

January 2007

**Group CBS Newsletter**

Happy New Year

***IEEE PES T&D Conference and Exposition Latin America***

*By: Jose Febres*

In August 2006 CBS participated in this regional event, the largest of its kind, where professionals from different countries like Venezuela, Panama, Colombia, Brasil, Chile, Argentina got together to share information and experiences. From Oil Companies to utilities, engineering firms, testing companies and manufacturing plants, we had the chance to show the capabilities of Circuit Breaker Sales Co., Inc. CBS will continue its efforts to increase their presence in the Latin American market during 2007. We will be participating at the Doble International Conference and Exhibition.



## **From The Top.... 1/2007**

**By: Finley Ledbetter**

Once again I take keyboard in lap from 37000 feet aboard American flight 4552 in route back to Dallas from LAX and nice lunch with Joe DeLaPaz.

The last several months has brought much change to the Group. We have completed a year of real prosperity where every GCBS company has shown growth and profitability.

The news after the Instel sale we decided we needed to bolster our East Coast presence with a long term plan to recover the 7M loss in GCBS revenue associated with the Instel sale. We have made great strides with opening our first east Coast regional service shop in Lakeland, Florida. Cristy Haynes Crews has handled the operations and sales management admirably with the same bumps that everyone had though startup finding the right people. Don Genutis has come over to our camp from the NETA ranks and he brings technical and engineering strength to GCBS as VP East Coast operations reporting to me with the task of building several service shops Florida first then further up the eastern seaboard as opportunity presents itself. Don's field service background and knowledge of advance testing techniques makes this new venture almost surely a service and not equipment driven venture for the Group.

After a five year battle with Coastal's inability to manage itself, make a profit, pay its bills and keep the shiny side up (or even really know what way was up) we have sold this venture in it entirety. Lesson learned and duly noted.

Florida turned a nice profit on over 1.4M in sales its first year from startup and we see good things here. We have added a salesman to South Florida and should add a stationed tech there this year. Next year should bring a similar expansion in North Florida looking further into Georgia and the Carolinas.

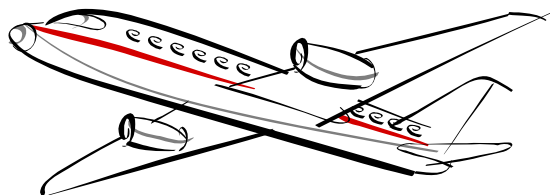
GCBS is looking at two possible acquisitions of existing competitors for 2007 that would change the landscape of our Group and the market. Look for more on this; next issue.

CBS newest venture is the opening of the Denton Fulfillment Center or DFC this will allow GCBS to have a training and testing laboratory to develop new methods and techniques to be used throughout the Group. Aaron Curry will supervise this operation. He has been on site setting this up for a couple of months now. Just a few things that will be tackled are training new mechanics, writing specifications for remanufacturing, ISO certification, developing specialty tools and time studies. This should be up and running this summer. Stop by if you're in North Texas.

2006 was a time for a lot of change. NWCB/AET built a new building. CBSR did the same in Houston. CBSS was opened and showed nice first year numbers finding its way through the fog. CBS had its best year since the gulf war and all signs point to a record 2007 with a record January sales backlog.

And now the score board and unruly comments. CBS posted probably its best over all year and is out of room look for an expansion there soon. CBSR moved into new quarters and had a flat year based on loss of a lot of time and effort with the move. Seattle operations also moved into a new facility and even with that showed some growth. AET came into its own kudos go to Dan Hook up there for all he has done. Tulsa has shown increased profits by working smarter and increased market share Greg continues to improve and add advanced services to SPS making it far more than a breaker shop these days. SSER did not top last years numbers and is the only GCBS company down for the year but a new Tech and the shame of being the only loser surely will motivate them. Astro makes big numbers growth abounds and a new larger better facility is under contract. I look for this segment to be our best growth market the next few years.

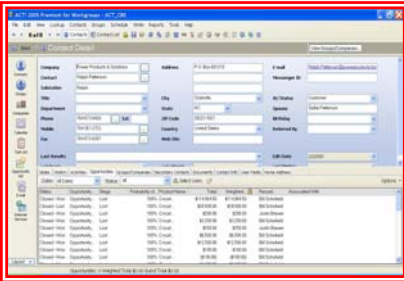
Thanks to everyone for what they have done and plan to do in the future lets find better ways to improve our product from top to bottom and spend our time smarter so we can have better lives away from these stupid circuit breakers. And always remember lets not be evil.



## WHICH CAME FIRST? THE QUOTE? , OR THE SALE?

By: Bill Schofield

This question seems pretty simple but every week I get reports that say some of us sales people still don't get it. In 2007, we are going to spend a good amount bettering our sales effort. From better instruction and involvement with the actual equipment and testing (knowledge) to a fully integrated new computer/communication system (access and presentation), 2007 will be a year of change and growth. There will be several new faces so some of the old faces will have to play a little harder to keep up with the Google Generation.



But back to the question... The Quote of course. My personal goal is to quote 5-10 things a day to different people. Now if I accomplish my personal goal, I will also achieve my weekly/monthly sales goal. So the trick is to focus a major portion of your time and effort finding an opportunity to quote and actually get it quoted. Just finding a new "potential" customer is not enough, you must also find the actual opportunity if you are going to have a successful sales career. Just like in baseball where a .300 will



make you a millionaire, if you got 30% of what you quoted and you quoted what you should, life will be sweet.

## LESSONS LEARNED, File under Stereo Equipment>Upgrade>Speakers

By: BILL Schofield

OK, around the holidays I thought I needed a new "sound system" in my living room. The existing stuff was "state of the art" four years ago but in "electronics years" this must ancient it seemed to me. Of course I discussed this with my wife and as with all technology discussions she was convinced our flint stones to make fire were just fine (now if Bics were on sale at Tuesday Morning we would need Smokey Bear at the house but I digress).



So I started the project with some basic research (I called Derreck). Now I am not really sure all the discussion we had, and it likely could have had nothing to do with the stereo system problem but Derreck knows all things technology. Also, I am not fond of getting his "could have known this before you bought it email" a nanosecond after I tell him my "post purchase story" so I now involve him right away. Without divulging any of our top secret discussions somehow the focus turned to speakers. What did I have for speakers? Well I had some "nice Sony" speakers because I had always been too "tight" to get the \$1200 "dream Bose speakers". Well then I realized if I bought a new sound system I

would need new speakers I was sad (mostly cause if I bring home a new stereo before I fix the "shed" in the back yard I would be living in said shed but again I digress). But as luck would have it, the Best Buy flyer was in the mail that day and they had the Bose Accoustimass Speaker System on sale for \$800. Now \$800 for a set of living room speakers is pretty hefty I agree but they are usually \$1200 so that is a bargain no matter how you look at it (I once had a \$600 Pontiac) but once you hear them, even on that old crystal radio/ham receiver/8 Track amplifier you will run right out and buy them. You will not need to leave your living room; it is the best sound recreation that I think could be possible. All my existing stuff is actually still good to go and now I can enjoy it. So my point in all this is BUY YOUR SPEAKERS FIRST. I am pretty convinced that the lowliest Audiovox 100 would sound like Carnegie Hall through these speakers. I personally will never buy another speaker that does not have Dr. Bose's trademark on it. Lessons learned.

**GREEN ENERGY**

By: Jose Febres

Known as the "Cathedral of Rum" of the world, the Bacardi Plant in Cataño, Puerto Rico is undergoing a very interesting project to save energy. The Plant Engineer explained that from the process of creating the rum there is a byproduct known as 'mosto', which is what is left after grinding the sugar cane. Since this is organic matter it decomposes, producing methane gas, the fuel that they will be using to heat water in the boiler, to produce steam to move the generator and create electricity. As simple as that sounds, this projects started in the 1970's. Usually the 'mosto' is sold to other industries that make fertilizer, but this is definitely a better use of it. Being the largest rum distillery in the world, processing around 100,000 gallons daily, this plant will add a turbine to generate 3 MVA for the base demand. This will reduce considerably their monthly electric bill, now that they will only buy peak demand from the local utility (PREPA). Like many other industries, electricity is vital, extremely important for their process. It is very difficult to calculate how much a minute without power costs to this plant, but we all agree that is a big number!



CBS has established a relationship with Bacardi, letting them know that we have the largest inventory of breakers and other electrical equipment in stock, and that we can help them keep their plant up and running. They are very interested in non-invasive predictive maintenance techniques, like Partial Discharge, so we will talk about that with them in the near future. This new turbine is estimated to be in service before the end of 2007.

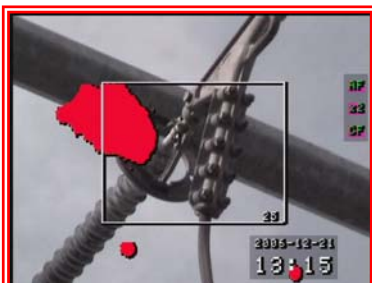


**"See the Invisible" Group CBS CONTINUES TO BE THE TECHNOLOGY LEADER**

By: Finley Ledbetter

Investment in new technology has kept Group CBS the leader in providing our customers with the best electrical solutions worldwide. Recently the Group acquired a Corona Camera that allows our trained technicians to view and photograph **invisible** corona activity that occurs in outdoor and indoor high voltage and medium voltage equipment.

Special filters and lenses convert the ultraviolet light that is associated with corona activity, into visible images so that substation and switchgear equipment can be quickly inspected for problems associated with voltage breakdown. This technology is significantly different, but complimentary to infrared inspections which detect conductor problems due to overheating.



The photo (top right) shows the hand-held corona camera in action along with an image, (bottom left) that was recently taken at a substation that was having a severe outdoor insulator breakdown. Group CBS is the first independent service company in the U.S. to acquire this equipment. Contact your local Group CBS service provider for additional information.

**NORB MAGES HONORED BY LINDSAY, TX MAYOR**

*By: Jason Harrison*

On Monday Night May 8, 2006, the Lindsay City Council honored Norb Mages for his dedicated service to the citizens of Lindsay over the past 23 years. Mayor Steven Zwinggi presented Mages with a plaque which read: "In recognition of your timeless efforts and lasting contribution to the city of Lindsay." Norb has been a Machinist with CBS since 1989.

*(Information was obtained from an article in the May 11, 2006 Gainesville Daily Register)*

**BRIAN ROBERTS NEW SHOP MANAGER**

*By: Greg Ellis*

Sentinel Power Services is proud to announce that Brian Roberts will assume the responsibilities of Shop Manager at our Tulsa facility. Although Brian has been with the company less than two years, he brings his knowledge and organizational skills which has proven invaluable and he has made a strong contribution to the recent growth of SPS, Inc. The electrical power control systems knowledge he has learned through his experience in the foundry, tire manufacturing, and the military has helped him be an effective solution provider to our customers. Brian will always be at your service.



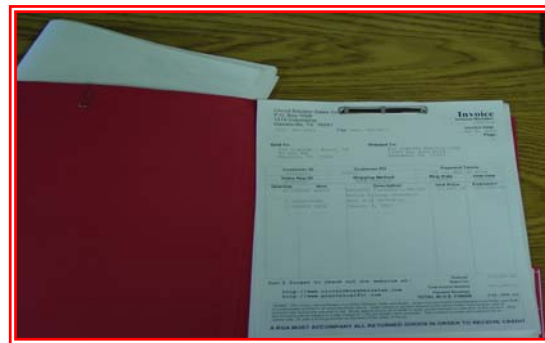
**Brian Roberts**  
Sentinel Power Services

**THE CBS JOB FILE SYSTEM**

*By: Teresa Sprouse*

Although this idea came in with Bill Schofield, I do have to admit this has made life so much better for those of use that have to keep up with the multitude of papers that make up a customer's job. At CBS, we now use red file folders and for every job that is written up, a folder is created for that job.

Here is how it works for us. Once the salesman makes a sale it is entered into ACT and a sales order document is created; he then attaches the associated paperwork (customer's P.O., original quote, any drawings that may be used) into me. I am the person that writes up the job and puts it in the accounting system and generates the appropriate paperwork that goes to the floor. This is where the folder comes in. I then take all the documents and punch holes at the top of the papers and the folder and fasten them to the red folder. The folder is labeled with the customer's name and the job number. **Anything and everything that is related to this job** is then put in the folder. Once the job is complete, should there be any question regarding the job, the folder may be pulled and whomever is doing the research is able to see the invoice, shipping documents, original write up, production order from the floor with tech notes, test reports, drawings etc. If there are additional parts shipped or comments made to the customer, these are also notated on the inside cover of the folder.



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**THE CBS JOB FILE SYSTEM**

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With a folder in your hands, you should be able to know what happened from start to finish for that job. This system has worked very well for us over the past 8+ years. It is also extremely helpful to be able see a folder that is sometimes amidst clutter on a very busy person's desk. If you would like more details on exactly how our chain of paper work flows please contact me I will be happy to provide more details.

**SENTINEL POWER SERVICES OUTLOOK 2007** *By: Greg Ellis*

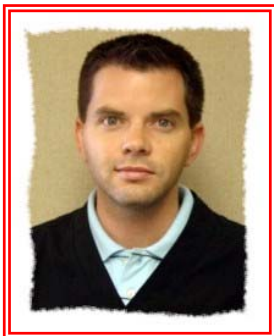
SPS, Inc. is continuing on a path of positive growth in 2007. We expect the breaker repair, testing, and equipment sales will continue to expand. We already have substantial sized projects being executed and we are not even out of the second week. The engineered solutions business segment continues to be developed and we expect it to "pull-thru" additional business for SPS, Inc. We expect another good year.

**TIM BREWER EMPLOYEE OF THE YEAR**

*By: Jason Harrison*

At the 2006 Circuit Breaker Sales, Inc. Christmas lunch Tim Brewer was awarded employee of the year and was given a plaque for his accomplishments. Tim is the Parts Manager/Inside Sales here at Circuit Breaker Sales, Inc. Tim al has a link to some of the parts that were shipped from the CB Sales Parts Department. Tim has been with the company for 9 Years and has been Parts Manager for 5 years. Great Job Tim!!!

Pictures of Parts Shipped Web Link  
<http://photos.gcbsinventory.com/partsstuff>



**Tim Brewer Circuit Breaker Sales, Inc.**

**DAN HOOK PASSES PROFESSIONAL ENGINEER EXAM**

*By: Jason Harrison*

We would like to congratulate Dan Hook from Advanced Electrical Testing, Inc. on successfully passing his PE Exam (Professional Engineer) and he is here to help with any of your engineering needs.

**20 YEAR SERVICE AWARDS**

*By: Jason Harrison*

The year 2006 marked 20 years of service for Troy Yosten, and Lee Heine. The both received plaques that read "***In recognition of 20 Years of dedication, loyalty and service to Circuit Breaker Sales & Group CBS***" Troy works in the Gainesville, TX office as an **Electrical Engineer** Lee Heine works in the Houston, TX office as **Vice President of Sales at Circuit Breaker Sales & Repair.**

Lets all congratulate Troy and Lee on their service to the Group.

**BRAD MORRELL AWARDED ELECTRICAL CERTIFICATIONS FROM AVO**

*By: Jason Harrison*

On October 2-6, 2006 Brad Morrell from CBS Gainesville, TX was awarded certifications from AVO Training Instution. The Certifications that he received were for Certified Basic Relay Maintenance Technician and Basic Electricity. AVO Training Institute is the premiere, world-wide leader in electrical training services. Lets all congratulate Brad on his accomplishments.



**RETURN OF THE BUZZ**

*By: Jason Harrison*

The return of the Buzz has started. Thanks to everyone in the past who has submitted stories and helped this publication be heard. As the new year of 2007 is here we look forward to creating the news letters for everyone to read and enjoy!! Please feel free to contact Jason Harrison at CBS in Gainesville, TX to submit an article or recommendations. E-Mail me at [jharrison@cbsales.com](mailto:jharrison@cbsales.com)

**CHRISTMAS LUNCH 2006**

*By: Jason Harrison*

Keeping the tradition alive Circuit Breaker Sales held their annual Christmas Lunch on 12/22/06 with a catered meal from Rudy's Bar-B-Q I mean to tell you it was delicious. As always family and friends where invited to attend the feast. Every year the employees are invited to join in games sponsored by Finley which includes cash and gift prizes.



**This Years Winners Were:**

- Oscar Quinonez (Cash)    Ken Meyers (DVD Movie)
- Derreck Barnhill (Cash)    Juan Vasquez (DVD Movie)
- Carl Newberry (Cash)
- Matthew Bowels (PSP)
- Sandy Hess (Waffle Maker)
- David Muir (Wine)
- Brian Railsback (Wine)
- Glen Hellinger (IPOD)

## WHICH IS BETTER COPPER OR ALUMINUM?

By: Bill Stephens

When dealing with transformers, a great deal depends upon the application and the individual preferences of the person specifying the transformer. Quite often the reason cited for specifying copper windings is copper's high electrical conductivity. Although copper is better conductivity-wise than aluminum, copper is more expensive than aluminum and raw copper prices tend to widely fluctuate making cost forecasting difficult for new transformers.



During World War II, copper became scarce and was used primarily for the war effort (a full metal jacket has to be made of something). Several industries turned to aluminum as an alternative to copper because it was in good supply, was very stable price-wise and was less expensive than copper. In the 1940's high-power transmission power lines were converted from copper to aluminum and secondary power distribution networks began utilizing aluminum in the 1950's. Today, a good number of standard transformer lines from the major manufacturers are wound with aluminum.

Although copper wound transformers tend to be smaller than comparable aluminum wound transformers, aluminum transformers offer some distinct advantages over copper wound units:

- Both copper and aluminum oxidize over time. Aluminum conductors oxidize until all exposed aluminum surfaces are covered with an oxide layer. At that point oxidation stops unless the aluminum oxide barrier is somehow broken and the aluminum conductor is re-exposed to the air. Aluminum oxide inhibits chemical reaction of the metal with the wire insulation. Aluminum oxide is also a good electrical insulator. Copper on the other hand oxidizes completely over time. Copper also acts as a mild catalyst, hastening the decay of the wire insulation. All of these factors combine to give aluminum wound transformers a longer life than comparable copper wound units, typically about five years.
- The heat storage capacity of aluminum is approximately 2.33 times that of copper (specific heat of aluminum is 0.214 cal/gram/°C, specific heat of copper is 0.092 cal/gram/°C). With aluminum wound transformers having a superior thermal storage capacity than copper wound units, they can withstand more surge and overload currents than copper units (normally exhibited when a motor starts.)
- Although the conductivity of copper is better than that of aluminum, on a per pound basis aluminum is over twice as good a conductor as copper.

Aluminum wire has received a negative connotation over the years primarily because of the care that must be taken in making connections. Copper proponents are quick to refer to hotel and mobile home fires that occurred where aluminum wire was present. Upon close examination it was found that the root causes of these problems is related to incorrect wiring devices being used. Copper and aluminum expand at different rates when heated. If aluminum wire is used with wiring devices solely rated for use with copper wire, the connection heats up causing the resistance of the connection to increase and the temperature to continue to escalate. Most transformer manufacturers address this problem by making a transition between the aluminum windings, either to a copper lead wire (or bus bar) or by terminating to an AL/CU lug (or connector).



Recent advances in Transformer design have brought about Epoxy Encapsulated windings or Cast Coil transformers. The CBS "MAXICAST" Transformer is an excellent example of this design. Which is better in Cast Coil Transformers? The primary concern is the difference in expansion between the windings and the epoxy which could cause cracking. Aluminum's expansion characteristics are closer to epoxy's than copper. Should this be a concern? It could be. Most manufacturers use quartz filled resin which can become brittle and lead to cracks. The CBS MAXICAST uses a glass fiber in combination with the resin to provide superior Thermal Shock resistance.

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**WHICH IS BETTER COPPER OR ALUMINUM?**

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Since the early 1970's the industry standard has been Aluminum. So why are copper wound transformers still specified? Again, we have to look at the application. Copper wound units may be specified because of space limitations. Copper wound units could also be specified due to the environment the transformer would be exposed to. If the environment would be corrosive to aluminum, copper wound transformers would make sense. Of course some people may just like copper wound transformers better for their own reasons. For all of you number guys out there let's look at them:



	ALUMINUM WINDINGS	COPPER WINDINGS
No-Load Losses (CW)	2,607	2,599
Load Losses (WW)	13,261	13,194
Total Losses (TW)	15,868	15,793
Efficiency at 100% Load	99.4%	99.4%
Dimensions (H x W x D)	73 x 71 x 42	73 x 69 x 38
Price		+12.368%

Having said all of this, The vast majority of transformers in the CBS inventory have copper windings. But don't pass up selling one of our Aluminum transformers, they are equally as good!

**1ST ANNUAL CHILI COOK-OFF**

*By: Jason Harrison*

On Monday January 15, 2007 at Circuit Breaker Sales the Chili Cook-Off was born. There were twelve contestants who created their own special blend of chili, some hot, mild, wimpy and in between. The judging was done by our own Jose Febres, Cody Perryman, and Alex Cantrell. Judging was based on a scale of one to ten (**ten being the best and one the worst**). After the judging was complete there was a feast of chili for everyone to enjoy.



**This Years Winners Were:**

- 1<sup>st</sup> Place: Tim Hennessey (\$50.00 Home Depot Gift Card and a Plaque.)
- 2<sup>nd</sup> Place: Brad Williams (\$25.00 Home Depot Gift Card.)
- 3<sup>rd</sup> Place: Steve Price (Surprise and a bottle of antiacids.)

Thanks for reading the edition of the **BREAKER BUZZ**

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