



# SAABE TIMES

A publication of the San Antonio Association of Building Engineers

November 2006

Mark Your Calendar—

## JOIN US FOR OUR NOVEMBER LUNCHEON

The next General Membership Meeting of the San Antonio Association of Building Engineers is set for 11:30 am Wednesday, November 15 at the Alamo Cafe on 281 (just north of Bitters). The program is "Let's Take the Mystery out of Variable Frequency Drives," sponsored by Mechanical Reps. We will discuss how a variable frequency drive operates, the need for using drives, where they can be used in a facility and how they can save energy...and thus, save money. John Cook is the speaker.

Make sure to bring a new, unwrapped toy for the Construct-A-Kids Toy Drive (see article at right).

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, November 14. PLEASE RSVP so we can be sure to have enough meals on hand!

We hope to see you there! ❖

## Upcoming SAABE Events

### Construct-A-Kids Christmas

For the fourth year, SAABE will participate in the Construct-A-Kids Christmas Toy Drive, sponsored by *Construction News*. Please bring a new, unwrapped toy to the November SAABE meeting, and we'll deliver SAABE's donations on Friday, December 8. We recommend purchasing items in the \$10-\$25 price range, for all ages (up to 18 years old). All donations benefit abused or neglected children in Bexar County.

### SAABE Holiday Social

Mark your calendars now for the SAABE Holiday Social on **Friday, December 8** 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. ❖



## SAABE Seeks Nominees for 2007 Board of Directors

Every December, SAABE members elect four directors to serve a two-year term on the board. This year, the membership will be electing candidates for the following positions:

- President
- 1st Vice-President
- Treasurer
- Vendor Representative

If you're interested in serving on the SAABE board, contact any board member or Association Manager Laura Bray. We'd be happy to explain the time commitments and duties. It's a great way to get involved and keep your association vibrant and growing! ❖

## 2006 Building Engineer of the Year Nominations Now Open

The San Antonio Association of Building Engineers invites you to nominate your/a Building Engineer for the 2006 SAABE BEOTY Award. This prestigious award exemplifies an engineer's achievements and dedication during the past 12-to-16-month period as related to the building industry.

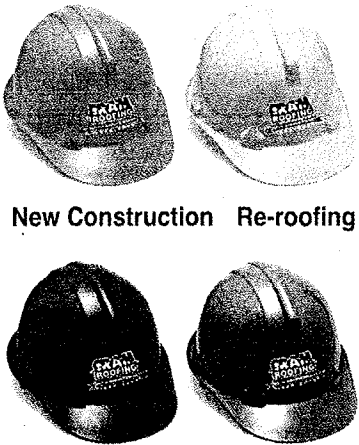
To nominate a Building Engineer, simply send a letter with your name and contact information, the candidate's name and contact information, and what contributions he/she has made during the past 12-to-16 months that makes this candidate deserving of the award. You can also include information such as training or award certificates, tenant letters, or other materials to support the nomination. The individual must be a member in good standing with SAABE. We encourage you to nominate outstanding assistant engineers for this award, also. Some of the evaluation criteria include:

- Participation in SAABE events and meetings
- Recent continuing education
- Major projects in the past 12-16 months
- Employee training
- Tenant & owner/manager evaluation letters
- Safety record
- Community participation

Send nominations to SAABE (address on page 8). Please call the SAABE office if you have any questions.

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NOMINATIONS:  
FRIDAY, DECEMBER 15, 2006**

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### Welcome New Members

Please add the following names to your membership directory:

**Terry & Kim McIlvain**  
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Floresville, TX 78114  
210-275-1695  
tkoacres@earthlink.net

If you know someone who'd like to join SAABE, have them visit our web site at [www.saabe.org](http://www.saabe.org) to obtain a



## 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](http://www.saabe.org). ❖

\* Systems Maintenance Technician and Systems Maintenance Administrator

## October Meeting Summary by Kendal Langenberg

We had a lighter agenda on tap for our October SAABE general membership luncheon at the Alamo Café. It was indeed a good time of just hanging out together and enjoying one another's company. Oh yeah, and the food was great, too, as usual!

Although it is always fun to kick back and shoot the breeze over a nice lunch, we really want to have each lunch sponsored by a vendor representative, with an educational presentation for the benefit of the general membership. The goal of our lunches is not only to provide a laid-back time to visit with one another about the trade, but also to provide good information to the attendees about a particular aspect of the building engineer industry. If you are a vendor and you haven't sponsored a lunch in a while, please jump right in and volunteer to do so in the next few months. We can never have enough speakers lined up!

Don't forget the announcement Bob Beal made about the Board openings that are coming up. Although several of the current Board members are willing to continue serving if they are still needed, we do desire to have some "fresh blood" in the leadership of SAABE once in a while! Please consider carefully if one of the open slots might be a good fit for you. It's a lot of work, but it is also a wonderful joy!

Speaking of opportunities to be involved with SAABE, there is ALWAYS an opening on one committee or another. The student mentoring program, BEOTY council, and membership committee are just a few places that need immediate help. If you want to get more out of your organization, do your part to make it better! We all have something good to contribute!

If you missed the October luncheon, you have a chance to redeem yourself by making it to the November edition. The exact date is Wednesday, November 15. Be there! ❖



## SAABE Financial Reports Available Upon Request

The SAABE Association Manager and Treasurer present a summary annual financial report at the December meeting. However, SAABE members are entitled to review SAABE's financial statements at any time. Please contact Laura Bray, SAABE's Association Manager, for more information (210-408-1699). ❖

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## Tech Talk #111: Hot Gas Bypass 101

by The Charlie

Hot-gas bypass is generally considered a capacity control method provided by the use of piping and valves external to the compressor. The arrangement uses a solenoid valve, which can be operated by a thermostat, or by a pressure switch that senses suction pressure.

When full capacity operation is desired, the solenoid stop valve in the bypass line is closed and gas from both banks of cylinders must pass through the discharge line to the condenser. When half capacity is desired, the solenoid stop valve is opened and the gas discharged by one bank of cylinders is carried by the hot-gas bypass line back to the suction line. Even with larger equipment that has un-loaders, the hot-gas bypass is often desirable to keep the compressor running when the load falls below the minimum unloaded step of the compressor.

Basically, this is a system of bypassing the condenser with the compressor discharge gas to prevent the compressor suction pressure from falling below a desired setting.

A solenoid stop valve is either fully open or shut and only provides on-off control. By use of a different type of valve that can be gradually open or close and can assume a partially open position, modulating control can occur in which just the right amount of hot gas can be bypassed to keep the suction pressure up to the desired level. Then, in responses to change, the bypass valve can modulate its position to meter enough of the hot high-pressure discharge gas to keep the compressor from pulling the suction pressure down too far.

In some installations the hot gas is introduced between the expansion valve and the evaporator. Since the evaporator has to be cold in order to pick up the load, you may wonder how putting hot gas into it is going to work. Without going into how an expansion valve is built, we will state that it meters in enough liquid refrigerant to maintain a desired superheat leaving the evaporator, and it does this by sensing the line temperature of the vapor in the suction line leaving the evaporator. If hot discharge gas tends to make the evaporator too warm so that superheat is too high, the expansion valve admits more liquid. The result is that the expansion valve operates in its normal way, and the refrigerant vapor returns to the compressor at normal temperature, the same as it would at full load operation of the system. This means first, that the compressor can continue to run without pulling the suction pressure down too low, and second, the suction vapor is not abnormally hot because of the bypassed hot gas, so there is minimal motor overheating problems. This type of arrangement also has as advantage of aiding the return of oil to the compressor. Without hot-gas bypass, the expansion valve reduces refrigerant flow at partial load, because at partial loads, less refrigerant needs to be boiled away than at full load. This reduced amount of refrigerant results in reduced vapor velocity in the evaporator, and oil may not be carried out of the evaporator. The hot-gas

bypass keeps the velocity in the evaporator up to its full load value, and so helps assure the return of oil.

In cases where the hot-gas bypass is desirable, and the evaporator may be very remote from the condenser, or the compressor may serve more than one evaporator, it may be necessary to bypass the hot gas into the suction line. However, this can cause the suction temperature to be too high and cause overheating of hermetic motors. The vapor leaving the evaporator is superheated because the expansion valve should be set to promote superheat, also the hot gas leaving the compressor is highly superheated. The mixture of these gases has to be cooled down, and putting some liquid refrigerant into the superheated gas mixture does this. This process is generally called de-superheating and can be applied to any vapor including refrigerants and steam. What it means is that heat is removed from the superheated vapor so that it becomes cooler and is therefore less superheated... duh! However, de-superheating is done with an expansion valve which meters in enough liquid refrigerant so that, when the liquid vaporizes, it picks up enough heat from the superheated vapor to cool it down to a temperature that is safe for the compressor. In the event that the expansion valve temporarily loses control of the hot gas, liquid refrigerant, and the return gases, a suction line accumulator, which is nothing more than a small tank, is typically used.

**Next Month:** Condensers and How They Work

**CHARLIE'S LAW:** Definition of True Love/Happiness:  
(a) Owning multiple belt-fed weapons, (b) having a bottomless ammo can, (c) a never ending supply of targets!

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## Communications Check-Up<sup>®</sup>

by Laura Bray

### Improving Your Writing Skills

One of the best (and shortest) resources available for improving your writing skills is *The Elements of Style* by William Strunk, Jr., and E.B. White (available in any bookstore). In fewer than 100 pages, it provides easy-to-read, no-nonsense tips on how to make your written communications clear and concise. Here are some examples:

- *Use the Active Voice:* The active voice is usually more direct and vigorous than the passive.

I shall always remember my first visit to Boston.

This is much better than

My first visit to Boston will always be remembered by me.

- *Use definite, specific, concrete language:* Prefer the specific to the general, the definite to the vague, the concrete to the abstract.

A period of unfavorable weather set in. (vague)      It rained every day for a week. (concrete)

- *Omit Needless Words:* On the left are some common expressions, with a better alternative on the right:

used for fuel purposes

used for fuel

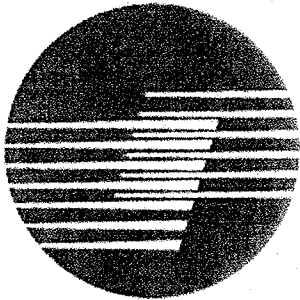
he is a man who

he

in a hasty manner

hastily

**Next month:** Running Productive Meetings ❖



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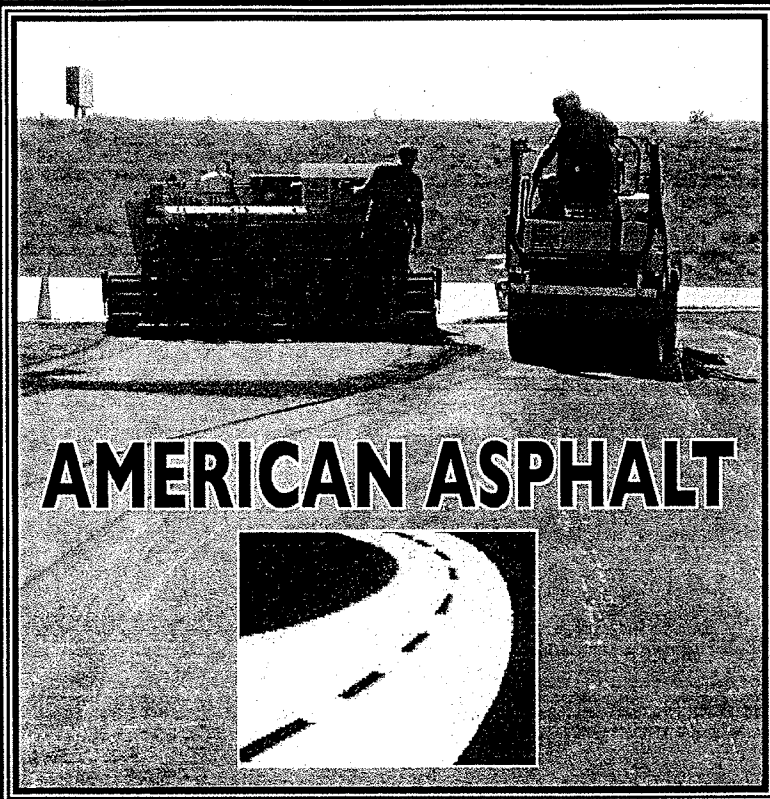
*Training*

*Contracting*

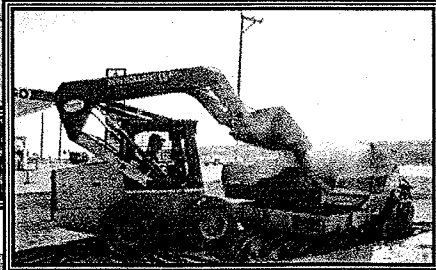
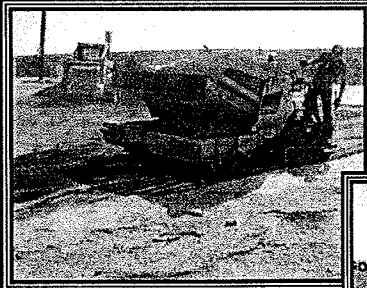
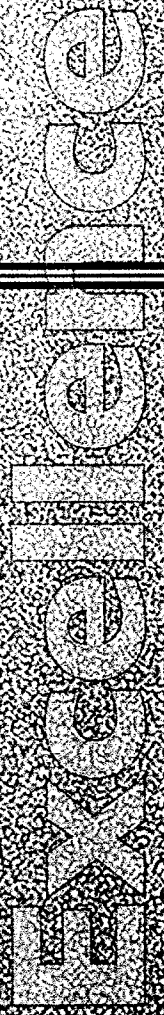
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## Engineer Spotlight

by Jeff Turov

### Jock Tilghman, Sr., CBE-J

Transwestern Commercial Services  
One Corporate Square  
4801 NW Loop 410, Suite 375  
San Antonio, TX 78229  
Phone: 210-681-2494  
mrjockusa@yahoo.com

- **How long in the building engineer trade?**

Jock has been involved in the building engineering trade for 25 years with a brief respite as a bounty hunter for a year and a half. During his career he has worked for SAWS (back when it was the City Water Board), Sea World (Jock was in charge of the 40" main that pipes in salt water from the Gulf; actually, there is no main—Sea World makes its own salt water), Justice Bail Bonds as a Bounty Hunter,

Bonner Group, Fuels/  
CB Richard Ellis,  
and Transwestern.

He has been a SAABE member for seven years and a board member for six years.

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

Jock has been awarded numerous special awards that recognize his expertise and abilities in relation to the building engineering industry. In 2003 Jock won the Engineer of the Year award from his current employer (Transwestern Commercial Services). He also won SAABE's Building Engineer of the Year award in 2004, and the Team Building of the Year award through Transwestern. He is currently involved in obtaining his SMA and SMT certification through BOMI.

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

There are many hobbies that Jock enjoys, such as fishing and hunting, but his favorite would have to be building stock car race cars and even better yet, racing them. He has two—a Camaro and an El Camino—and races them at San Antonio Raceway. He has won two trophies—The Grudge Match trophy and the Midnight Madness trophy.

- **Family/children?**

Jock has been married to his wife for 11 years and shares the responsibility of raising six children with her. (And I thought two was a challenge.)

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

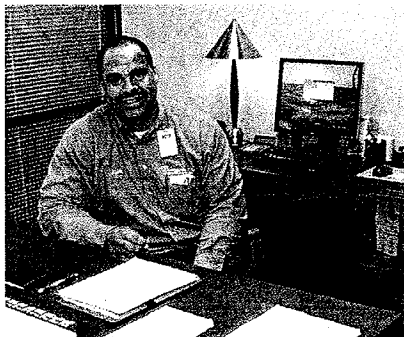
Slow down and be very careful; do not rush in to anything that involves mechanical equipment. Take the time to assess every situation properly. Jock's daily creed is "Safety first and work second – Be Smart!!"

- **7) What would you like to see in the future from SAABE?**

Jock would like to see SAABE mentioned more in schools and educational institutions to bring more young folks in to the industry. This is why he has taken the initiative to get involved in launching the mentoring program in SAABE. It is Jock's belief that as more of these young folks get involved in our industry, the stronger our future will be.

- **8) What is the most interesting piece of equipment that you have worked on?**

This would no doubt be the snowflake machine installed in the penguin exhibit at Sea World. Although this machine had no major life-sustaining duties, it was important in creating that chilly atmosphere for the penguin visitors. Jock learned never to shine a flashlight in the penguin exhibit—he did once, and 200 penguins hit the water at the same time. ❖



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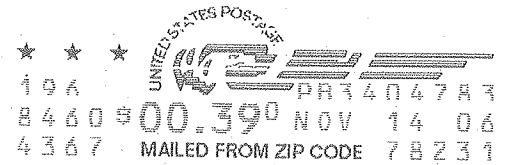
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**SAABE TIMES**  
**November Issue**

*Final Thought:*

*"You see things and you say, 'Why?' but I dream of things that never were; and I say: 'Why not?'"* — George Bernard Shaw

**2006 Board of Directors**

Bob Beal President	830-868-4749
Tom Lasater 1st Vice President	771-5824
Mike Halvorsen, CBE-M 2nd Vice President	979-8002
Kendal Langenberg Secretary	967-8766
JR Uresti Treasurer/SABOMA Representative	495-2195
Jock Tilghman, CBE-J Education Director	681-2494
Allen Mangrum Vendor Representative	412-1095
Elena Castillo Past President	822-8570

Laura Bray  
 Association Manager  
 (laurabray@braycommunications.com) 408-1699

**Membership Luncheon**  
**Wednesday, November 15, 2006**

**Time: 11:30 a.m.**

**Location: Alamo Cafe on 281**  
**"Let's Take the Mystery out of**  
**Variable Frequency Drives"**  
**Sponsored by Mechanical Reps**

**Upcoming Programs:**

**Friday, December 8**

**Holiday Social**

**3:00-6:00pm · Dave & Busters**

**Wednesday, December 20**  
**Annual Business Meeting and Board Elections**

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