

S.A.A.B.E. TIMES

A Publication of the San Antonio Association of Building Engineers

February, 1999

Mark Your Calendar —

Bomb Threats

As the end of the century draws to a close, it seems that acts of terrorism are creeping closer to home. Bomb threats are harsh realities in today's world, and law enforcement agencies are charged with providing protection for life and property, but they cannot be held solely responsible. Every citizen needs to do their part to ensure a safe environment.

Sgt. Tim Pastol, with the San Antonio Police Department's Bomb Squad, will be on hand at our next membership luncheon to discuss the steps needed to ensure a safe working environment in our buildings and how to react to a terrorist situation.

Through adequate preparation, it is possible to reduce the accessibility of your building and identify areas that can be doubly protected against a potential bomber. If a bomb incident occurs, proper planning can reduce the threat of panic which, in turn, will reduce the potential for personal injury and property loss.

Don't allow a bomb threat to catch you by surprise. It can happen. Developing a bomb incident plan and considering possible bomb threats in your security plan can reduce the potential for disaster.

SAABE would like to thank Ward Systems for sponsoring this luncheon. Ward Systems provides air conditioning control services throughout South Texas.



Education Corner

by Mike Lusk

Last year we took a survey of your desires as to subjects you would like to see SAABE cover. Below is the list of subjects in priority order. Next to each subject I have listed the month and presenter of the monthly luncheons. This list is not set in concrete. It is just my idea on what has been presented and what category (-ies) it fits under. The purpose of presenting this is to show you that we are trying to fill your requests.

1. Codes and Standards: 2/98 City; 1/99 PDI
2. Life Safety: 1/98 Worth Hydrochem; 5/98 Five Star; 6/98 CPS
3. Mechanical Systems: 1/98 Worth Hydrochem; 9/98 Fincor
4. Liability Exposure: 11/98 Gay Gueringer
5. Electricity: 4/98 Alterman; 5/98 Five Star; 6/98 CPS; 9/98 Fincor; 10/98 CPS
6. Plumbing: 8/98 Stanco
7. Elevators
8. Building Envelope
9. Hazardous Materials: 7/98 Philips Lighting
10. Waterproofing
11. DDC: 3/98 MMT; 9/98 Fincor
12. Underground Storage Tanks
13. Pneumatics and Compressors
14. Parking Lots
15. Signage

Also: Disaster preparedness, roofing, ADA restroom, and new city/state/federal codes.

Upcoming Seminars: NTT 1-800-922-2820

- Grounding and Bonding — San Antonio, February 22-23; \$695.00
- Mechanical Drives — San Antonio, March 9-11; \$985.00
- Industrial Electronics — San Antonio, March 9-11; \$985.00
- National Electrical Code 1999 — San Antonio, March 16-18; \$985.00
- Plumbing Codes and Standards — San Antonio, March 29-30; \$695.00
- Understanding Programmable Controllers — San Antonio, April 27-29; \$1195.00
- Refrigeration and Air Conditioning — San Antonio, May 4-6; \$985.00

Above the Ceiling

by Paul Thompson

Y2K?

Because it's there, it's coming, and there's nothing we can do to stop it. Yes folks, come the stroke of midnight, Friday, December 31, 1999, the dreaded Year 2000 Computer Bug arrives! Is it too late to call Terminex?

Is there still anyone out there who doesn't know the bare bones of this story? It seems that way back in the '60s (that's the *decade*, not the mini-series) when computers were in their early years, memory space was limited and expensive. To save money, a shorthand method was adopted and used for years: drop the first two digits of the year.

1965 became 65, and so on. Although it was still nearly four decades until the century change, there were still some who foretold of coming problems. Expediency won out, the prophets were ignored, and the two-digit year became standard. After all, who seriously thought that this computer code would still be in use come the millennium?

Fast forward to 1999. Thousands of programs, millions — maybe billions — of lines of code later and a slight problem. Seems it was easier to "patch" onto the original codes than rewrite them. And the dormant bug sat for decades, growing in direct proportion to our snowballing computer systems. Remember that old saying, "a stitch in time saves nine"? Well, that stitch we decided not to make in the sixties is fixing to unravel big-time to the tune of several *hundred billion dollars!* You can't get interest like that at the bank. Like the guy says in the commercial, "pay me now or pay me later."

What does this mean to us in commercial building maintenance? The good news resides in the least technologically advanced buildings; lights controlled by switches, HVAC controlled by mechanical timeclocks, security by the turn of a key...none of these will be affected. But for those of us who reside in high-tech, state-of-the-art facilities, there is reason to pause.

Any computer-controlled system that is date-sensitive has the potential for failure: HVAC controls, security access systems, automatic lighting, elevators, fire alarms, computerized maintenance management systems (CMMS), phone systems, computer networks, fax machines, chemical treatment stations, utility metering, bank vault, etc., etc.. That's not even the end of it — with the way that separate systems are tied together nowadays, one "bad" system could send false information to "good" systems, bringing them all down in the process. It may not be the end

of the world as we know it, but there is definitely a potential for trouble.

What to do? Well, there may be a lot that is outside of our control: phone service goes down, water stops flowing or even the dreaded (gasp!) power outage. The utilities are something that we have to basically trust will still be there, but we need to have contingency plans just in case.

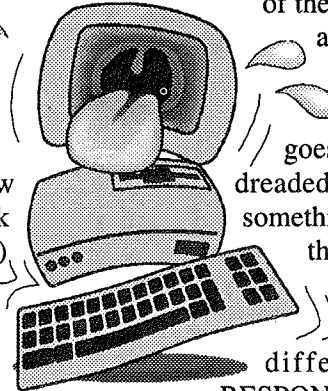
Inside of our facilities, now that is a different story. Here we have a **RESPONSIBILITY** to our tenants, patients, guests, schoolkids, workers and owners to prevent or minimize Y2K disruptions to any systems under our care. Imagine sitting in a courtroom in April, 2000 trying to explain why your security system opened all the building doors on that first Saturday of the year, allowing crooks to come in and fleece the place at their leisure. What did you do to prevent this from happening? What were your contingency plans if something like this did happen? Are you insured against Y2K failures? Did you practice the "due diligence" necessary to defend yourself (and your company) against failures? Did you TEST the systems prior to 010100?

I don't know if we built a "Tower of Babel" with our sophisticated systems, and God's just waiting to take us down a peg, or not. One thing is for sure; if you do nothing, expect failures. If you have not started your preparations yet, time's a'wastin'. One excellent resource is BOMA's (Building Owners and Managers Association) manual, *Meeting the Year 2000 Challenge: A Guide for Property Professionals*. It contains an eight step program to bring you into compliance, checklists, questionnaires for manufacturers, sources for further information, etc. SAABE is purchasing a quantity of these and will have them available for \$20.00 each (contact Lynn Forester). We are also preparing letters (possibly in conjunction with other associations) to send out to utilities requesting info on *their* state of Y2K readiness.

So don't sit on your hands...hope for the best, but prepare for the worst.

Bits and Pieces

Muchos gracias to John Cochrane with PDI for his great seminar last month. Look for Tio SAABE to answer your maintenance questions in future issues! A SAABE salute to Black History Month is certainly in order. And lastly — Sorry, Mike, that I didn't use your stuff (this month).



In My Opinion...

by Elena Castillo

Have you had your building inspected lately for faulty wiring, defective motor starters, or hot electrical bus ducts?

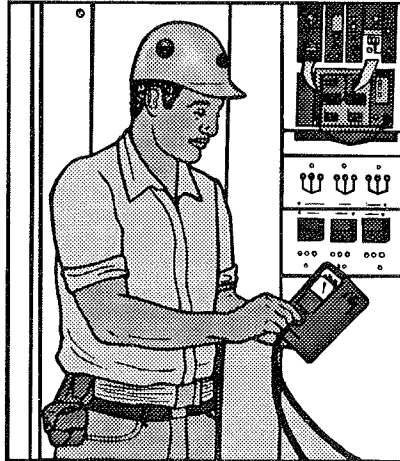
If you have not, then you must be either doing your infrared scan in-house, or you have not budgeted for one. *In my opinion*, don't delay.

You could prevent thousands of dollars in equipment repair or replacement if you contact our very own City Public Service Power Quality Division. As a courtesy, they will scan your electrical panels, bus ducts, equipment disconnects, anything that carries electrical current.

CPS will then provide you with a personalized Infrared Inspection Report. They provide you with an explanation of the problem found and make their recommendation for repair.

I obtained their services in January and was surprised to find a serious problem in our incoming power. One of the lighting arrestors in the main transformer to the building

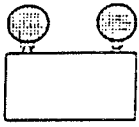
showed excess heat, indicating it was defective and would need to be replaced as soon as possible. CPS has repaired the problem.



Four years ago, we experienced a blown lighting arrestor. We lost a phase, a couple of motor starters, and tripped several breakers. Fortunately, our emergency generators came on line and provided emergency lighting to the building. We think that with new parts being replaced on our equipment, that they will last at least 20 years. This is not always the case. We again have to replace one of the lighting arrestors and hope that this will not occur again.


I know the urgency of maintaining our incoming power to the building. CPS also suggests frequent inspections. Contact Mr. David Detelich of the Power Quality Division, and set up your inspection. His phone number is 978-3037.

In my opinion, it could save your life, or prevent a catastrophic accident. I know I did.



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Uncle Knows Best!

We're inviting submissions to "Ask Tío SAABE", a new column which will publish questions from SAABE members on technical, operational or association issues. We'll track down an answer and include it in the next newsletter issue. Please fax your question to (210) 520-1337.

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Tech Talk #21

by The Charlie

Petrified of Metric Sized (part two of two)

Pipe and Fittings

What will change?

- Nominal pipe and fitting designations, from inches to millimeters.

What will stay the same?

- Pipe and fitting cross sections and threads.

Note: Pipe and fittings are produced in nominal inch sizes as a matter of convenience. A 2" pipe has neither an inside or an outside diameter of 2 inches, a 1" fitting has no exact 1 inch dimension, and a ½" sprinkler head contains no ½" dimension anywhere. The size of the pipe will not change but simply be relabeled in metric units as follows:

1/8"=6 mm	1 1/4"=32 mm
3/16"=7 mm	1 1/2"=40 mm
1/4"=8 mm	2"=50 mm
3/8"=10 mm	2 1/2"=65 mm
1/2"=15 mm	3"=75 mm
3/4"=20 mm	4"=100 mm
1"=25 mm	1"=25 mm for all larger sizes

Rebar

What will change?

- Rebar will again be renamed per ASTM A615M-96a and ASTM A706M-96a as follows:

From / To	Used to be	From / To	Used to be
No.3 to No.10	3/8"	No.8 to No.25	1"
No.4 to No.13	1/2"	No.9 to No.29	1 1/8"
No.5 to No.16	5/8"	No.10 to No.32	1 1/4"
No.6 to No.19	3/4"	No.11 to No.36	1 3/4"
No.7 to No.22	7/8"	No.14 to No.43	1 3/4"

Sheet Metal

What will change?

- Designations, from "gauge" to millimeters.

What will stay the same?

- Metal thickness.

Electric Conduit

What will change?

- Conduit designations, from inches to millimeters to be relabeled as follows:

½" to 16 mm	1 ½" to 41 mm
¾" to 21 mm	2" to 53 mm
1" to 27 mm	3" to 78 mm
1¼" to 35 mm	4" to 103 mm

Note: Please note that the reference of 25mm = 1 inch does not apply to electrical conduit. Additionally, the designated metric size for plumbing pipe is not the same as the designated size for EMT!

Structural Steel

What will change?

- Section designations, from inches to millimeters and from pounds per foot to kilograms per meter, as in accordance with ASTM A6M.
- Bolts, to metric diameters, and threads, per ASTM A325M and A490M.

Drawings

What will change?

- Units of measure, from feet and inches to millimeters for all building dimensions. For large site plans and civil engineering drawings, meters will be used. Unit notations are unnecessary; if there is no decimal point, it's millimeters; if there is a decimal point carried one, two or three places, it's meters. In accordance with ASTM E621, centimeters are not used because, (a); they are not consistent with the preferred use of multiples that represent tertiary powers of 10, (b); the order of magnitude between a millimeter and centimeter is only 10 and the use of both units would lead to confusion, and (c); the millimeter provides integers within appropriate tolerances for all building dimensions so that decimal fractions are almost entirely eliminated from construction documents. Drawing scales, from inch-fractions-to-feet to true ratios.

The preferred metric scales are as follows:

1:1 (full size)	1:50 (close to ¼"=1'0")
1:5 (close to 3"=1'0")	1:100 (close to 1/8"=1'0")
1:10 (between 1"=1'0" and 1½"=1'0")	1:200 (close to 1/16"=1'0")
1:20 (between ½"=1'0" and ¾"=1'0")	1:500 (close to 1"=40'0")

Specifications

What will change?

- Units of measure, from inch-pound to metric units.

Note: Do not use dual units in specs except when the use of an inch-pound measure serves to clarify an unfamiliar metric measure. If in this instance, place the inch-pound in parentheses after the metric. For example; 7.5 KW (10 horsepower) motor.

As with these and all other unit conversions, please check with a professional to ensure that rounding does not exceed allowable tolerances.

Thoroughly dazed and confused!

"The Charlie"



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S.A.A.B.E. TIMES
February Issue

Y2K
317 Days And Counting...

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Membership Luncheon February 17, 1999

Time: 11:30 a.m.

Location: Tex's Restaurant
in the Airport Hilton

Topic: Bomb Threats

Speaker: Sgt. Tim Pastol of the
San Antonio Police Department

Sponsor: Ward Systems

Upcoming Luncheon:

March 17: Stone Care of Texas

The SAABE Times is produced monthly for the San Antonio
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