SOUTHWEST GAS FIELD
DIGITAL TRANSFORMATION

TBOX
AN OVARRO TECHNOLOGY

PROJECT BACKGROUND

The PetroChina Southwest Oil and Gas Field Company Chongqing Gas Mine is located in the jurisdiction of 8 natural gas production and gas transmission areas, with 277 industrial gas wells and a daily production capacity of 20 million cubic meters.

As part of a digital upgrade project, the client wanted to improve monitoring of key gas wells to include both traditional process monitoring data and regular images of the well head. The traditional data included well pressure and temperature, casing pressure, outlet pressure, process shut-off valve position, gas composition parameters and natural gas production.

In embracing digital transformation, an IP camera was to be installed at each site, with the site RTU given the responsibility of capturing and transmitting an image snapshot each hour, or upon alarm.

THE SOLUTION

A total of 70, solar powered TBox RTUs were installed for this project.

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The TBox RTU can collect and log all of the required traditional data through standard I/O. In the case of a communications outage, months worth of historical data can be backed up and transmitted to the central station at a later date.

The client also requested the use of the Chinese natural gas metering standards GBT21446-2008 and GBT17747.2.

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OIL & GAS

MONITORING & CONTROL

RTU'S

OVARRO
CONNECTING TECHNOLOGIES

Our partner, ZKCiT, had previously implemented these additional features using the TBox Advanced Development Kit for another project. This allowed ZKCiT to comply with the client's requirements by re-using the work they already performed.

For safety reasons, the client wanted a regular view of each site and had requested IP Camera support. TBox RTU's can connect directly to an IP Camera and on demand, automatically capture an image and send the image to the central control room via an integrated cellular modem.

The TBox was configured to send an updated image each hour, or if any local alarm had been triggered, such as intrusion detection or a process anomaly. For auditing purposes, each image was tagged with the time, date and device ID at the moment of capture.

"TBox RTUs simplify systems engineering and provide real-time mobile access to your operational data. A built in cyber security suite with authentication and encryption technology provides state-of-the-art protection of your assets and data".

KEY DELIVERABLES

- An improved control and management capability
- Improved redundancy
- Improved situational awareness
- Multi-protocol communications
- Remote or local visibility of the systems status
- High-level cyber security tools

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