Solution for Sui Southern Gas Company (SSGC)

To serve its broad client base, SSGC has an extensive pipeline network deployed over vast stretches of land spanning both urban and remote areas.

Sui Southern Gas Company Trusts Sierra Wireless® to Monitor its 3,500 Critical Installations

A Sierra Wireless Remote Monitoring Solution

CUSTOMER CRITICAL CHALLENGE

- Reliable wireless data acquisition solution to improve efficiency of gas distribution system
- Dependable connectivity and near real-time access to supply and consumption information

SOLUTION

- AirLink® gateways provide consistent connectivity and data accessibility, enabling accurate remote data acquisition, saving time and money from manual processes

BENEFITS

- Uninterrupted, reliable, wireless cellular connectivity for critical data transfer
- Easy configuration and deployment
- Comprehensive remote management to ensure system uptime
- Strong support to enable quick time-to-market

BACKGROUND

Sui Southern Gas Company (SSGC), founded in 1954, is the oldest gas distribution company in Pakistan. SSGC’s transmission system comprises over 3,220 kilometers of high pressure pipeline ranging from12-24” in diameter, with distribution activities covering over 1,200 towns. An average of about 388,828 million cubic feet of gas was sold in 2009- 2010 to over 2.2 million industrial,commercial and domestic consumers in these regions through a distribution network of over 37,000 kilometers.

Business Challenge

To serve its broad client base, SSGC has an extensive pipeline network deployed over vast stretches of land spanning both urban and remote areas. The company’s mainpriority is to deliver natural gas with no adverse effects on the public, its customers, employees, or the environment, and its high environmental safety and performancestandards aim to meet or exceed all requirements set by the industry.

SSGC was relying on a manual data acquisition (DAQ) model that required engineers to travel from site to site to visually record gas levels, which were documented in logs.This manual effort posed many challenges to SSGC’s purchase, distribution, and billing processes, as well as to the company’s bottom line.

- Extensive time and human resources were required for the monthly manualreadings of electronic volume correctors (EVC) and flow computers

(FC), costing SSGC around US$1M per year for 5000 installations.

- No real-time data was available to compare actual sales, supply, and consumptiondata and, combined with human error, this made it impossible to detect theft or leakage points and determine unaccounted gas values.

- Once gas chromatograph (GC) data was collected from transmission hubs, the data had to be uploaded to the remote EVCs to adjust volume levels.

In order to save time and money and increase safety levels for both employees and customers, SSGC realized it needed a DAQ management solution that would allow it toremotely extract readings from remote sites and transmission hubs in real-time.

Sierra Wireless AirLink® Solution

SSGC implemented a wireless DAQ solution from Sierra Wireless partner Mazik Global. The solution features a Sierra Wireless AirLink rugged, intelligent gateway specificallydesigned to handle complex mobile data and remote asset management applications for utility management.

The coverage was critical for a deployment in Pakistan, as the country was in the process of upgrading its networks. Offering a rugged design, Class I Div 2 compliance,and a vast library of telemetry protocols, the AirLink gateway is an ideal solution for energy management applications. Its sleek, compact form factor allows for integrationwithin existing infrastructure and enclosures. The serial interface is compatible with legacy equipment, while a USB port increases flexibility and eases troubleshooting.

In addition to the AirLink gateways, the DAQ solution is also equipped with a solar panel for power, battery, intelligent charge controller, and an IP66 Enclosure.The system provides real-time data from each install location, covering over 42 parameters, and successfully interfaces with various models of EVC, FC, and GCunits. Customized mobile device management software that comes standard with AirLink gateways provides all necessary data monitoring and analysis tools requiredfor troubleshooting and reporting features such as solar and battery voltage and enclosure temperature.

All remote data is now communicated to a main server, and over-the-air configuration allows pre-defined access authorization to users for full data security. SSGC can nowpull hourly sales and purchase reports, providing deep insight and actionable business information to the company.

Results

Over thirty five hundred systems provided by Mazik Global and powered by AirLink intelligent gateways were installed by the SSGC team over a six month period. Thegateway’s simplicity made remote metering of each location available as soon as each installation was completed. Customized reporting took no more than two months tocomplete, and now SSGC is getting a clear picture of the status of their distributionnetwork on a near real-time basis.

“Through this system, the gas consumption, including various parameters of industrialcustomer meter stations located throughout the franchise area of Sui Southern GasCompany Limited, can be monitored,” explained the general manager of Sui Southern Gas Company’s Measurement Department.