. Save the email or document, and come back to it in a few minutes; you'll be more likely to catch errors. When I write articles, I leave them at least overnight before proofreading and revisions.
- It's best to proofread from a hard copy, rather than trying to squint at a computer screen.
- Read it out loud. When you speak it, you're more likely to find errors. SAABE vice-president Mike Halvorsen proofreads by reading sentences backwards to catch wrong words.
- If it's really important, print it out and give it to someone else to read. Their eyes might catch an error that you missed. Make sure, though, to choose someone who is a good proofreader and able to see misspelled words.

Next month: Demons, Part 2 ❖

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March Meeting Summary

by Kendal Langenberg

Tom Lasater opened the March meeting by awarding two members with the prestigious Certified Building Engineer certification, Robert Andrews, Jr. and James Jinks. Congratulations for putting in the time and effort to earn this certification! Next, Tim Young told everyone about the SAABE Annual Picnic coming up on Saturday, May 6 (see front page for full details). He got us excited about the upcoming event by sharing some slides from last year's picnic. Since we're getting together before the summer heat this year, we should be able to enjoy one another's company with a bit less sweat!

Have you heard about the San Antonio Ravens? If you were at the lunch, you definitely have! We had a brief presentation by some of the football team's coaches and cheerleaders in regard to what the team does for young athletes in our city. Those present at the lunch were even treated to some free tickets to the game that week! Stay tuned for more details on SAABE's involvement with the Ravens.

Our speaker was Ray Martinez, chief electrical inspector for the City Of San Antonio. Charlie and Bob have worked closely with Ray on various boards, committees, etc, and we appreciate Ray's availability to our organization. Thank you again, Ray, for "addressing the troops" at the lunch.

As always, don't forget all the reminders that were made at the lunch. There is a lot going on right now in our organization! You can always visit www.saabe.org to get caught up, but of course, it's always better hearing all the information first-hand at the monthly luncheon.

Our next lunch is Wednesday, April 19. Be there or be square! ❖

CBE Applications Online

You can now download an application for the Certified Building Engineer program on SAABE's web site at www.saabe.org

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Ronnie Shaner Matt Dunn David Felts

Manager Highlight

Do you have an outstanding manager? Maybe one who provided exceptional assistance during a transition or difficult build-out, or support during budget-time, etc? Then nominate him/her for SAABE's Manager Highlight! The SAABE Board will evaluate all applications and select those to be recognized. Winners will be recognized with an article in the newsletter and a certificate presentation at a SAABE meeting. We'll also let SABOMA and IREM know!

You can find a nomination form on the SAABE website at www.saabe.org. Or call Laura Bray and she'll fax one to you.

Nominate your outstanding manager today! ❖

Engineer Spotlight

by Jeff Turov

Jerry Lovell

One Alamo Center/Centra Asset Partners L.L.C.
106 South St. Mary's Street, Suite 418, SATX 78205
210-223-5426

- **How long have you been in the building engineer trade?**

27 years and a member of SAABE since 1997.

- **Any awards, recognition, or special training?**

Jerry instigated and oversaw the reutilization of the ground water system used for the condenser water make-up for the cooling system at the One Alamo Center. The property was recognized for this project and awarded the water saver conservation award by the San Antonio Water System. Jerry also holds an Associate of Arts degree in Applied Science from St. Philip's College.

- **Hobbies/what do you enjoy during off-hours?**

Jerry enjoys woodworking and builds furniture at his home in St. Hedwig. He is also a cattle rancher and runs 23 head on 16.5 acres.

- **Family?**

Jerry has been married to his wife Debra for 32 years. They have two children—daughter Teresa (who has brought him three grandchildren) and son Jerry.

- **What do you enjoy about the building engineer trade?**

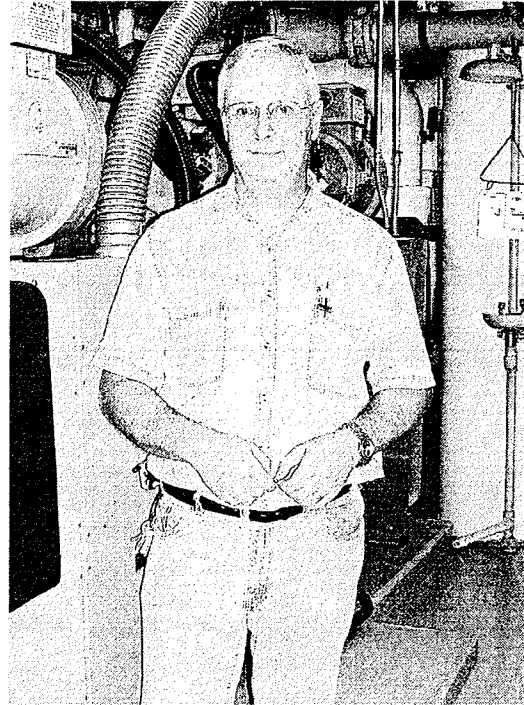
Jerry enjoys the instant gratification he receives once a hands-on project is complete. He also enjoys the variety of tasks, serving his tenants' needs, and having fun with both associates and tenants alike.

- **Advice you would share with those just entering or considering the trade?**

Be a sponge for knowledge, have a good grasp of the various local and national codes involved in this industry, and have a good sense of humor.

- **Any interesting stories from your years in the business?**

In the late 70s, Jerry worked for the San Antonio Savings Association. Jerry assisted in the maintenance of the 111 Soledad building, which used some old sidewinder chillers as part of the HVAC system. On one of them, the main starter would always get stuck and not allow the chiller to start. Jerry's boss discovered that if you hit the starter cabinet just in the right place with the right amount of force, the starter would pull-in. Instead of replacing the starter, an X was marked in the right spot, and a Louisville slugger was purchased to administer the beating as needed. In the morning, if the starter wasn't running, Jerry's morning chore was to beat the tar out of it. ❖



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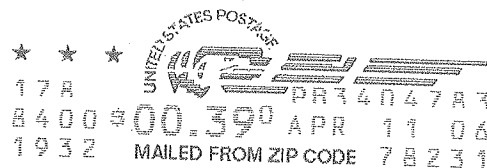
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 Endeavor Real Estate Group
 8000 IH 10 W, Suite 250
 San Antonio, TX 78230

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SAABE TIMES April Issue

Final Thought:

"The important things of tomorrow are probably going to be things that are overlooked today." — Andy Grove

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2006 Board of Directors

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Allen Mangrum Vendor Representative	412-1095
Elena Castillo Past President	822-8570
Laura Bray Association Manager (laurabray@braycommunications.com)	408-1699

Membership Luncheon

April 19, 2006

Time: 11:30 a.m.

Location: Alamo Cafe on 281

Kim Baker

"Identity Theft Awareness"

Upcoming Program:

Wednesday, May 17

Program to be Announced

The *SAABE Times* is edited by Laura Bray and printed monthly for the San Antonio Association of Building Engineers by:



210-340-5454

email: inkspotink@sbcglobal.net