



SOUTHERN CROSS CORP.

A S P  R U S Company



Pipeline Safety White Paper

The Southern Cross Way



Pipeline Safety: Then and Now

A leader in the field of pipeline safety for more than six decades, Southern Cross brings unprecedented and incomparable experience to natural gas companies and municipalities. We've performed hundreds of thousands of pipeline safety surveys and inspected literally millions of miles of lines. Cognizant of our longevity and experience, we are often recognized for our diligence and excellence.

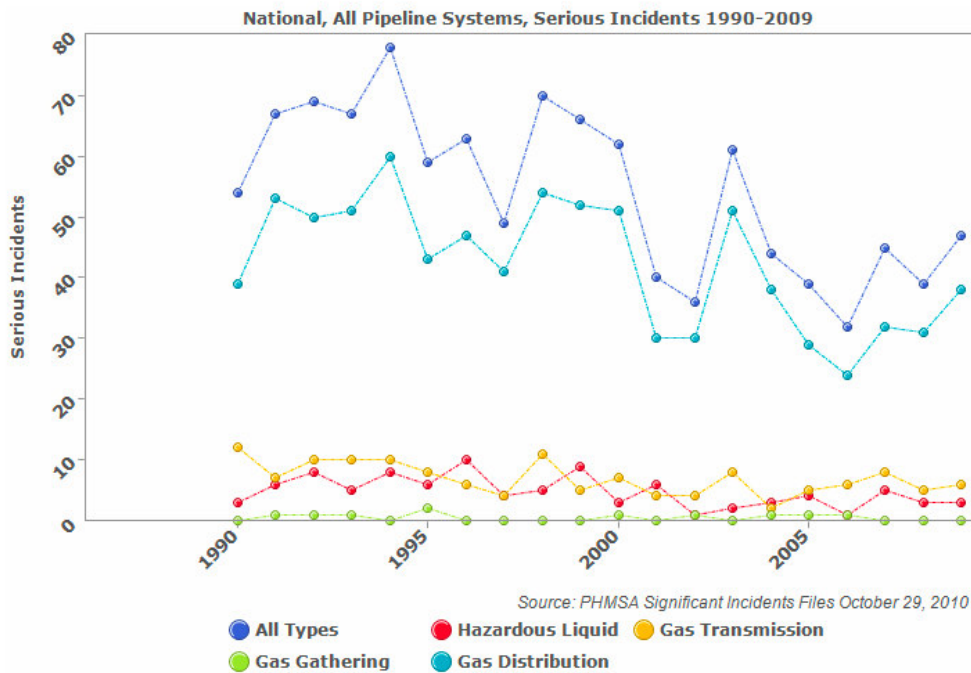
Leak surveys are the "bread and butter" of our services expertise. For each one, we deploy just the right mix of professional technicians, technology and time-tested processes.

Today, more than ever before, safety has taken center stage in the minds of many within the utility industry. As pipelines continue to age, it's likely this renewed and earnest focus on safety will be intrinsic to the industry going forward.

Safety in Context

Ensuring public safety in the natural gas industry is a top priority of all players involved. Like the customers they serve, executives at gas companies live and work in the communities they serve. So it makes sense that safety would reign supreme in their minds, leading to increased investments to ensure the reliability and stability of their transmission lines. People's lives and property is a stake, so cutting corners really is not a viable option.

Fortunately, major accidents are rare even though the amount of natural gas transported has increased significantly in recent years. (See chart on next page). That said, smart companies continue to hone in on their safety efforts and expand their leak survey initiatives to ensure operations are as safe as possible



Inculcating a Safety Mentality

The ever-improving safety records of natural gas companies spawns from an ongoing commitment to leak surveys, public safety awareness and the application of new technologies. With increased diligence comes better record keeping and earlier identification of issues. Improved performance across the board is the ultimate goal.

To improve safety, natural gas companies engage a number of different techniques and tactics, some required by regulation and others as a result of best practices. Specifically, gas companies perform aerial surveys, pipeline patrols, equipment inspections and leak surveys. They monitor pipeline flows and pressures and make adjustments when anomalies occur. It is no small feat and gas companies rarely spare any expense when it comes to ensuring safety.

Accountability Mantra

Knowing how important our work is, Southern Cross takes engagements very seriously and demands from everyone a complete, focused and dedicated commitment that is both entirely professional and wholly thorough. Our customers retain Southern Cross time after time because we provide:

- Outstanding and comprehensive services
- First class equipment and products
- Highly trained and ethical surveyors, technicians and project managers
- Robust tracking, analytics, reporting and data mining
- Rapid response teams and initiatives
- A partnership approach to each engagement

The Values That Drive Us Everyday

The straight scoop on Southern Cross is this: our word is our bond. When we start a project, we go full speed to complete it professionally and thoroughly. We know precisely what to do, how to do it and what our customers need. Always transparent, we also keep our customers in the loop. “No surprises” means we keep you abreast of developments as they occur.

We understand what’s at stake, and we take our job seriously. Lives may depend on whether we perform our tasks correctly and accurately. So, cutting corners is not in our game plan. Our customers can trust the information we provide to them and be assured that we performed all tasks properly.

These are the core values we bring to the market: honesty, integrity, professionalism, directness, agility, and thoroughness. It’s been this way for more than 60 years.

Services in a Nutshell

Southern Cross offers the following services to natural gas utilities to ensure pipeline safety.

GAS LEAKAGE SURVEYS: When technicians perform leak surveys, they're armed with the latest technologies, tools and training to:

- Conduct business and residential surveys
- Survey transmission lines
- Monitor gathering systems
- Check for pressure increases
- Perform surveys ahead of paving
- Review winter/frost conditions
- Perform general risk assessments
- Conduct re-checks and re-evaluations
- Perform miscellaneous inspections

VALVE INSPECTIONS: All valves are subject to close visual inspections.

CORROSION SURVEYS: Over time, various equipment and infrastructure will deteriorate and corrode. Our technicians perform a wide array of tests for:

- Atmospheric corrosion
- Annual corrosion
- Isolated pipe segment corrosion

ODORANT TESTING: Using the latest specialty equipment, we conduct odorant testing, identifying the gas type and range within 0.04% to 1.2 %.

PIPELINE MARKERS: Whether to replace marker decals or to install new markers along a specific route, our technicians perform both initiatives.



Best Practices: Leak Surveys

As you might imagine, over the past six decades, we have seen a number of pipeline safety companies come and go. Whether through mismanagement or an ignorance of industry expectations, they simply couldn't pass muster with always observant utility executives. Unlike these fly-by-night groups that cut corners, fudged results and left communities no safer than before they surveyed them, Southern Cross has a detailed and time-tested best practice process that ensures accuracy, validates results and ensures safety is preserved.

Main elements within the Southern Cross best practices manual include:

- Training
- Thoroughness and Integrity
- Technology
- Tools
- Tracking and Analytics

1. Training

Southern Cross has a rigorous training and qualification program that tests every aspect of an individual's capacity to effectively perform the tasks required. We test all candidates both in the classroom and in the field to ensure that all survey work is performed only by exceptionally qualified individuals.

But we don't stop there. We conduct field audits on a routine basis of every technician. In addition, we apply sophisticated metrics to measure the expected performance of technicians and immediately dispatch another technician should actual results differ from projections. As with any reputable quality control initiative, we also leverage proprietary technologies to track technicians and verify results.



2. Thoroughness

With properly trained technicians and surveyors, Southern Cross offers its customers a thoroughness in comprehensive service delivery. Our well-trained team of seasoned professionals operates in an “eyes up” fashion. Trained to spot issues others miss, we offer a broad range of ancillary services which comport with our core leak survey mission.

For many customers, this engenders scale into the leak survey project as our surveyors can perform other tasks along their assigned routes as required. This is particularly important with the new DIMP regulations, as many tasks can be rolled into a single site visit, eliminating redundancies and greatly improving productivity.

3. Technology



Over the past decade, Southern Cross has relied on sophisticated technologies both in the survey process and in the reporting and analytics on the back end. Specifically, Southern Cross uses EZTech, one of the most respected GPS-enabled mobile workforce management systems.

Highly innovative and without peer, EZTech provides near real-time tracking of individuals in the field and aggregated management reports. The EZTech system of workforce management, data collection and analysis ensures smooth work processes, workforce control and data collection integrity. For example, EZTech can streamline GIS-based asset management through acquisition of GPS locations of specific assets. Likewise, EZTech can transmit information directly to field service professionals, including asset information, instructions, procedures and pictures.

How EZTech Adds Value



TRACK: EZTech automatically tracks movements of remote workers and transmits specific information to our data center.

COLLECT: All data reported from EZTech flows into a highly secure and scalable data repository, enabling access on demand via the web.

ANALYZE: EZTech alerts quality control in the case of abnormal events, such as incongruent performance ratios. EZTech includes an array of tools, from simple ones to full project management and staffing tools.

REPORT: Aggregated management reports can be accessed 24/7 in flat files, in standard templates or via customized reports*, and users receive unlimited access to generate reports showing:

- Time stamps of workers by location
- Latitude and longitude information
- Bread crumb map overlays tracing the progress of the worker

**Our software experts can develop custom analyses, data-base tools, and dashboard style displays to simplify ad-hoc analysis of even the most complex situations.*

Companies using EZTech report that its deployment has had a significant impact on their overall efficiency and bottom line. Most often these companies state that EZTech:

- Improves remote workforce efficiency
- Eliminates redundancy and paper records
- Enhances data integrity and reporting accuracy
- Provides clear management reports
- Ensures complete transparency
- Provides proof of time and place for compliance reporting



4. Tools

Quality tools and equipment ensure that projects are completed efficiently and effectively. At Southern Cross, we use an array of advanced leak detection, locating and marking and specialty tools to ensure that survey results are accurate and reliable. With a number of built-in alert structures, we're able to audit the performance of service personnel, thereby guaranteeing that the work was performed to the highest and best specifications possible.

As new equipment comes on the market, we employ an extensive testing process to confirm its viability. When new equipment enhances our service delivery, we add it to our trucks and arm our technicians accordingly. If the equipment does not meet our quality control requirements, we do not use it. In this industry, it's not uncommon for the tool *de jour* to capture attention early only to be proven deficient later on. We only use proven, tested equipment that's carefully calibrated on a regular basis.

LEAK DETECTION EQUIPMENT



'46 Hawk

A two-in-one gas detection instrument (above/below ground) with digital reads (PPM, LEL, and % gas)



ATV Leak Survey Kit

A mobile gas leak search unit for ATVs.



Mobile Options Leak detection equipment with fixed or portable instrument rest.



Flame Pack 400

A lightweight, single hand operated leak detection unit with fast reaction time.



Gas Ranger Testing unit for various gases; digital reads (LEL, % gas); optional reads (CO, O₂, H₂S)



Leakator

An ultra portable leak detection unit.

MARKING & LOCATING EQUIPMENT



3M Dynatel Locator

Rugged, high-performance locator for all types of conventional electronic markers.



Maghorn

Precise tool for locating and pinpointing buried ferrous objects, especially in heavy brush.



Pipehorn

Proven locators with fast-response signal strength meter and sharp audio tone for precise pinpointing.



Marker Balls

Provide accurate, lasting method of marketing underground gas facilities. RFID optional.

SPECIALTY EQUIPMENT & TOOLING EQUIPMENT

Power Purger

Draws up to 300 CFM from the ground, venting gas leaks and alleviating hazardous conditions. Aids in pinpointing leaks.



M-pact-O Probes

Ideal for use as bar hole probe, feeler bar, rescue bar, pole sounder, ground rod driver and chisel bar.



Odorometer

Lightweight, portable odorant level indicator with a high visibility LED screen and long battery life.



5. Tracking/Analytics



Performing leak surveys includes “proving” that they’ve been completed properly and to specifications. In addition to providing demonstrable proof to natural gas companies – our customers – Southern Cross is now being asked by various regulatory agencies and utility commissions to prove performance. For this reason, we utilize a number of different tools and technologies to provide a clear provisioning and proof of service. Southern Cross customers enjoy access to near real time reports and analytics that serve not only to confirm and validate the safety of pipelines but also serves as a risk-based tool to remediate hot spots as quickly as possible.

Aside from the best practices of tracking and analytics, the federal government has stepped in to throttle forward additional safety procedures that impact all natural gas companies.

Ready for What’s Next: DIMP

The Pipeline and Hazardous Materials Safety Administration (PHMSA) issued a final rule in December 2009 concerning distribution integrity management programs (DIMP) for natural gas companies. Created to enhance safety, DIMP requires companies take a “risk-based” approach to pipeline safety rather than a “prescriptive” approach. DIMP will have far reaching implications in the pipeline safety arena.

The next page outlines what gas companies must consider to be in compliance with DIMP.

Your DIMP Partner

Southern Cross is actively engaged with a number of natural gas companies as they expand their focus on DIMP compliance. Specifically, DIMP requires each natural gas company to:

- Inventory, catalog and maintain detailed records on their system, including materials used, location, pipe size and operating pressure, manufacturer, date installed, and other factors.
- Identify and define risks in each of the following categories and report to the U.S. Department of Transportation:
 - Corrosion
 - Natural forces
 - Excavation damage
 - Other outside force damage
 - Material or weld failure
 - Equipment malfunction
 - Inappropriate operation
- Evaluate and prioritize risks by material, location, operating pressure and other factors.
- Implement initiatives to reduce or eliminate risks for each identified problem and develop appropriate remediation programs, specifically with respect to leak detection and management, damage prevention, and assurance of individual performance.
- Measure, monitor and evaluate program results and effectiveness, including number of repaired leaks, and report same accordingly.
- Develop and institute a quality improvement program to ensure the integrity of the DIMP program.
- Report activities and results to federal and state agencies as warranted

In short, DIMP requires the development and implementation of a workable infrastructure and process to more aggressively track and analyze system components based on potential risk factors. In addition, it places significant responsibilities on gas companies to report more frequently to PUCs. Southern Cross is ready, willing and able to perform these DIMP compliance services for natural gas companies.

Summary

When lives depend on the integrity of your pipeline operations, it's critical to pick the right partner for leak survey services. Experience, expertise and a thorough commitment to doing the job correctly is essential in whomever you chose as a partner.

For more than six decades, Southern Cross has been a leader in this industry. Committed to safety, dedicated to the communities in which we work, skilled at surveying and assessing risk, and a welcome partner to hundreds of different utilities, Southern Cross understands your particular business needs and is cognizant of the various regulatory and government requirements.

If you would like additional information on our leak survey services, please contact:

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