



# SAABE TIMES

A publication of the San Antonio Association of Building Engineers

October 2005

Mark Your Calendar—

## JOIN US FOR OUR OCTOBER LUNCHEON

The next General Membership Meeting of the San Antonio Association of Building Engineers is set for 11:30 am on Wednesday, October 19 at the Alamo Cafe on 281 (just north of Bitters). This month's speaker is Eddie Wilcut with the San Antonio Water System (SAWS). Mr. Wilcut will bring details on the 2006 budgets and rates for SAWS. He will also be available to answer your questions.

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

We hope to see you there! ❖

## Upcoming SAABE Events

### SAABE Last Thursday Training Seminar Sponsored by SAABE and Offered by Southpro Restoration "Water Damage Restoration"

- Thursday, October 27 in the first-floor café at One International Center (Jones Maltsberger and Loop 410).
- **FREE** for SAABE members.
- 11:00am–1:00pm, **lunch included**.
- RSVP required (participation limited to 20).
- Vendors: Contact Vendor Rep Allen Mangrum (contact info on back page) if you'd like to sponsor/host a seminar.

RSVP to Laura Bray at 408-1699.

### BOMI Study Session

If you're studying for BOMI, SAABE will help you study two times a month at One Oak Park's building conference room on the 5th floor (1020 NE Loop 410). Sessions are the first and third Thursday of each month from 11:30am–1:00pm. Bring your own lunch.

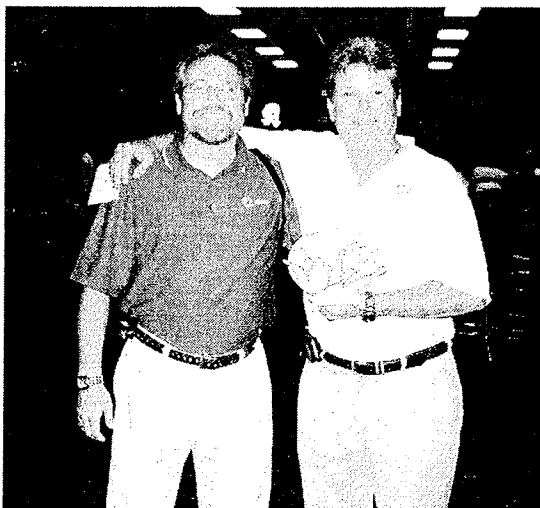
Please RSVP to Doug Graves at 828-7712 if you will be attending, since space is limited.

The meeting will open with a 20–30 minute question and answer session. We then will break up into smaller groups that are studying the same topics.

### SAABE Holiday Social

Mark your calendars now for the SAABE Holiday Social on **Friday, December 16** from 3–6pm at Dave & Buster's (at Crossroads Mall). We'll have some good food to eat, a cash bar, and there will be some pool tables available (as well as the nearby arcade). Stop by and enjoy some good food and camaraderie with your fellow SAABE members. ❖

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Winners of the 2005 IREM  
Charity Bowling Tournament,  
Jeff Turov and Charles  
Mikolajczyk.

## A Message from the President

by Bob Beal

### BEOTY

Believe it or not, it is time to start nominating some of our members for the SAABE Building Engineer of the Year (BEOTY). We are going to follow the same rules as last year, and we need to get started by getting the BEOTY committee together. If you were on the committee last year or would like to be committee member this year, please let me know. Remember—if you volunteer and attend a committee meeting, you cannot be nominated for BEOTY. Any member or manager of a member can nominate a SAABE engineer for BEOTY. It is very important to put together a nomination package. You can maintain a class "C" building or even a strip center mall to be Engineer of the Year. Large or small budget, chief or assistant...we want to know what that nominee has done in 2005 that makes him or her excel over the rest. Manager letters, tenant letters, before and after pictures, annual reviews, community service, education, and organization participation (SAABE, SABOMA, IEC and IREM) are some of the things that will help your nomination make the first cut. Please feel free to call or email me with any questions.

### Luncheon Etiquette

One of my goals when I became President in 2002 was to make our luncheons more "User Friendly." I wanted our luncheons to be a place where chief engineers, assistants, and vendors could network and feel comfortable asking questions and rubbing elbows. The board has some easy going, open-eared folks. We hoped to lighten up on the agenda in order to make our meetings more fun and informative for all. I feel we have accomplished a great deal of what we set out to do. We encourage all of you to make the best out of our once-a-month get-together. Keep in mind that when the meeting starts, you owe respect to our speaker and fellow members. Please put your phone on vibrate and keep your conversations at your table to a minimum while the meeting is in session. We know sometimes it is hard to hear all the way in the back, and we have purchased our own audio system. I have always allowed enough time for comment (good or bad) at the beginning and end of our program. Feel free to speak up, but please do it in a professional manner.

### Library

I would like to say thanks to SAABE first vice president Tom Lasater. Back in 2003, we decided to create a library for all our members. At first, Tom had a hard time getting it going. After months of gathering software and pitching the program to deaf ears, we are finally ready to open the doors. It will be at the One International Centre (100 NE Loop 410) in my office at the rear loading dock entrance. We have some great books and a "smoking computer" with all the software you need to put together a resume, create PowerPoint presentations, create and copy DVDs and CDs, put together

your BEOTY nomination package, produce and copy pictures, and use some of the vendor-provided software and information on water treatment, A/C load calculations, and much more. Tom and I will talk more about it at up coming luncheons. ❖

### CBE Applications Online

You can now download an application for the Certified Building Engineer program on SAABE's web site at [www.saabe.org](http://www.saabe.org)

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## Tech Talk #98: Refrigeration/Air Conditioning—The Basics

Part 1 of 4

by The Charlie

**Refrigerate** means to make or keep cold or cool. **Refrigeration** is the transfer of heat from one place to another by a change in state of a liquid. When something is refrigerated, nothing is added to it to give it the property of being cold or cool. Instead, something is taken away from it...this being heat.

**Refrigeration/Air Conditioning** is the process of transferring heat from a place it is not wanted to a place it is that is not bothered by a little extra heat. The heat cannot simply be destroyed, but must be transferred to another object or substance.

### Energy

Heat is a form of **Energy**. Energy can best be defined as the ability to do work. Energy can neither be created nor destroyed, but it can be converted from one form to another. An example is that *coal has chemical energy* and when burned under a vessel containing water, *its chemical energy is transformed into heat energy* in the form of steam. Heat energy can then be transformed into mechanical energy in a steam turbine, into electrical energy in a generator, into mechanical energy again in an electric motor, or back to electric energy in an electric heater.

### Matter

Matter is any substance which occupies space or has weight. It consists of small particles known as molecules, which are always in motion. The velocity at which these molecules move depends on the level of intensity of heat energy they contain (the higher the intensity, the higher the velocity of their motion). The addition of heat to a substance will cause increased motion of the molecules, and vice-versa.

### Measurement of Heat

The *intensity of heat is measured by temperature*. The USA usually measures in degrees Fahrenheit. In other places and here in some instances, temperature is measured in degrees Centigrade. Each of these measurements have the same fixed points, that of which water freezes, and that of which water boils at sea level. *Temperature is a measure of the intensity of heat, but it does not in any way indicate the quantity of heat*. Temperature is a measure of the total velocity which the molecules attain, but the quantity of heat refers to the actual number of molecules in the object or substance being heated. A practical measure of heat is the amount needed to heat a pound of a substance. The basic unit in the USA to measure a quantity of heat is the **British Thermal Unit, BTU**. A BTU is defined as *the amount of heat required to heat one pound of water one degree Fahrenheit*.

### Heat Flow

*Heat will always flow from a warm object or substance to one that is colder*. It is also true that heat flows from a higher

temperature level to a lower level of temperature just as water runs downhill. However, there is an important difference—the flow of water can be stopped, but the flow of heat cannot. Major materials, such as cork, foam rubber, plastic, or fiber-glass insulation, will not conduct heat as rapidly as iron or copper, but they will conduct some heat. The terms “warmer” or “colder” are relative. We determine intensity of heat by the sense of touch. Our decision of something that is warm or cold depends on whether the object is higher or lower than our body temperature.

The addition of heat to a substance causes an increase in the motion of the molecules, and vice-versa. The continued removal of heat from an object would mean there would be no more molecular motion, whereas all molecules would remain perfectly still. The point where this would happen is what is called **absolute zero**. This, however, is a theoretical figure and has never been reached. On the Fahrenheit scale *absolute zero is minus 460 degrees*. Everything, which is at a temperature above  $-460^{\circ}\text{F}$  is considered to contain heat and can be made colder by removal of some of its heat. Refrigeration is concerned with the removal of heat, and with appropriate equipment and procedure, it is possible to refrigerate anything, which is warmer than  $-460^{\circ}\text{F}$ .

### Heat Transfer

The rate of heat flow is in direct proportion to the differences between the temperature of two objects or substances. Heat can flow in any of three ways: conduction, convection, and radiation. **Conduction** is the flow of heat directly through a substance. Heat transfer by conduction requires direct contact between two objects or substances (i.e. a spoon in a cup of coffee will get hot because of the conduction of heat from the coffee, to the spoon). **Convection** is the transfer of heat by a current of fluid, either a liquid or gas such as water or air. A warm radiator results in a difference in temperature between the radiator and the air in the room. Air heated by the radiator rises and causes air currents within the room. These convection currents may be natural, due simply to temperature differences and consequent difference in the weight of the air, or a fan or blower may assist them. **Radiation** is the transfer of heat by waves just as light is transmitted by waves. Heat from the sun can be considered a method of radiation. A hand placed near a hot stove or fireplace is quickly heated by radiation. There is little heat flow due to radiation unless the radiating object has a high temperature. Radiation is not important in refrigeration work except as a refrigeration load factor.

**Next Month:** States of Matter/Change of State

**CHARLIE'S LAW:** There are two classes of pedestrians...the quick and the dead!

JUSTA MAINTENANCE MAN ❖

## Get Ready for the 2005 SAABE Membership Directory!

The new SAABE Membership Directory will be published this fall. Regular members—if your contact information has changed recently, make sure to let Laura know (her email address/phone number is on the back page). Vendors—don't miss your chance to reach over 150 SAABE members with an ad in the directory.

### Prices:

Cover (limited availability):

Back outside: \$329

Front inside: \$274

Back inside: \$219

Full page: \$164

Business card: \$109

See the SAABE website ([www.saabe.org](http://www.saabe.org)) for ad dimensions and an insertion order

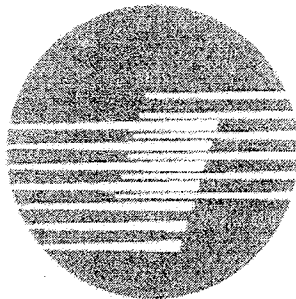
Send ad copy (in JPG, GIF, or TIF formats; black/white/gray tones only) and payment to SAABE, PO Box 780785, San Antonio, TX 78278, or email to [laurabray@braycommunications.com](mailto:laurabray@braycommunications.com) ❖

## It's Important to RSVP!!

At recent meetings, we've had up to 15-20 unexpected people show up. We're delighted that you enjoy meeting people and sharing new ideas at monthly SAABE meetings. But when that many people show up unexpectedly, it makes it difficult for us (and the restaurant) to provide quality food and service. We can't plan correctly if we don't know how many people are coming.

You may not be able to RSVP until late – that's OK. But **please** RSVP if you plan to attend. Call or email Laura Bray (210-408-1699, [laurabray@braycommunications.com](mailto:laurabray@braycommunications.com)) and let her know that you plan to attend.

Please help us effectively plan your monthly membership meetings and RSVP by the Tuesday deadline. It's also important to **cancel** your RSVP if you cannot attend! We appreciate your help! ❖



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## Apply for the Certified Building Engineer (CBE) Designation

SAABE's CBE designation encourages proficiency and continuing education in the building engineering profession. Three designations are available to recognize work experience, education, and a true dedication to the highest standards of ethics, safety, and professionalism in the industry. These designations are judged by the applicant's peers within SAABE.

If you'd like more information on the CBE program, download an application from the SAABE web site at [www.saabe.org](http://www.saabe.org), or call Education Director Jock Tilghman at 681-2494. ❖

## THANK YOU to these vendors, who have provided Last-Thursday Training Seminars this year:

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## Emergency Management for Business

— from the *Federal Emergency Management Association (FEMA)*

Every year emergencies take their toll on business and industry—in lives and dollars. You can limit injuries and damages and return more quickly to normal operations by planning ahead.

An emergency is any unplanned event that can cause deaths or significant injuries to employees, customers or the public; or that can shut down your business, disrupt operations, cause physical or environmental damage, or threaten the facility's financial standing or public image. The term "disaster" is not used because it lends itself to a preconceived notion of a large-scale event, usually a "natural disaster." In fact, each event must be addressed within the context of the impact it has on the company and the community.

"Emergency management" is the process of preparing for, mitigating, responding to and recovering from an emergency. Emergency management is a dynamic process. Planning, though critical, is not the only component. Training, conducting drills, testing equipment and coordinating activities with the community are other important functions.

To be successful, emergency management requires upper management support. The chief executive sets the tone by authorizing planning to take place and directing senior management to get involved. When presenting the "case" for emergency management, avoid dwelling on the negative effects of an emergency (e.g., deaths, fines, criminal prosecution) and emphasize the positive aspects of preparedness. For example,

- It helps companies fulfill their moral responsibility to protect employees, the community and the environment.
- It facilitates compliance with regulatory requirements of Federal, State and local agencies.
- It enhances a company's ability to recover from financial losses, regulatory fines, loss of market share, damages to equipment or products or business interruption.

There are four steps in the planning process: establishing a planning team, analysis of capabilities and hazards, developing the plan, and implementing the plan.

For the full guide and other emergency planning resources, visit <http://www.fema.gov/library/bizindex.shtm> ❖

# The Daily Chronicle

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|---|---|
| <h2 style="margin: 0;">SAABE TIMES</h2> <h3 style="margin: 0;">October Issue</h3> | <p><b><i>Final Thought:</i></b></p> <p>“The most wasted day of all is that on which we have not laughed.” — <i>Sebastien R. N. Chamfort</i></p> |
|---|---|

| <b>2005 Board of Directors</b>  |          |
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| <hr style="width: 30%; margin-left: 0;"/>                               |          |
| Laura Bray<br>Association Manager<br>(laurabray@braycommunications.com) | 408-1699 |

**Membership Luncheon**  
**October 19, 2005**  
 Time: 11:30 a.m.  
 Location: Alamo Cafe on 281  
 Eddie Wilcut, San Antonio Water System  
**2006 Budgets and Rates**

**Upcoming Programs:**  
**Wednesday, November 16**  
**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