



# THE Breaker Buzz

Providing Electrical Solutions Worldwide VOL. XV

AUGUST 2017

## CBS Solves Florida Power Plant Transformer Challenge

By Freddy Bentkowski, Field Service Supervisor, Florida Branch, Circuit Breaker Sales Co., Inc.



IT HAPPENED 15 YEARS AGO TOO, and facility engineers at a large power-generation plant really wanted to know why.

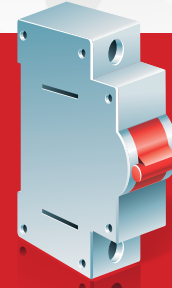
Circuit Breaker Sales Co., Inc.'s (CBS), field-service technicians in Lakeland, FL, received the call at 6 p.m. in late June: The main breaker protecting two of the plant's four generators had tripped on a phase differential fault, putting additional pressure on the remaining two generators and associated hardware.

The next morning, and for the next five days, CBS technicians took over, starting with tests on a problematic Schweitzer relay. Downloaded data from the relay was sent to Schweitzer, which identified the downstream 13.8 kV GE Magne-Blast breaker as the culprit.

Except CBS had rebuilt the Magne-Blast breaker the year before.

CBS technicians went back to work on the breaker, starting with standard and DLRO testing before moving on to pass/fail AC HiPot testing and Vacuum Interrupters, Inc.'s, MAC-TS4 predictive leak-rate test set to check the newly installed vacuum interrupters.

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## CBS Hires New Shop Supervisor in Florida



Circuit Breaker Sales is pleased to welcome Mike Barnett as the new shop supervisor for its Florida division. Barnett started his career in the US Army, serving four years in Germany as a tank crewman, then as a turret mechanic.

From 1992–1995, he worked through the electrical apprenticeship program at Doyle Electric, followed by a 22-year stint at Switchgear Unlimited. In this position, Barnett performed tasks such as repairing, rebuilding, testing, troubleshooting, and upgrading low- and medium-voltage circuit breakers and associated switchgear.

**THE VIEW FROM FLIGHT LEVEL 410**

*By Finley Ledbetter, CEO and Chief Scientist,  
Group CBS, Inc.*

# Minding, and Mining, the Millennials

To all GCBS employees,

It's time to heave out and mill about smartly.

This is a phrase I recall from my youth that means get your butt out of bed and get to work in a serious manner! That is my advice to the young generation that surrounds us today.

The millennial crowd scares me to death, as I see little or no mechanical hands-on ability and little or no real “stick it out” work effort that makes me see how American industry will keep building America into the next millennium.

That said, Group CBS has a bunch of early thirtysomethings who are nonmillennial millennials. I call them our smart guys!

They are the exception, and I strive to find these millennials in their early 30s or younger — men and women who truly “get it” and have the benefits of the millennial education and upbringing.

We brought this on ourselves. Baby boomers, like me, bought these kids cars that ran without daily mechanical attention. We bought them handheld Game Boys instead of Lincoln Logs and erector sets! While we had a chemistry set — a really big one — our kids had iPods. Some of us had an Easy-Bake Oven. Our kids had the pick of the tray at Starbucks while Mom waited for her latte.

It was a different time, and this is a different group of young people with different ideas and desires.

What this means to Group CBS is we have to search hard for young talent who have some skills beyond computer gaming and smartphone mastery. Where do we find them? Well, everywhere. We just have to keep a keen eye and take the opportunity to hand out a business card and say, “If you are ever looking for a job, give us a call.” I do it once every month or so, and I get the call every time.

Last week I was in Indiana and stayed at a La Quinta hotel. The night desk clerk impressed me. He actually was helpful. He went out of his way to help and had that look of a young



man who wanted more and better for himself and would put out a little extra effort as part of his duties at the hotel. I laid my card down and have spoken with him since, saying, “If this gig doesn’t work out, call.”

I have found at least 29 current GCBS employees this way. I challenge all Group CBS employees to find that one young man or woman who looks like he or she is an exception to the millennial stereotype.

Now to the Buzz stuff. My rant is over!

**Group CBS is now the only  
“all U.S. made” full-line  
manufacturer of vacuum  
interrupters for the electrical  
power industry. Bringing this  
tech back home is one of our  
key initiatives at Group CBS.**

Group CBS has been on cruise control since the last Buzz. We have successfully opened our new Crown Point, IN, service shop for Circuit Breaker Sales, and Dean Klinger and his crew are piling up the bonus points and building a first-class operation. Kudos to all involved. We also are reconfiguring our Florida service shop, cleaning up house a bit, and hiring a new sales staff and technical lead.

We are making progress on our new vacuum interrupter manufacturing plant. Look for images and an article on that

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## Harvey Got You Down? Group CBS Can Help



Group CBS' affiliated companies provide electrical apparatus sales, repair, and rentals, as well as field and shop services, across North America.



Follow this QR code to our 24/7 Emergency Contact page for your local Group affiliate.

Continued from page 2

progress in the next Buzz. Group CBS is now the only "all U.S. made" full-line manufacturer of vacuum interrupters for the electrical power industry. Bringing this tech back home is one of our key initiatives at Group CBS.

Let's all take a minute and be thankful for the good work that Group CBS has done in 2017 so far, saving resources by extending the life of legacy power equipment and in the process reapplying surplus material that keeps tons of waste from the environment. Group CBS has reapplied, saved, or kept in service more than 400 tons of electrical equipment so far in 2017. I think about how much energy and raw material we have all saved within the last 40 years.

Think about the energy, material labor, and combined cost of keeping one 480 substation in service instead of replacing it with foreign-made equipment. Think about all the energy needed to mine the raw materials and produce all the components versus a few man-hours and a few new components to keep the equipment in service for another 20-plus years. Someday someone with some power will really realize this and legislation will be put in place to help us all.

That is the real benefit of GCBS, and actually all its competitors. I guess all of us should be proud.

## CBS Solves Florida Challenge

Continued from page 1

Additional time-travel analysis and mechanical tests all confirmed what the technicians already suspected: The Magne-Blast breaker was working perfectly.

With the relay and breaker both checking out, the team installed the plant's spare breaker. Once again, the system failed at startup. However, the startup did yield an interesting piece of information.

The yard relay tripped, opening the high-voltage SF6 yard breaker and cutting power to the generator step-up (GSU) transformer. This was somewhat of a surprise because during the initial fault, this part of the circuit was already energized. The GSU was powered up and back feeding the bus. Before the plant can bring up both of its turbines, the circuit has to be in the correct state and the bus has to be back-fed from the GSU transformer. At this point, it was obvious the GSU transformer was the issue.



Subsequent transformer testing on all taps revealed that the GSU failed ratio testing on the "B" phase on the high-side tap and both low-side taps. The transformer is undergoing repairs while CBS technicians have moved on to ground-fault grid testing to verify the plant's remaining distribution infrastructure.

If you have questions about this project, testing, or field-service procedures, please contact Freddy Bentkowski at 863-646-5099 or by email at [fbentkowski@groupecbs.com](mailto:fbentkowski@groupecbs.com).

# Currents of Arabia

## CBS ARCSAFE BRAVES THE DESERT FOR ELECTRICAL SAFETY.

By Greg Davis, Manager of Customer Support and International Sales, CBS ArcSafe, Inc.

I RECENTLY COMPLETED my second visit to the Shaybah oil field, which is owned by Saudi Aramco, the world's largest oil company. Shaybah comprises two types of facilities: gas oil separation plants (GOSPs) and a natural gas liquids plant. For my first trip, Aramco had purchased a few of CBS ArcSafe's remote switch actuators but did not understand how to operate the equipment, so I flew to Saudi Arabia to demonstrate.

The second trip allowed me to visit all four GOSPs to assess their remote switching needs. The substations have old and new switchgear from around the world from ABB, Siemens, Hyundai, Powell, and GE.

Traveling to Shaybah is an experience unto itself. Located in southeastern Saudi Arabia, the oil operations are close to Oman and the United Arab Emirates. You can get there only by flying via Saudi Aramco's aviation department. The adventure starts with wakeup at 4 a.m. for the 6 a.m. flight aboard a fairly new Boeing 737-800. Red sand dunes all around rise from 700 feet to 1,000 feet above the valley floor. Once you arrive, you need a gate pass to enter each facility. Aramco processes your passport and Saudi visa at least a day in advance.

You can tell if a facility has done its arc-flash study. If the cubicles have incident energy level stickers on them, the study

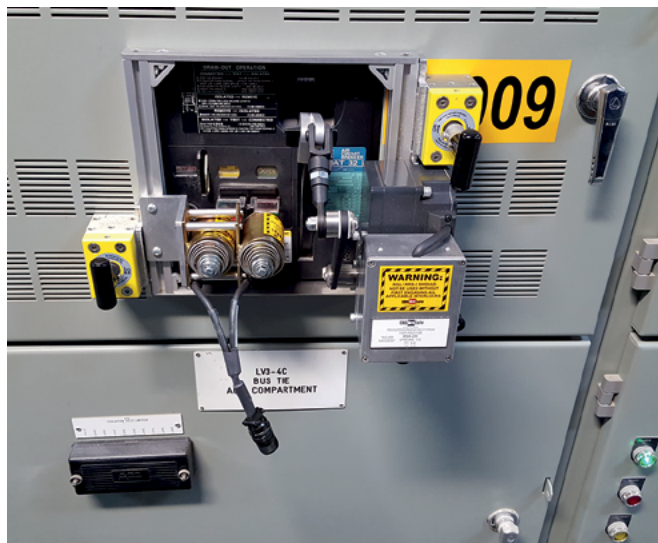
has been completed. A generic sticker with no incident energy levels indicates the study hasn't been finished.

Last year at this time, Aramco had the first of two arc-flash incidents, both of which involved the vintage Westinghouse Ampgard medium-voltage motor control center. The first incident had two fatalities; the second one had two serious injuries occurring when the 15 kV Westinghouse DHP breaker had a hung trip coil and failed to clear the fault.

While my focus is on CBS ArcSafe product lines, I can also tell you the Shaybah facility has vacuum circuit breakers made in 1997 and earlier. That means the vacuum interrupters inside the breakers have come close to the end of their nominal 20-year life, opening the door for Vacuum Interrupters, Inc., to come in with the MAC-TS4 vacuum interrupter tester.

The people we have worked with at Saudi Aramco are friendly and want CBS ArcSafe products for use in their facilities. The customer likes that we take the time to visit and show what we can do to help them. A special thank-you goes out to our partner in Saudi Arabia, Al Abdulkarim Holding. Without their support, CBS ArcSafe would not have the presence it has in the Middle East. 

CBS ArcSafe built and shipped the RSA-233 (left) to the Shaybah oil field. Greg Davis then flew to the Aramco facility to show workers (right) how to operate the unit.



# CBS Southeast Burgeons in the Bayou

A TEAM BIG ON PASSION AND TALENT COMMITS TO KEEPING ITS NEIGHBORS SAFE.

By Andrew Collins, Business & Inside Sales Support, Circuit Breaker Sales & Repair, Inc.

**RESILIENCE AND PROGRESS** is the name of the game for Circuit Breaker Sales Southeast, Inc. Since opening its doors in 2015, CBS Southeast has experienced steady growth across the board. From expanding the customer base to cultivating shop personnel, Group CBS is cooking up something special in the Bayou State.

As a vital member of the Group CBS line of companies, CBS Southeast is steadfast in carrying on the tradition and standards set by Circuit Breaker Sales & Repair, Inc. (CBS&R), in Houston.

"We are determined to make the Louisiana operation one of the top breaker shops in the nation," says Lee Heine, CBS&R vice president of sales. "The team at CBS Southeast has a great support system and role model within our Houston shop. The Gulf Coast region is unique in many ways. I feel as though our team has the passion and talent to keep our state and our neighbors working safely."

It's no secret that expansion comes with a fair share of growing pains, expected and unexpected. In August 2016, historic rainfall and catastrophic




flooding plagued southeastern portions of Louisiana. Every employee at CBS Southeast was impacted in some way. Though large industry was not heavily affected, many people lost personal belongings, while some lost their homes. In the face of adversity, the CBS Southeast family came together and battled to overcome the hardship.

"Native Louisianans, as well as transplants, continue to amaze me," says Butch Powell,

CBS Southeast business manager. "When police, fire, and rescue were not an option, our self-proclaimed 'Cajun Navy' stepped up to answer the call for help."

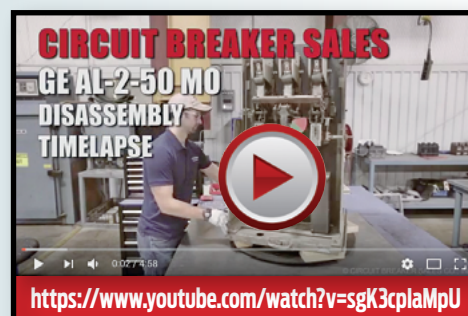
CBS Southeast will undoubtedly charge ahead and face adversity as a team. With one of the most-experienced breaker repair shops in the entire region, the staff takes pride in helping its neighbors. Powell credits the determination of his staff for the ability to serve the customer base well.

"While most of us have recovered, we use that same fight in our shop to continue producing quality products, and we'll persevere should disaster come again," he says. 

**VIRAL VIDEO**

## See Time-Lapse Disassembly of Old GE Breaker

The General Electric AL-2-50, first manufactured in the mid-20th century, is the grandfather to the AK, AKR, and Wavepro breaker lines. Watch in time lapse as Circuit Breaker Sales disassembles 50-plus years of wear and oxidation down to the last component.




## Meeting of the Minds

GROUP CBS CEO and chief scientist Finley Ledbetter speaks to a group of electrical engineers from Marathon Petroleum Corporation (MPC) during a three-day event hosted at CBS ArcSafe's new facility in Denton, TX. In addition to listening to presentations from MPC refinery representatives and other vendors, participants toured Circuit Breaker Sales' Gainesville, TX, facility. Says one participant: "It was very helpful to see your facilities and to get a firsthand view of the products you offer . . . and to know that we can protect our electricians and maintain our switchgear even after the OEMs have stopped supporting it."




## Destination: Malaysia

Thirty-nine RRS-1 and RRS-2 units developed specifically for a CBS ArcSafe customer in Malaysia crowd the warehouse in Denton, TX. The special units are modular and can be broken down into three easily transportable pieces. "We would not have been able to get this project out the door if it hadn't been for the extra blood, sweat, and tears that my team put in at the 12th hour," says CBS ArcSafe president Ashley Ledbetter. "It's actually really fun to have these big hard projects every now and then because the team building and bonding that takes place is irreplaceable." 



## Breakfast of Champions

AT 8 A.M. EVERY OTHER MONDAY, this group of seven meets at a breakfast location somewhere in Denton, TX, to discuss CBS Gainesville and CBS ArcSafe machines, jobs, users, and needs. In the last two months, we are light-years ahead of where we were as far as working together, working more efficiently, and building a real relationship with each other. 

*Pictured clockwise, from front left: Ashley Ledbetter, Brad Morrell, Kyle Fincher, Brian Kaylor, Josh Smith, Mike Fierro, and Jonathan Whitney.*



# Laz Joseph Joins Circuit Breaker Sales Northeast

**HIS 25 YEARS OF EXPERIENCE COVERS MOTOR CONTROL CENTERS, AS WELL AS MOLDED CASE AND INSULATED CASE CIRCUIT BREAKERS.**

By Tim Kelly, Vice President of Sales and Marketing, Circuit Breaker Sales NE, Inc.

CIRCUIT BREAKER SALES NE, INC. (CBS Northeast), is pleased to welcome Laz Joseph as inside sales specialist for its Power Controls Division. Joseph will be responsible for driving revenue in the categories of motor control centers, molded case circuit breakers, and insulated case circuit breakers. He also will contribute to the marketing and business strategy in these same areas.

"I was attracted to CBS Northeast's dedication to providing the highest quality product on every level," Joseph says. "Being part of such a powerful company with 18 divisions across the country and the ability to deliver solutions across the entire range of power distribution markets is important to me, especially a company with a reputation like Circuit Breaker Sales. For over 30 years, they have been known leaders in the marketplace and have grown exponentially over the




**Laz Joseph**

past 5. I intend to continue to service and build awareness for CBS Northeast while maintaining the high standards for which they are known."

Joseph comes to the company with over 25 years of experience providing support to inside and outside sales teams. His background

includes stints as product line manager for motor controls at Satin American Corporation and on the inside sales team at National Breaker Services. Joseph's former role as product manager at Satin allowed him to succeed in sourcing materials, providing competitive cost analysis for bills of material, offering guidance to floor technicians to ensure adherence to client guidelines, and maintaining a cost-effective inventory. Joseph holds a bachelor of arts degree from St. Patrick's College in Karachi, Pakistan.

"I am thrilled to have Laz join our inside sales team," says CBS Northeast president John Namnoum. "As CBS Northeast continues to grow, I know Laz's experience and expertise are exactly what we need in our Power Controls Division, where he can introduce our services to new markets." 

## Western Electrical Services to Open Reno Office

By Staff


WESTERN ELECTRICAL SERVICES, INC. (WES), is pleased to announce it will open an office in the Reno, NV, market on September 1. This office will support local clients with their third-party maintenance and acceptance testing needs. WES currently supports generation, substation, industrial, and data center clients in and around Reno.

"Although WES has worked with businesses in the area for years, having a local field-services group will make all the difference when it comes

to response time," says Tony Ascitutto, vice president of field services.

Tim Klosterman, WES' Northwest regional manager, will head up the effort by temporarily relocating to Reno. "Our clients have high expectations when it comes to not only the capabilities of our field personnel but the quality of the test equipment we utilize," says Ascitutto. "Tim is the right guy and has the capability to manage existing clients as well as close the deal on new opportunities. We appreciate

his commitment to and support of this venture."

The Reno location will help support WES' Salt Lake City office as well as fill a vital support role for Northern California. The Reno office will initially have two to four technicians on staff, with room to grow to meet clients' needs. WES has performed acceptance testing of large data centers in the area and expects to be the leading NETA testing company in the state of Nevada. 

# SMOOTH OPERATORS

## SPOTLIGHTING LONGTIME GROUP CBS EMPLOYEES

By Staff


**MATT ZEMANEK HAS ALWAYS** enjoyed working with his hands. He was a custom Harley-Davidson bike builder at a small shop when his friend told him about an opening at Western Electrical Services, Inc. (WES), in Sumner, WA.

Hired by WES as a breaker technician, Zemanek liked the idea of doing hands-on mechanical work. "I was a young kid at the time," he says. "I figured it was just a job. I didn't know it was going to turn into a career."

Zemanek is now closing in on his 20th anniversary at the company, which turns 21 in September. As vice president of apparatus, a position he has held for the last five years, Zemanek is in charge of all mechanical production across WES' five locations. "One of the things that makes me proud to work for WES is the strong foundation that Craig Archer, our president, has built over the years," Zemanek says.

Zemanek cites his co-workers, and the camaraderie they share, as the best part of his job. "You just can't beat working with good people with a sound work ethic, and it definitely helps when everyone's common goal is success," he says.

Away from the office, Zemanek's weekends are "mostly full of family time, sports, and camping," says the father of two daughters, ages 13 and 10. One activity in particular has recently sparked the family's interest.

"We have been toying with family drag racing with the kids," Zemanek says. "I'm thinking little junior dragsters are in our near future." 




Matt Zemanek

**VLADIMIR BASHINSKIY SPENT** 25 years as a machinist in the Soviet Union before coming to the United States to attend a technical college. It was here, in 1999, that WES handpicked Bashinskiy as best in his class and hired him.

Now, as WES' lead machinist, Bashinskiy is responsible for all manual machining that occurs at WES, including lathe and end mills. He also is teaching the next generation of machinists coming up through the ranks.

Bashinskiy says that the daily challenges he encounters in his role keep him around for the long haul. "I enjoy the variety of my position," he says. "There's never a boring day here at the office."

Bashinskiy stays busy outside the office as well, taking full advantage of his surroundings in Washington State. His number one activity is fishing and camping. "And when I'm not fishing, I'm working on my tomato garden," he says. 



Vladimir Bashinskiy



# SMOOTH OPERATORS

## SPOTLIGHTING LONGTIME GROUP CBS EMPLOYEES

WHEN ROLAND MUNGUIA WAS managing the parts department at an automotive dealership 20 years ago, he knew nothing about the electrical equipment industry. But then a customer just happened to mention he was looking for a bilingual English-Spanish speaker willing to travel to promote his company. The customer then asked Munguia if he'd be interested.


That customer was Finley Ledbetter, Group CBS CEO, and Munguia promptly accepted the job offer. After a crash course in the industry with Ledbetter and electrical engineer Sam Endres, as well as training with Lee Heine at Circuit Breaker Sales & Repair, Inc., in Houston, Munguia began traveling to Puerto Rico, Mexico, and Central America, educating potential customers about Circuit Breaker Sales Co., Inc. Munguia managed CBS' "Service Shop Direct" and became a key account manager for service companies across the U.S.

In November 1999, after two years on the road, Munguia moved into a sales role at Group CBS' newest affiliate, Astro Controls (now Advanced Electrical & Motor Controls, Inc., AEAMC). Munguia credits his longevity in the position of inside sales to several factors.

Munguia likes working for a company "that's large enough to take care of you financially but small enough where you can go directly to Finley, Bill [Schofield], or Ray [Kinney] and know they are going to listen," he says.

Although he may not be in an official managerial role, Munguia serves as a mentor at AEAMC. "Some of the guys who lack experience look to me for the leadership they need, and that feels pretty good," he says.

In addition to his success at work, Munguia is happily married with three children, including a 1-year-old, Alba Joy.

Munguia continues to derive enjoyment from his job. When a phone call comes in from a customer who's having a problem at a job site, Munguia looks forward to helping. "I love working together to find a solution, putting a plan in place, and hearing back from the customer that everything is up and running," he says. "That satisfaction is one of the things that has kept me doing this job for so long." 



Roland Munguia

### Advanced Electrical & Motor Controls Inc. AEAMC.com

Advanced Electrical & Motor Controls is a certified UL508A industrial control panel builder and specialist in the sales and service of insulated case circuit breakers, molded case circuit breakers, bolted pressure switches, panelboards, switchboards, motor control, bus plugs, bus duct, and renewal and replacement parts.  
Irving, TX — Ph: 800-289-2757

### CBS ArcSafe, Inc. CBSArcSafe.com

Remote racking systems, remote switch actuators, and handheld motorized racking tools for low- and medium-voltage switchgear.  
Denton, TX — Ph: 877-4-SAFETY

### CBS Nuclear Services, Inc. CBSNuclear.com

Specializes in shop and on-site field servicing of Class 1E safety-related low- and medium-voltage switchgear and circuit breakers. Also services industrial and non-nuclear-related circuit breakers and related switchgear and substations.  
Matthews, NC — Ph: 704-882-1875

### CBS Power Products, Inc. CBSPowerProducts.com

New alternative utility and industrial power products: transformers, switchgear, and other power apparatus.  
Gainesville, TX — Ph: 940-665-4444

### Circuit Breaker Analyzer, Inc. CBAAnalyzer.com

Providing new circuit breaker testing methods that utilize vibration analysis combined with internet data transfer and sophisticated condition-based analysis to determine the condition of all types of circuit breakers.  
Farmers Branch, TX — Ph: 972-290-0074

### Circuit Breaker Sales Co., Inc. CircuitBreaker.com

World's largest inventory of low- and medium-voltage circuit breakers and parts. Complete service, remanufacture, upgrade, and life-extension services. Also offers CBS MagVac magnetic latching medium-voltage breakers and Tough Duty Power/Vac® roll-in replacement breakers.  
Gainesville, TX — Ph: 800-232-5809

### Circuit Breaker Sales Co., Inc. CircuitBreaker.com

One-stop service for circuit breakers, switchgear, transformers, protective relays, loadbreak switches, motor controls, unit substations, renewal parts, and repair, upgrade, life extension, and maintenance services.  
Lakeland, FL — Ph: 800-232-5809

### Circuit Breaker Sales Co., Inc. CircuitBreaker.com

Provides electrical equipment, repair, remanufacturing, and life-extension services to commercial and industrial customers in the Midwest.  
Crown Point, IN — Ph: 800-232-5809

### Circuit Breaker Sales & Repair, Inc. CBSalesAndRepair.com

Servicing the Gulf Coast with shop or field service, repair, upgrade, or replacement of power system apparatus.  
La Porte, TX — Ph: 281-479-4555

### Circuit Breaker Sales NE, Inc. CircuitBreakerSalesNE.com

A leader in providing power distribution products and services, specializing in life-extension services and offering an expansive inventory of new, surplus, and reconditioned circuit breakers, switchgear, motor control, transformers, and other power apparatus.  
Seymour, CT — Ph: 203-888-7500

### Circuit Breaker Sales Southeast, Inc. CBSSE.com

CBS Southeast provides sales and repair, upgrade, reconditioning, and life extension services of utility-industrial circuit breakers, motor control, switchgear, substations, transformers, and other electrical equipment.  
Gonzales, LA — Ph: 225-673-2278

### Circuit Breaker Store, Inc. CBStore.com

Your online source for all Group CBS products, a powerful solutions provider with a specialty vendor network that can supply factory new, surplus new, and reconditioned circuit breakers, electrical distribution, control equipment, parts, and remote racking equipment.  
Gainesville, TX — Ph: 855-227-8673

### Group CBS, Inc. GroupCBS.com

Headquartered in Addison, TX, Group CBS includes affiliated electrical equipment, service, and engineering companies throughout the U.S., UK, Middle East, and Pacific Rim, providing premier products and services to the industrial, utility, electrical distribution, and repair markets worldwide.  
Addison, TX — Ph: 972-250-2500

### Solid State Exchange & Repair, Inc. SolidStateRepair.com

Quality, reliable, on-time service and support for all brands and types of solid state power electronics, including circuit breaker trip devices, protective relays, motor overload relays, and rating plugs.  
Denton, TX — Ph: 877-TRIP-FIX

### Transformer Sales Co. CBSales.com/transformers/index.htm

Offers a complete line of new, surplus, and reconditioned dry-type, cast-coil, and liquid-filled power transformers from 1000 to 5000 kVA with primary voltages from 2400 V to 34.5 kV.  
Gainesville, TX — Ph: 940-665-4484

### Vacuum Interrupters, Inc. VacuumInterruptersInc.com

Provides replacement vacuum interrupters, MAC-TS4 predictive vacuum interrupter and CBT-1201 for circuit breaker test sets, and new replacement encapsulated poles for Power/Vac® circuit breakers.  
Farmers Branch, TX — Ph: 214-442-5877

### Western Electrical Services, Inc. WesternElectricalServices.com

Serving the Southwest with superior quality on-site electrical testing, maintenance, and repair services as well as rebuild, upgrade, and life extension services for switchgear, circuit breakers, and motor controls.  
Phoenix, AZ — Ph: 888-395-2021

### Western Electrical Services, Inc. WesternElectricalServices.com

Providing electrical equipment sales, testing, repairs, and emergency service to the Southern California market.  
Chino, CA — Ph: 888-395-2021

### Western Electrical Services, Inc. WesternElectricalServices.com

The only full-service electrical testing and maintenance company in the Intermountain region.  
Salt Lake City, UT — Ph: 888-395-2021

### Western Electrical Services, Inc. WesternElectricalServices.com

The Northwest leader in electrical testing, maintenance, and power switchgear services, providing on-site electrical testing and maintenance, electrical engineering studies, and sales, repair, upgrade, and life extension services of circuit breakers, switchgear, motor controls, and transformers. Also custom manufacturing of engineered and reverse-engineered parts.  
Sumner, WA — Ph: 888-395-2021

### Western Electrical Services, Inc. WesternElectricalServices.com

One-stop shop for all electrical equipment sales, testing, and engineering needs and a utility-class service provider to the Northwest T&D market.  
Vancouver, WA — Ph: 888-395-2021

## GROUP CBS TRADE SHOW CALENDAR

### TSDOS

FRISCO, TX

September 6–8, 2017

### 2017 Circuit Breaker Seminar

PITTSBURGH, PA

October 2–6, 2017

### Southeastern US Mine Safety and Health Conference

BIRMINGHAM, AL

November 1–3, 2017

### Automation Fair

HOUSTON, TX

November 15–16, 2017

### POWER-GEN International

LAS VEGAS, NV

December 5–7, 2017