

## NUMEREX GOES UNDERGROUND TO HELP NTG STAY ON TOP



### OVERVIEW

**Objective:** Provide NTG, Inc. with a secure, cost-effective GSM solution to advance the company's remote monitoring and data collection during the transition of their analog devices to an all digital network solution

**Solution:** Numerex Networx™ All-Terrain M2M Coverage™

**Results:** In less than three months, Numerex was able to assist NTG in seamlessly converting their analog devices to the digital network without incurring customer or network downtime.

### ABOUT NUMEREX

Numerex Corp. (Nasdaq: NMRX) provides the broadest choice of secure machine-to-machine (M2M) network services and solutions. Numerex delivers a depth of expertise and excellence through its M2M service platforms - Networx™, Techworx™, and Flexworx™ - that leading companies choose to power their M2M solutions. Numerex is the first M2M Company in North America to carry ISO 27001 certification - ISO's highest information security benchmark that ensures data confidentiality, integrity and availability. The Company offers its M2M products and services through a variety of brands including Uplink and Orbit One. Numerex is headquartered in Atlanta, Georgia.

The utilities industry is constantly battling rising operational and maintenance costs as a result of aging pipeline infrastructures. Leaks and ruptures in oil, gas, and refined petroleum product pipelines can cause major loss of life and property and cost millions of dollars a year. Monitoring and maintaining this underground infrastructure presents a serious challenge.

NTG, Inc. is one of the original innovators of Internet-based wireless remote monitoring solutions, leveraging a wireless network to provide constant monitoring of America's infrastructure. The company is responsible for thousands of remote monitors that seamlessly work with its WatchdogCP™ Remote Monitoring System, every minute of every day, monitoring pipelines and storage tanks across North America.

### OBJECTIVE

Underground pipelines are prone to corroding, leaking, rusting and other damage, which can potentially cause dangerous oil or gas leaks. To prevent this, Cathodic Protection (CP) rectifiers are installed at various points along a pipeline. The CP rectifier delivers an electrical current to keep the metal from migrating into the soil. Pipeline technicians are dispatched every 60 days to check the CP rectifiers to verify proper operation. However, if something happened to a rectifier immediately after an inspection, no one would know there was a problem until the next inspection, two months later. This poses a huge risk such as dangerous leaks that could cause environmental catastrophes as well as costly fines that could quickly escalate into the millions of dollars.

### PROBLEM

NTG, Inc had been providing CP remote monitoring to the oil and petroleum industry for 9 years using a cellular messaging network. However, in November 2002, The Federal Communications Commission (FCC) established February 18, 2008, usually referred to as the "Analog Sunset", as the date after which cellular carriers may opt to discontinue support of analog wireless networks known as AMPS (Advanced Mobile Phone Service). This posed concern for NTG as it now had to consider a transition to a digital messaging network within a short timeframe. With more than 5,000 remote monitors using AMPS, NTG needed to find a cost-effective digital solution that would ensure that the company's clients' assets would be protected, and there would be virtually no downtime.

"When searching for a wireless network provider, we looked for reliability and a solid track record in machine-to-machine (M2M) monitoring, as well as a cost-effective solution for the analog to digital transition. Numerex and their SMSXpress solution are perfect in this regard. It enabled us to upgrade our network services without interfering with our customer's daily business. Having a network provider that delivers without any problem whatsoever is the best possible scenario."

- Mike Reed, President of NTG, Inc.

## SOLUTION COMPONENTS

### Network Connectivity: Numerex Network™

Network Connectivity:  
Numerex Network provides North American network services that enable telecommunications between the onboard device, the mobile application, and the consumer/end user.

### Applications Infrastructure: Numerex Network Operations Center, Atlanta, GA

Numerex Network Operations Center, Atlanta, GA - Provides around the clock monitoring of device usage, as well as technical support, to resolve potential device or network issues quickly. Provides easy to use, intuitive interfaces that enable customers to manage their account easily, and in real time, provision devices, monitor usage and invoice end-users.

### Applications Software

#### Custom Numerex Fixed Solution

Provides web site development and management. Powers the end user with a web portal. Provides gateway software development and support.

Since many pipelines are located in remote areas, accessibility is top priority for NTG. They needed an experienced Global System for Mobile communications (GSM) network provider - GSM being the world's most widely deployed telecommunications digital standard. With this new investment and better message delivery quality, NTG wanted to raise the bar in reliability and security. The solution needed to seamlessly integrate with other carriers, while allowing the user to get back to work without worrying about the provisioning of the devices. With the demand for remote pipeline monitoring growing significantly, it was important that the wireless network provider was able to meet that demand.

### SOLUTION

NTG, Inc. reviewed multiple providers for its solution and chose the SMSXpress™ service from Numerex. SMSXpress was attractive to NTG because of its low-latency of message delivery, dedicated Short Message Service (SMS) platform and message acknowledgement. Above all, the price point for this service was significantly better than the competitors'.

NTG was able to seamlessly integrate this service into its system and spent little time provisioning thousands of devices thanks to the web-based customer management application Numerex provides as part of the service offering.

### RESULTS

In less than one year after the switch, NTG continues to offer the simplest and most reliable CP remote monitoring system in the industry.

Coined the "Pipeline Watchdog Remote Monitoring System", this system combines surge-protected remote monitoring hardware, satellite and digital cellular communications, and a powerful new secure website to create a highly reliable monitoring and data collection system. All Pipeline Watchdog RMUs feature 'Mesh' Isolation Technology for the utmost in lightning surge protection and installation simplicity. GSM communications through SMSXpress gives

pipeline users deployment capability wherever they need it.

The secure, simple, intuitive and reliable reporting allows pipeline operators to receive alerts if there is an issue with their CP rectifier or to review their CP system performance on a more frequent basis, delivering peace of mind, security and avoidance of disasters whenever possible.

Because of its unique interface, the system can also be adapted to work with other communications options, including SCADA-based ModBus and private radio networks. Pipeline Watchdog RMUs withstand the most severe CP rectifier environments through the use of 'Mesh' Total Isolation Technology. Small, battery powered and fully isolated sensor modules measure rectifier voltage and current, and transmit the values via a short range wireless data link to the Rmu base unit, which transmits the data to the Pipeline Watchdog web server, through the efficient point-to-point transport service.

The secure Internet site and reliable message transport provides instant access to rectifier, bond and test point alarm status, data readings and configuration control. It allows the user to quickly create or automatically schedule CP data reports in the most popular CPDM file formats.

Since partnering with Numerex and the implementation of the SMSXpress service, the migration to a fully digital network allows NTG and their customers to deliver messages anytime and provide updates and alerts on a more regular basis.

For example, Targa Resources, one of the largest providers of integrated mainstream natural gas services in the industry, uses NTG to monitor its 11,300 miles of natural gas gathering NGL pipelines. After making the switch from an analog network, Targa went from spending up to six days at \$50/hour every two months monitoring its sites to being able to monitor the lines in less than ten minutes, saving thousands of dollars in man-hours and being able to control their monitoring schedule.

**For Additional Information, visit [www.scadanet.net](http://www.scadanet.net)**

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