



S.A.A.B.E. TIMES

A Publication of the San Antonio Association of Building Engineers

May, 1998

Mark Your Calendar —

Five Star and Arc Guard

Five Star Electric is a manufacturer's representative that specializes in induction and synchronous electric motors and generators. Sale and service of power electronic motor controls (i.e. variable frequency DC drives and solid state "soft starters") and DC power supplies are also provided. Traditional motor protection and starting equipment, dry type transformers, and power quality improvement equipment (i.e. power factor correction and harmonic filters) are also in Five Star's portfolio.

Five Star Electric Motors has been serving the South Texas area for more than 16 years with qualified Electrical and Mechanical Engineers and Technicians to answer your application questions and power electronic service needs. With offices in San Antonio, Austin and Houston, prompt sales and service are provided in a professional and quality manner.

Speed is essential to minimize the destructive effects and personal hazards when a short circuit occurs in electrical equipment. But, in many cases, by the time the current has risen to a level high enough to operate the protective relay and the circuit breaker has opened, damage, injury or even death has occurred. Danny Burnett with ABB Controls will be hosting a presentation on ABB Arc Guard Protection, designed to prevent these problems. Danny would like to invite all Building Engineers and especially **Property Managers** to see how these devices can save your equipment and very possibly **lower building** insurance rates!

Danny is an Electrical Engineer and the Regional Manager for ABB Controls. Five Star Electric Motors has been a representative for ABB for seven years.

Education Corner

By Mike Lusk

First, I would like to thank all of you who faxed or mailed in your responses to the survey included in last month's newsletter. As of the time I am writing this, guess how many I have received. NONE. However, I know that the reason is not because you don't care. I know that you are very busy and this particular item did not fall very high on your list of priorities. Or maybe you are still giving it deep thought. Whatever, it is never too late to send them in or add to them. Also, I will be passing out some more surveys at the May general meeting for those of you who have misplaced them. You may fill them in at the meeting and give them to me. Input is always welcome at any time.

Upcoming Educational Opportunities:

Texas A & M Extension Services (TEEX), Electric motor course for Electrical Technician, Maintenance Technician and Engineering Technician. May 18-22, 1998 At the H.B. Zachary Training Center on South Presa. Cost is \$895.00. Limited space; to reserve, call Jamie Smith at 1-800-541-7149.

National Technology Transfer, Inc. (NTT). Boilers, An Operator's Workshop. San Antonio, August 11-13. Austin, August 4-6. More information: Alex Black at 1-800-922-2820.

Last month I mentioned the enrollment dates for St. Phillip's College. Here are some of the courses they offer for Associates degrees:

- Air Conditioning and Heating
- Electrical Trades
- Refrigeration Technology

Here are some for Certificate of Completion:

- Air Conditioning
- Building Maintenance
- Electrical Trades
- Plumber's Helper
- Plumbing Trades
- Power Plant Maintenance
- Refrigeration Technology
- Structural/Pipe Layout

Above the Ceiling

By Paul Thompson

What's the Buzz?

Here's everything you need to know to apply for your **Maintenance Electrician License**, courtesy of Valerie Gleason, City Electrical Inspector. As you know, under the current city code you must have worked under a Master Electrician, Maintenance Electrician or Registered Electrical Engineer for at least four years (8,000 hours). However, to qualify until October, 1998, the Electrical Board will allow you to apply if you can show proof of having worked eight years (16,000 hrs.) doing electrical maintenance work. This work could have been commercial, apartments, civil service, armed services, etc. This time must be **documented**: date started, date ended, letterhead stationary, apprentice card signed off, DD-214, etc. Better yet if it is notarized.

To receive an application for the ME go downtown to: Municipal Plaza Building, 114 W. Commerce, License Clerk on 9th Floor. The Municipal Plaza Building is eleven stories and located where N. Main, W. Commerce and N. Flores intersect (behind Frost Bank and in front of the San Fernando Cathedral). I believe you may also get an application sent out by mailing a request to: City of San Antonio, Attn: Valerie Gleason, Building Inspections Department, P.O. Box 839966, San Antonio, Texas 78283-3966.

Once you have compiled all your work experience documentation and filled in the application, either take it back or send it in to the above addresses. The Electrical Board meets on the second and fourth Tuesdays of each month at 9:30 a.m. They will review your application for Maintenance Electrician — **you must appear in person**. Once the Electrical Board okays your application, the next step is to take the Maintenance Electrician **exam** at a cost of \$30.00 (re-test is \$15.00). The reports I have are that this test is pretty similar to the one for Journeyman Electrician, which is tough. **You had best study!** The first step would probably be to get a copy of the current National Electrical Code (NEC '96) — this will be the basis for most test questions. You could simply read the NEC, or get a copy of some of the self-study courses from a bookstore or library. However, if you are not very self-disciplined and/or are unfamiliar with electrical terms (what's the difference between a *grounding* conductor and a *grounded* conductor?), you may want to take a class or two. Valerie has been kind enough to furnish a list (see page 3) of electrical continuing education providers approved by the E-Board. If you want to pass the first time, take the test very seriously. One good note: once you have been approved by

the E-Board for testing, there is no time limit on this approval expiring.

So, now you've compiled your work experience, submitted your application, been approved by the E-Board and passed the test — the end is in sight! Upon payment of a \$50.00 license fee (\$25.00 renewal every two years) you will be issued a Maintenance Electrician license complete with a photo of your smiling face! This will allow you to replace or repair **any** electrical equipment in your facility (you cannot make additions). Remember, the Maintenance Technician is a **registration** with a cap of 240 volts (277V for ballasts). Failure to abide by these rules may result in a **Class C misdemeanor**.

Every facility must have an **Electrical Maintenance Permit**. This permit is good for one year and covers all maintenance electrical work done in your building — to get a copy of the application contact the same sources listed above. Cost is \$20.00 Basic Fee **plus** \$7.00 per 10,000 square feet rounded up to the nearest 10,000 sq.ft. You **must include** a Certificate of Insurance with your application! Don't forget, city code also requires that you keep a **log of all electrical work** done in the building. Include: work done, date, location, who did work, circuit numbers and any other pertinent information.

Piece of cake, right? Easy as falling off a log. Once you've done the above, **you are street-legal** (electrically speaking)! For more information, contact either Valerie Gleason (Electrical Inspector, 213-5808) or Patrick Poloskey (Chief Electrical Inspector, 207-8286). Tell them Flaco sent you!

Committees Forming...

What's that saying? If you really don't want to deal with something, form a committee. Well, SAABE's forming some committees! At the last General Membership meeting, we passed around sign-up sheets for both Building Engineer of the Year (BEOTY) and Membership Committees. With luck, these two groups will already have formed by our next meeting.

The BEOTY people are charged with coming up with the criteria for what we hope will become an annual award. Membership's job will be to hit the phones to help update our lists and come up with ideas to bring in new members.

Lastly, we will be signing up people to help with the Trade Show in October. Last year we got off to a good start and had the most successful show yet. This year's will be better. Jump on board! Sign up beginning in May.

Approved Continuing Education Providers

The following is a list of continuing education providers approved by the Electrical Examining and Supervising Board:

National Fire Protection Association

(1-800-344-3555)

National Electric Code — 4 day seminar

A+ Education Services

(210-520-6920)

APLE 001 — Basic Theory & Installation Requirements - 24 hrs

APLE 002 — Basic Electrical Principles - 24 hrs

APLE 003 — Advanced Electrical Principles - 24 hrs

South Texas Electrical Joint Apprenticeship and Training Committee

(210-225-8900)

JATC 001 — 1996 Codeology - 24 hrs

JATC 002 — 1996 Electrical Grounding - 24 hrs

JATC 003 — 1996 Transformers and Motors - 24 hrs

JATC 004 — 1996 Changes to NEC - 24 hrs

JATC 005 — 1996 Code Calculations I - 24 hrs

JATC 006 — 1996 Code Calculations II - 24 hrs

JATC 007 — 1996 Chapter 10 - 8 hrs

Independent Electrical Contractors

(210-736-4567)

CE 001 — Review of San Antonio's Chapter 10 - 8 hrs

CE 002 — Branch Circuits: Feeders & services including calculations - 8 hrs

CE 003 — Overcurrent protection - 8 hrs

CE 004 — Grounding - 8 hrs

CE 005 — Wiring methods and materials - 8 hrs

CE 006 — Boxes, conduit, cabinets & panel boards: sizing and fill requirements - 8 hrs

CE 007 — Motor connection requirements - 8 hrs

CE 008 — Special occupancies: hazardous locations - 8 hrs

CE 009 — Health care facilities - 8 hrs

CE 010 — 1996 NEC code charts, tables & examples of load calculations, Chapter 9 tables - 8 hrs

Not Yet Approved:

St. Philip's College — Pending

San Antonio Craftsman Association — Pending

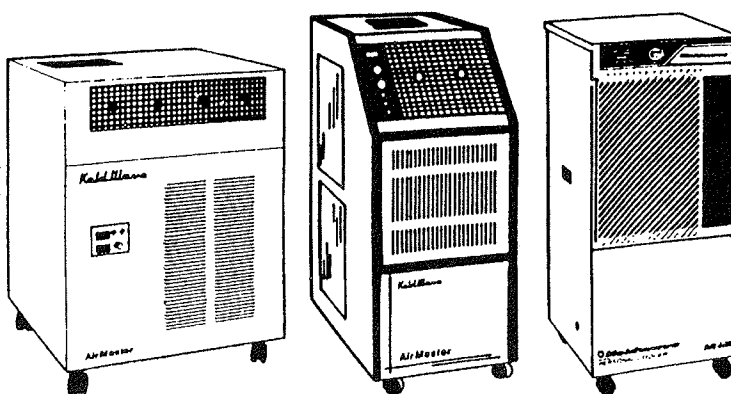
We're Rolling in Solutions!

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We offer fully portable air conditioning for hard to reach computer rooms, labs, store rooms, assembly lines... anywhere.

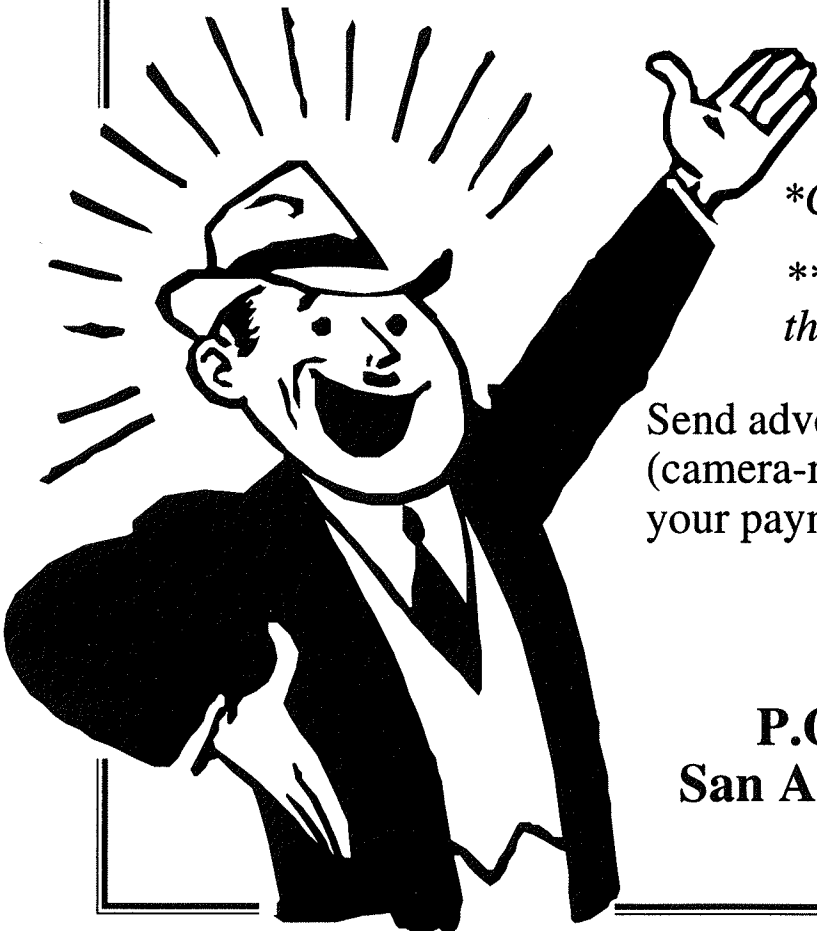


**FOR SALE OR RENT
Call (210) 490-9611
FOR MORE INFORMATION**

Advertise in the SAABE Newsletter!

NOTE TO ADVERTISERS: Except for member personal classified ads, ad copy must be camera-ready, or an additional charge will be made. Fees are to be paid with order. Personal classified (non-commercial) ads are available to members at no charge. Non-members will be charged \$3.00 per column inch.

<u>Commercial Rates</u>	<u>1 Issue</u>	<u>3 Issues*</u>	<u>1 Year**</u>
Full page (7.25" w x 9.5" h)	\$110.	\$280.	\$1,000.
Half page (7.25" w x 4.25" h)	60.	150.	575.
Half page (3.5" w x 9.5" h)	60.	150.	575.
Quarter page (3.5" w x 4.75" h)	30.	75.	280.
Business Card (3.5" w x 2" h)	20.	50.	190.



*Ask about rates for
specific placement.*

**Consecutive months.*

*** Subject to review every
three months.*

Send advertising copy
(camera-ready b/w or b/w velox) and
your payment to:

**SAABE
P.O. Box 691861
San Antonio, TX 78269**

Tech Talk #12

By The Charlie

Water Treatment Management (Part 3 of 4)

Are we bored yet? So far we have covered probes, flow switches, coupon racks and flow meters. A large portion of the water treatment controls are attached to the old LMI (Liquid Metronics, Inc.) chemical pumps. These pumps, as with other brands, have served their purpose well. However, I personally recommend a retrofit to include a primer valve. This will allow one to simply pull a knob and effectively prime the pump, rather than cracking the discharge line while the pump is in operation or having to violently shake the foot valve up and down in the drum of chemicals.

Would anyone eat something if the expiration date expired four years ago? Then why are there chemicals and reagents such as Cresol Red, Free Chlorine, etc., with an expiration date of 8/86 at some plants? Maybe this was for emergency use only? Come on, these chemicals and reagents have a shelf life and some are light sensitive. What good would a test have if your reagents are not fresh? Simply ask your vendor to provide you with new reagents. If not, contact HACH company at 1-800-227-4224, or email: orders@hach.com, or <http://www.hach.com> and ask for the catalog "Products For Analysis." It will contain everything anyone has ever dreamed of for conducting lab quality testing. It also has all of the colorimeters, electronic colorimeters, reagents and chemicals you will need.

OK, how many persons still use a Taylor Slide for pH testing? Well, there are still plenty of them around. If you have ever been uncertain about a pH reading, look in your 1998 Grainger book, pages 836 and 837, for electronic pH

meters (be sure to pick one that has a replacement electrode available). How about M-Alkalinity or Calcium testing? Do you perform your own testing? Do you use a colorimeter? Try using the titration testing for these elements — it is more complex, but also more precise than a colorimeter. Again, ask your vendor.

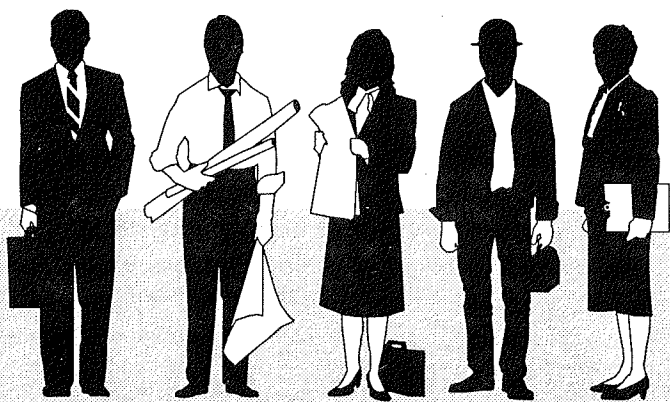
Many manufacturers use molybdenum as a tracer indicator in their inhibitors. This is how we determine the amount of concentration in our systems. Yes, again we could use a wheel colorimeter, or we could use an electronic colorimeter. Once you have had the opportunity to compare testing and results between the old slide and wheel colorimeters, and the newer electronic testing, you will be a different person! However, it is not fool-proof! You must calibrate these meters periodically, but this is not a complicated task.

Finally, let's cover conductivity. Do you have a means to check your controllers reading with a conductivity meter, or does this get checked by your vendor? Also, do you know that the conductivity of your chilled water loop can give you an indication of the amount of nitrate? Again, ask your vendor or consult the Grainger book, page 837, for conductivity meters.

Point to Ponder: Have your vendor take samples for testing of Legionella from your tower on a bi-annual basis.

Next Month: Anodes and Chemicals

"The Charlie"



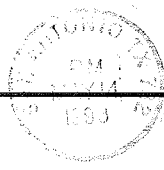
Help Wanted

Manager Needed

Billion dollar retail organization seeks Rio Grande Valley-based manager with 5-10 years broad experience in maintenance of buildings in the South Texas area.

We seek a proven manager now at the manager or assistant manager level to oversee buildings and personnel in several cities in South Texas. Strong knowledge of HVAC, electrical controls, and construction and inspection techniques. Fluent Spanish speaking skills are required. Position based in Rio Grande Valley. Salary: \$50,000

Please call:
Abel M. Gonzalez
Management Recruiter
210-695-5555
San Antonio, Texas



**San Antonio Association
of Building Engineers**
P.O. Box 691861
San Antonio, TX 78269



Trammell Crow Company
Charles H. Mikolajczyk, Jr.
8000 IH 10 W, Suite 250
San Antonio TX 78230

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Membership Luncheon May 20, 1998

Time: 11:30 a.m.

Location: Tex's Restaurant
in the Airport Hilton

Sponsored by: Five Star Electric

Speaker: Danny Burnett, ABB Controls

Next Luncheon: June 17, 1998

Sponsored By: TBA

If your company would like to sponsor the luncheon on June 17, 1998, please contact a member of the Board of Directors.

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



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email: inkspot@onr.com