

CASE STUDY

Remote Metering Facility With Unique Power Requirements – Single Phase to Three Phase with VFD

Highlights

Overview

- Client location required Single-Phase to Three-Phase power conversion to operate entire Meter Station.

Technology

- Toshiba Tosvert
- Allen Bradley
- Rockwell Panelview
- Clear SCADA

Benefits

- Remedied costly modifications by utility company.
- Continue using standard, 3-phase, equipment manufacturers across client's portfolio.
- Proof of concept for future remote locations with unique power limitations

The Problem

Our client needed an integrator willing to design and commission a remote metering station with one glaring issue; power. Single-phase power was provided to the client's site by the utility company. At many remote locations, access to utility three-phase power is not cost-effective. Our client had a decision to make – Proceed with costly solution of purchasing Utility three-phase solution or consult with other firms on possible solutions that were more cost effective.



The Solution

Our Electrical design team devised a power solution for the entire meter station – Single-phase to three-phase conversion by utilizing VFD technology. Prior to this project, we had success in the past operating various single valve locations with VFDs acting as phase converters and after consulting the industry leading VFD manufacturers, we were able to confidently deliver a solution to the client.

Our Engineering Team designed, tested and commissioned the metering station in its entirety on VFD power.

Our commissioning team brought the entire metering station online without interruption to the main pipeline feeding the station. Being that this metering station was intended to be an unmanned location, our automation team designed a network that allowed our client complete control including remote monitoring, alarm management, remote PLC

and HMI updates, and a full suite of documentation and testing records.

The Results

Our client was presented with a fully functioning meter station powered by phase converting VFDs. The cost savings were substantial when compared to the utility provider solution. Reliability is critical to our

client's operation and we are pleased to see their system operating day in and day out. This design model was significant to our client as it provided a proof of concept and reduced costs for other capital projects in future.

About Cardinal Systems Integration

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Automating Quality and Performance.

105 Hembree Park Dr. Roswell, GA. 30076

770. 727. 2223 | sales@cardinalsi.com

www.cardinalsi.com | 

