

SUCCESS STORY

Long-term partners in innovation

Electro-Tech Industries and ABB collaborate to solve customer challenges



Electro-Tech Industries, a systems integrator specializing in e-houses, partners with ABB to provide compact and reliable mobile power solutions to customers around the world.

Founded in 2000 by George Houche, a long-time veteran of the power industry, Electro-Tech Industries (ETI) is a systems integrator, specializing in e-houses. These prefabricated, transportable substations are designed to provide mobile power solutions to ETI's customers around the world. But ETI doesn't work with just any customers. Their mission is to solve power distribution challenges that other suppliers can't. Since 2004, ETI has relied on ABB's medium voltage products to help deliver on that mission.

It all started with a tight fit

When one thinks of energy distribution, it's easy to envision a lone substation located behind a fence on a wide-open lot or field. In reality, power distribution systems are often commissioned in unforgiving terrain or urban environments where space is at a premium. Conditions like these call for engineering

ingenuity and products that are up to the challenge. It was for such requirements that ETI first reached out to ABB.

In 2004, Mr. Houche and his team at ETI were called in to help commission fourteen peaker power generation plants in Mexico City. According to Mr. Houche, the sites were so space-constrained that they literally had to stack buildings on top of each other. Every inch mattered.

"At the time, we could find very few circuit breaker options available for 27 kV switchgear," said Mr. Houche. "Then we discovered the 27 kV AMVAC circuit breaker from ABB. It was a fully functional 27 kV switchgear breaker, but with a much smaller footprint. It helped us shrink the electrical assembly tremendously."

Fracking requires more

The partnership that started in Mexico City continues to this day as ETI and ABB collaborate in a spirit of innovation to solve customer challenges. These days, fracking is one of the more common occurrences on ETI's project schedule, and it fits right in the company's wheelhouse. Fracking requires mobile solutions and often involves space constraints. And, given the demanding environmental conditions, fracking also typically requires more ruggedized solutions.

"The terrain can be challenging, and fracking is all about speed – speed of dispatch, speed of dismantling, and speed of reassembly," said Mr. Houche. "In Pennsylvania, some roads leading to wells can't even be reached with anything longer than a 63-foot trailer, so every inch reduced is an inch gained."

But size isn't all that matters for ETI's fracking customers. As Mr. Houche explains, they also need solutions that can withstand rough handling. "It's not unusual for a trailer to drop into a 4-foot sinkhole. The medium voltage equipment needs to be able to handle the shock and motion of getting it to the site and then be easy and quick to assemble once there."

Asked about the medium voltage solutions ETI relies on most these days, Mr. Houche mentioned ABB's VersaRupter® load break switch, as well as

the superior performance of the VD4G vacuum generator circuit breaker in interrupting the more demanding short circuit currents typical of the generators. Twenty years after his experience with ABB in Mexico City, Mr. Houche and the ETI team continue to depend on the ease of maintenance provided by the magnetic actuation of ABB's AMVAC line of circuit breakers. "That customer hasn't had a single challenge in twenty years, so the AMVAC breakers have more than proven themselves," said Mr. Houche.

In addition to creating solutions that are smaller and more rugged, Mr. Houche likes that ABB "overengineers" its products. "ABB is very conservative in its published data. Sometimes we push equipment a bit to the extreme, but ABB products are built to handle that. In switchgear, for example, some companies put a half-by-four busbar; whereas, ABB uses an eight-by-five or a three-quarter-by-five." Being able to trust vendor ratings is important for Mr. Houche, too. "Some vendors seem to rate their products for what they can handle 'on a good day.' If ABB rates something for 4000 amps, I know it's going to be able to handle 4000 amps easily."



Next-generation solutions for real-world scenarios

In addition to space constraints, ETI specializes in designing e-houses that solve for other extraordinary physical conditions, such as weight constraints, high vibration, and high seismics. This often requires the company to do some out-of-the-box thinking.

“Sure, we like to do turnkey projects, but we love to start from scratch with a blank piece of paper and come up with new solutions, new configurations,” said Mr. Houche. “Most of our customers share their challenges, then look to us to find an answer with no specs, no nothing. That’s fine by us, as we get to create our own designs.”

ABB is a committed partner on ETI’s journey. “Customers like ETI really help us push the frontiers of medium voltage solutions,” said Ron Angst, ETI’s account manager at ABB. “Our industry is always evolving, and ETI takes us to places other customers don’t. Through their eyes, we see challenges that aren’t being solved by current vendor product portfolios. That gives us a head start in designing next-generation solutions for real-world scenarios.”



ABB Inc.
305 Gregson Dr.
Cary, NC 27511

electrification.us.abb.com

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