One of Oklahoma's Oldest Companies Serves Millions of Residents

ONG Monitors Thousands of Miles of Pipeline with AirLink Devices

Founded over a century ago in 1906, Oklahoma Natural Gas (ONG) is one of the oldest companies in the state of Oklahoma. The company employs more than 1,100 citizens and serves over 900,000 residential, commercial and industrial customers and serves more than 2 million people. It services almost 24,000 miles of distribution mains and is a trusted and reliable supplier of energy and natural gas to the people of Oklahoma.

The Challenge | Updating Old Monitoring Systems To Meet Government Regulations

Oklahoma is the third-largest gas-producing state in the United States. To serve its broad client base, ONG has extensive pipeline networks deployed over vast stretches of land spanning both urban and remote areas. The company's main priority is to deliver natural gas with no adverse effect on the public, its customers, employees, or the environment, and its high environmental safety and performance standards aim to meet or exceed all requirements set by the industry. In fact, as of 2022 they've reduced their CO2e emissions by over 22% through their pipeline replacement program.

When the Office of Pipeline Safety issued a final mandate in December 2003, requiring natural gas pipeline operators to develop integrity management programs (IMP) for gas transmission pipelines, ONG was well ahead of the curve. The company had already started addressing the need to revise the daunting and costly process of checking 900 district sites spanning 16,000 miles every month.

To implement the new IMP using a manual method, ONG estimated at the time that it would need to hire 90 technicians to cover over 150 miles per day. Since their operations have increased since then, these numbers would likely be much higher today. Additionally, ONG would need to supply vehicles and cover mileage costs and other travel expenses, creating a recurring annual capital expenditure of over $5 million per year. The cost and time required for this manual process led ONG to begin deploying a wireless solution at its regional sites in anticipation of the IMP mandate

The Solution | Sierra Wireless AirLink Gateways Bring Connectivity To The 21st Century

ONG implemented a wireless asset management solution using Sierra Wireless AirLink gateways, rugged wireless devices specifically designed to handle complex mobile data, and remote asset management applications for utility management. Certified as Class I Division II, AirLink gateways, such as the RV50x and RX55, are rated intrinsically safe and suitable for use in hazardous environments.

The AirLink gateways are the industry's most rugged solutions, capable of withstanding a wide range of environmental and technical challenges. For example, the RX55 is capable of operating in temperatures ranging from -40°F to 158°F while the RV50x can survive 5 V brownouts and spikes from -600 VDC to 200 VDC.

In its original solution, ONG installed 900 gateways, one for each of its regional sites. Each AirLink device enabled information to be sent back to one central command base, eliminating the time and travel required for manual integrity checks to provide streamlined, real-time data in a cost-effective manner.

In addition, Sierra Wireless was able to tailor its solution for ONG with specific enhancements that would efficiently manage data and reduce wireless network usage, further minimizing costs for the natural gas corporation.

Industry Profile

- Natural Gas Companies
  - Pipeline Management
  - Pipeline Builders

Featured Solutions

- AirLink RV50X LTE Routers
- AirLink RX55 LTE-A Routers
- AirLink Management Service

Targeted Results

- Low Power Consumption
- Automatic Carrier Switching
- Real-Time Data Transmission
- Remote Management

USAT delivers natural gas companies and their contractors the end-to-end communications solutions they need to support their mission-critical pipeline monitoring operations.

AirLink RV50X

AirLink RX55

Results | Cost-Effective Gains to Operational Efficiency

By utilizing Sierra Wireless' monitoring solution, ONG was able to achieve the low latency and reliability required for more frequent meter polling, making ONG's data read more accurately. As a result, ONG was able to not only meet mandated IMP specifications but also to use the new data retrieval process to reduce losses that had been resulting from inaccurate billing.

In addition to reducing losses due to inaccurate billing, ONG experienced several cost-savings by using AirLink solution. The most predominant cost savings was achieved by avoiding the need to hire an estimated 90 additional field technicians to undertake the work mandated by the IMP.

Very conservative estimates assumed that annual technician compensation (salary and benefits) would be roughly $45,000 and an annual vehicle operating expense would register at about $12,000 (150 miles x 260 days x $0.32 miles) per new employee, the recurring annual capital expenditure for manual integrity checks would be $5.13 million per year or $427,500 per month. Of course, these numbers may be much higher due to a variety of factors, including cost of living increases, gas price increases, and overall inflation. For example, the IRS 2022 standard mileage rate is 58.5 cents per mile. Meanwhile, the one-time cost to purchase and deploy 900 AirLink gateways was approximately $630,000 *(back in 2014 when this solution was originally implemented)*.

Even considering a recurring wireless network service charge, ONG recovered its investment in the second month of deployment and continues to save over $400,000/month or $4.8 million/year. As the solution has been in place for nearly a decade, this has generated well over $40 million in savings since the initial capital investment.

The solution deployment using Sierra Wireless' AirLink gateways also resulted in:

- Accelerated IMP implementation – enabled ONG to integrate wireless communication seamlessly into its infrastructure
- Decreased operational expenses and overhead – developed IMP process without expanding workforce
- Increased shareholder value – saved $5 million of its shareholders' investment per year
- Clear and simple upgrade path to evolving technologies – CDPD > GPRS > EDGE
- Improved quality and accuracy of data – intelligent, wireless solution offered low latency and reliability not found in manual data retrieval process

The Team | Device Provisioning, Activation and Installation Services

For over 25 years, USAT has provided wireless connectivity solutions to pipeline operators within the oil and gas industries across the USA. While we weren't a part of this particular project with ONG, we can provide similar organizations with our extensive catalog of routers, gateways, and software for the remote management of your equipment in the harshest and most remote of environments.

USAT serves the nation's critical infrastructure by creating secure communication networks that pass data wirelessly between key systems - linking remote personnel, locations, and machine assets with solutions from top manufacturing partners like Sierra Wireless.

CONTACT US TODAY TO ENGINEER YOUR REMOTE DRILLING COMMUNICATIONS SOLUTIONS

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