

Integrity Mangement for Distribution Companies

Distribution operators have a very good safety record. Nevertheless, incidents continue to occur, some of which involve significant consequences, including death and injury. It is not possible to significantly reduce high consequence pipeline incidents without reducing the likelihood of their occurrence on distribution pipelines.

Different institutions (i.e. the United States Department of Transportation Pipeline and Hazardous Materials Safety Administration) have made it mandatory for utilities and natural gas companies to comply with distribution integrity management programs. Operators are mandated to achieve minimum standards, often an integrity management approach similar to that used for transmission pipelines. Reflecting the different nature of distribution pipelines fitting adjustments were made to improve safety standards.

The regulation requires natural gas distribution companies to develop and implement a distribution integrity management program (DIMP) with the following elements:

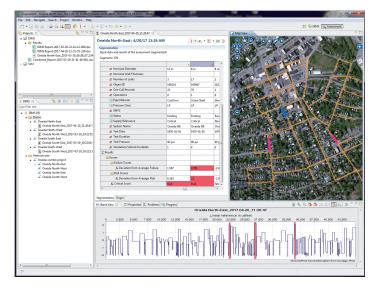
- Document detailed knowledge of the system
- Evaluate and rank risks
- · Identify system threats
- · Report results

FUNCTIONALITY AT A GLANCE

- 1. Data import from any GIS system
- 2. Complete data management with audit logging
- 3. Dynamic segmentation based on the data items selected for assessment
- 4. Freely configurable assessment engine
- 5. Handling of time-dependent data (e.g. for corrosion prognosis)
- 6. Support for what-if scenarios and comparison of line and assessment data
- 7. Thematic mapping of pipes according to assessment results
- 8. Link to any WMS for use as a background map or web services such as Bing, Open Street Maps, or GIS map layers
- 9. Excel export for easy reporting



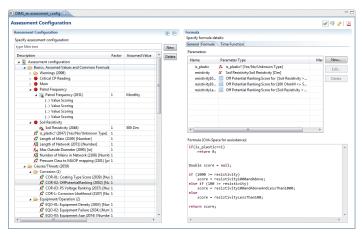
A major component of this ruling is the requirement for operators to identify risks and evaluate threats to their distribution system. These threats have been identified as corrosion, excavation, outside forces, natural forces, material, weld or joint failure, equipment failure, and incorrect operations. Operators can use either a subject matter expert (SME) or a statistical approach for calculating risk to the system. Both approaches will result in a risk ranking for the distribution system.



To meet the wide range of integrity requirements, distribution companies need a tool that can make use of the geospatial data that has been gathered for asset documentation, and that also uses other available data sources such as one-call tickets, asset management and maintenance systems, or ERP systems.

The tool should also allow customers to freely configure their risk assessment algorithm. Changes to the algorithm should be possible without too much effort, while guaranteeing traceable

reporting and version management for the assessment logic. The rules applying to your system depend a lot on what materials you are using.



GEOMAGIC's solution Trascue.DIMS is flexible enough to handle all kinds of input data:

- · Material and age of pipe
- Outside diameter
- Wall thickness
- Cathodic protection information
- Leak classification, location, date, and owning facility
- Operating pressure
- Facility life-cycle state
- · Location and type of valves and fittings
- Location and type of recorded risk events

Trascue.DIMS allows utilities to consolidate and analyze big amounts of infrastructure and operations data to support informed decision-making. GEOMAGIC is able to integrate the algorithm that fits your needs to comply with PHSMA or other rules.



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