What We Do.

Tom Trayer Regional Manager Trayer Engineering Corporation March 11, 2013





What Do We Design and Build?

1.

Distribution class vacuum switchgear and circuit protection.

- Padmounted
- Vaultmounted
- Submersible

2.

System Automation





Liquid or SF-6 Insulation

Liquid

10,000 Operations

SF-6

3,000 Operations





Load Switching

Load switching through 35kV
At 15kV can be delta or grounded wye
Over 15kV <u>must</u> be grounded wye





Dry Well Fusing

 Dry well fusing through 35kV and up to 50 amps





Wet Well Fusing

 At 15.5kV protection can be delta or grounded wye

Over 15.5kV <u>must</u> be grounded wye





Vacuum Circuit Protection

Vacuum Fault Interrupter (VFI) through 25kV up to 600 amp

- At 15.5kV can be delta or grounded wye
- Over 15.5kV <u>must</u> be grounded wye
- 12.5kA interrupting capacity
- 65 interruptions at fault capacity





Vacuum Circuit Protection

3-phase or single phase available





Vacuum Circuit Protection 3-Phase

- 3000 series = heavy duty VFI
- 3-phase trip only , onboard PT for 120 VAC control XXXX (word missing)
- SEL Relays Standard, aux power available





Vacuum Circuit Protection Single Phase

- 4000 series = lighter duty VFI
- 3-phase or single phase trip only
- CT powered T&B Relay, no aux power available
- 3-phase or single phase reset and load switching





Visible Disconnects Available through 35kV

2 Position 3 Position Closed/Open Closed/Open/Grounded





System Automation

- Automatic transfer
 10 Seconds
 - 10 Cycle
- SCADA controls
 - Local
 - Remote

- Advanced automation
- Stand alone and peer-to-peer
- SmartGrid, MicroGrid, and some Substation





What We <u>DON'T</u> Design and Build

- Primary Metering Cabinets
- Voltage Regulators
- Reclosers
- Transformers
- Capacitor Banks

- Bar-b-ques
- Brewer equipment
- Bull milking machines
- OTHER MANUFACTURERS EQUIPMENT!











Who Do We Sell To?

Utilities

- Commercial & Industrial
- Consultants





Utility Customers

- Distribution Engineering
- Standards
- Operations
- Reliability

- Automation
 - Smartgrid, Microgrid
- Special projects
 - Big Stick
 - Deep pockets
 - Senior Engineers vs Junior Engineers





Commercial & Industrial Customers

CollegesUniversities

Military

Gas & Oil

Mining

Heavy Manufacturing





Consultant Customers

Involved with all of the above





How Can We Sell Trayer?

From a Position of Knowledge





From a Position of <u>Knowledge</u>





Know the product well enough to see <u>real</u> opportunity.





Know the product well enough to have a meaningful discussion.





Know the product well enough to know who to talk to.





Know your region well enough to know where the opportunities should be.





Be <u>creative</u>. Where's your next opportunity?



