



RIGHT OF WAY GROUND PATROLS

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The importance of continuous maintenance

Constant attention is needed to address the safety, integrity and overall condition of the land that a critical form of infrastructure operates within or under. Many companies have high performing integrity programs to maintain safe operations, retrofit existing operations, or perhaps even replace entire systems in sections as fiscal budgets allow. While these best practices are being carried out, it has never been more important to conduct multi-focused pipeline right of way surveys than it is today.

Why is this statement true you might ask? Well let's discuss a few hot topics in today's industry that is putting right of way ground patrols more and more in the public eye and gaining popularity with many oil and gas companies.

The Role of Ground Patrols

1. SERVICE DEMANDS

Today's crowded cities, increased energy demands and fracking efficiency have increased lifespans and expectation of critical forms of infrastructure like never seen before. Populations are increasing, large cities need energy, cars need fuel and trading markets need profit margins reflected through exporting opportunities. This calls for more volume of product to be transported through pipelines. Therefore, right of way ground patrols are growing in occurrence and importance. Like anything else mechanical, the more you use it, the more you want to monitor it and maintain its intended

performance. This requires additional assistance in areas such as pump stations, city gates, mainline valves, etc. A custom-fit right of way patrol offered by an experienced team can help in many areas of PHMSA, EPA and TSA best practices and required performance.

2. DAMAGE PREVENTION

811 programs across the nation have done a tremendous job getting the word out regarding safe digging and locate requests. The Common Ground Alliance best practices have been adopted by many industry leading contractors across the United States, and they also serve as a bridge to maintain and strengthen working relationships with contractors involved in underground utilities. These efforts are important to exercise in the field through continuous observation. Right of way patrols can help with locate requests and serve as “watch and protect” representatives for a variety of high-profile activities such as integrity digs, drain tile install, wind turbine construction, water shed maintenance and general monitoring of right of way activities. These simple acts can be done simultaneously with other responsibilities, but any responsibility regarding onsite damage prevention should be the only designated task assigned for quality assurance. This type of service involves a highly trained pipeline professional. We recommend a locator certificate from a reputable course offering, extensive experience in damage prevention and the appropriate operator qualifications.

3. SEVERE WEATHER & NATURAL DISASTERS

Our industry needs to discuss weather recognition and its potential impact on pipelines. In doing so, we need to think about natural disasters in general. Patrolling a right of way regularly or immediately following a type of natural disaster can help identify washed out creek beds, damaged operation buildings constructed to protect sensitive

equipment and the overall integrity of above ground components or known shallow facilities in the area.

4. VANDALISM & TERRORISM

We live in a world where our energy lifelines such as electrical transmission systems, railroads and oil & gas pipelines have become targets for malicious behavior and illegal acts. Regular pipeline right of way patrols help to identify suspicious activities, vandalism and potential physical hazards towards a form of infrastructure itself. These pipeline right of way patrols also help secure public safety, strengthen community awareness and involvement by improving awareness of suspicious behavior, and support an environment for continuous improvements and efforts towards general pipeline safety that will reflect safe and efficient operations.

5. SITE HOUSEKEEPING

Appearance of a utility and its operating components can reflect the integrity of the program. Often, companies go above and beyond to make sure their facilities look professional and exceed safe operations standards. Many companies have friendly budgets to accommodate continuous painting and coating improvements to their facilities, which protects the

facilities from corrosion and provides a professional and safe appearance. Regular pipeline right of way patrols support these efforts and help identify areas that may need to be addressed for touch up. Often, the clean appearance of a pipeline above ground equipment reflects the pride that the pipeline operators take in their work.

6. RIGHT OF WAY MARKER MAINTENANCE

Pipeline markers are a key component to a pipeline company's safe operation. They provide an emergency contact number, product type and company name for contact in the event of an emergency or general inquiry. Markers can often become sun bleached, faded, damaged, or in need of an update. Right of way patrols help maintain the integrity and accuracy of these important public awareness tools. Markers should be regularly checked for accuracy and condition.

7. COATING & WRAP INSPECTION

Pipelines are often coated with a fusion bonded epoxy or coal tar wrap to help protect them against corrosion. Due to age and weather, these coating and wraps need attention in order to continue adequate protection of the facility/utility. Regular right of way inspections provides the opportunity



Watch and protect activities during foreign line crossings of existing utilities with 811 best practices in effect.



Pipeline marker integrity inspection during scheduled right of way patrol.

to examine mainline valves (MLV's), meter runs, above ground creek crossings, and exposed pipe due to erosion and severe heavy rains. It is recommended that this type of inspection be carried out by at least a NACE CIP 1.

8. LEAK DETECTION

Pipelines are by far the safest method of transport for fossil fuels. Like any other form of critical infrastructure or transportation, unexpected events in the form of severe weather impacts or third-party damage may occur and cause leaks on a pipeline system. These leaks can occur on gathering, transmission and distribution systems, and they hold an equal importance for monitoring needs. Regular right of way inspections can identify unknown release of product, dead vegetation, or a rotten egg smell that may be natural gas or petroleum product. Some leaks can also affect other forms of transportation such as roads and railroads. Casing pipe

is often used when a pipeline crosses another form of transportation to protect the pipe, but leaks can lead to corrosion or cathodic protection (CP) interruptions. Walk-downs or walk-throughs on a right of way help keep compliance with the Pipeline Hazard Material Safety Administration (PHMSA), maintain public safety and validate safe operation of the company's investment.

9. POST CONSTRUCTION IMPACT

Building a pipeline has become very environmentally friendly and safe in today's industry. Often, contractors exceed PHMSA requirements or governmental expectations in regards to environmental compliance, quality and safety. Contractors today have very comprehensive quality and safety programs that are operated by very skilled pipeline professionals versed in environmental and quality best practices and regulations. Having these programs and divisions in place is simply a smarter way to do business. However, once the contractor leaves the project, there is a window of time for work to be covered under warranty. Impacts from a construction projects may occur long after a project is complete. Regular right of way patrols can help identify road deficiencies where a drill may have taken place. They can also help identify agriculture defects

in the form of sunken trench lines and damaged environmental control devices (ECD's). These types of observations and reportings can help maintain water drainage, landowner relations, public perception, as well as the safety of the project and owning company.

10. ENVIRONMENTAL AWARENESS

Populations change and areas grow throughout the service life of a pipeline. Areas described as high consequence areas (HCA) may change in classification, requiring an update to a system. This can include an influx of people living near a pipeline, easement adjustments, new construction, or regulation adherence to changing conditions. Regular right of way patrols help document updated data to assure compliance with HCA data. Land can also change geographically due to an influx of people in a given area. Information is sometimes needed to plan a project accordingly in order to properly protect the environment and wildlife in the area of operations. These environmental observations can include wildlife survey, animal migration patterns, crop count assessment, water logged soils, wetland integrity and restoration progress tracking. Regularly walking a right of way with a custom-fit survey/patrol program for a given client can help in these areas and many more.



Post construction sink hole discovered during right of way survey.

Recommendations

It is encouraged by Patriot Pipeline Safety, Corp. to have a detailed discussion with your contractor to discuss a pipeline system's specific needs. After all, erosion and maintenance vary drastically with different regions in the world. A custom-fit right of way assessment should be discussed and carried out to reap the maximum benefits of such a service. Having experienced and properly trained professionals to entrust such important tasks to takes a strong working relationship. We recommend a thorough evaluation of credentials, operator qualifications, specific experience and a buddy system process to introduce the service provider to the pipeline systems area of operation and particular surroundings. This should include a team walk-down, history of the system, history of the environment, and current roles and responsibilities of the pipeline operator. It is further recommended that the same personnel conduct the right of way assessment when called for again by the client. This maintains familiarity with the system and reduces cost on the introductory process for the client.

Each pipeline system is different. They transport different products, operate in different climates, and vary in population density. Particulars of a system take time to teach and the first step is always to build a great working relationship with your service provider so expectations are clear.



Severe weather assessment on pipeline right of way during call out patrol for integrity verification and securement of public safety.



Fusion bonded epoxy coating inspection during right of way patrol.

Another recommendation it to weigh the pros and cons of walking or utilizing a small approved ATV when patrolling any right of way. This allows for an in-depth assessment. It is sometimes difficult to properly access wetlands, wooded areas, markers and railroad crossings from the air due to speed, visual barriers and height. Depending on the pipeline system, a right of way survey could be beneficial at least once a year. While it is recommended through the Code of Federal Regulations (CFR's) to determine patrols according to size, terrain and product, Patriot Pipeline Safety, Corp. recommends considering making patrols continuous. This will establish an environment of continuous improvement in your assessment of critical details regarding pipeline safety and security.

The Results

With these roles and recommendations in mind, the client can benefit from more efficient in-house employees, a reduction in man-hours and call outs, a reduction in overtime costs, and the assurance that their system is being continuously monitored by a competent and well-qualified pipeline professional. It may serve a client well to think of the appropriate time to do these surveys. We have had success with efficiency and accuracy following a maintenance right of way clearing or on a continuously well-maintained right of way for maximum observation and reporting potential. A trained and qualified 3rd party service provider responsible for a right of way survey/patrol can help meet and exceed requirements in the code of federal regulations (CFR's) and recommended best practices. ⚙️



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