MEGA RULE AND MAOP GIS SERVICES

OUR SOLUTIONS

With the implementation of new PHMSA regulations, specifically the Mega Rule, gas transmission operators are tasked with reconfirming pipeline Maximum Allowable Operating Pressure (MAOP) as part of 49 CFR 192. The incorporation of GIS offers extensive advantages to maintain and store the data used to determine the MAOP of the assets, meet regulatory requirements, and to perform complex analysis. However, determining the MAOP can be highly complex, especially for legacy assets which at times lack Traceable, Verifiable, and Complete (TVC) records. Thus, integration within GIS can introduce unique challenges.

GIS provides an effective way to capture and store a wide range of integrity data because it's robust and customizable with asset geometry, spatial location, and attributes, as well as tracking planned system activities and management programs. EN Data Solutions has extensive experience developing database structures, managing data, and developing reporting and tracking mechanisms within a GIS database.

EN Data Solutions provides services to operators to update new data within GIS, maintain the data, and perform analysis to meet their business needs or current regulatory requirements. Examples of current regulatory-required analyses our team supports include class location, HCA, and MCA analysis; annual report and NPMS submittal support; and assessment analysis and tracking support throughout the operator's service territory. Additionally, we can provide support to track the assessment schedules within HCA and non-HCA locations, planned preventive maintenance activities, and projects to meet the established Mega Rule requirements such as MAOP Reconfirmation (192.624) and Material Verification (192.607) per regulatory requirements.

Not all out-of-the-box data models meet the operator's business needs. Opportunities exist to adopt industry standard data models such as Pipeline Open Data Standard (PODS), and Utility and Pipeline Data Model (UPDM), while making enhancements to capture MAOP to meet your organization's needs. With the requirement to complete reconfirmation of MAOP within mandated timeframes, system planning and field collection data can also be integrated into the GIS, providing more timely data within the GIS.

Operators are in different stages of their MAOP journey and are tackling it in different ways. EN Data Solutions offers a wide range of regulatory and MAOP-related services tailored to individual customer needs. These services include reviewing the current system to establish a plan that meets the customer's needs, executing the identified plan, and assessing the effectiveness of the plan.

ENDATA SOLUTIONS

GIS DATA MODELING

EN Data Solutions will apply its expertise with complex data models to help establish a long-term modeling solution to capture and track MAOP data. This can include:

- Reviewing the existing data model to identify gaps and opportunities for enhancement and determine the best way to include MAOP data in a given system
- Updating the data model to account for regulatory and organizational needs
- Adapting industry standard data models such as UPDM and PODS to meet organizational requirements
- Developing methods to manage and track document grades and/or TVC records within a customer's GIS system
- Managing MAOP data with or without ArcGIS Pipeline Referencing (APR) given the customer's needs
- Developing a data model to ensure compatibility with ESRI's Utility Network
- Developing a data model compatible with system management solutions
- Building data models in both ESRI and SmallWorld environments

ESTABLISH A TRACKING MECHANISM TO CAPTURE MAOP IN GIS

EN Data Solutions will use its engineering and GIS expertise to evaluate the current data model and provide support for updating the model to track MAOP for the operator's assets. This process could include:

- Updating spatial and attribute information of assets within the GIS
- Using current document processes and developing custom solutions to track and maintain the records' grades and TVC evaluations that meet regulatory requirements
- Establishing relationships between individual assets and documentation of the assets
- Developing processes to perform MAOP calculations of the assets to meet regulatory requirements
- Establishing processes to maintain MAOP for existing and new assets installed within the GIS, both at the individual assets level and/or the pressure system level, based on the operator's business needs

SYSTEM MANAGEMENT SOLUTIONS

EN Data Solutions will use its extensive understanding of regulatory codes and experience adhering to code requirements and integrity management practices to help plan and manage the various system management activities. This could include:

- **MAOP Reconfirmation**
  - » Identify the assets that are required to have their MAOP reconfirmed
  - » Develop mechanisms to track assets that are required to have their MAOP reconfirmed in order to meet 50% of the applicable mileage requirements by 2028 and 100% by 2035
- **Material Verification**
  - » Develop processes to ensure that newly installed materials meet established TVC standards
  - » Track and plan material verification of existing assets within the system
  - » Track and apply field collected material verification data within the GIS
- **Visualization and Reporting**
  - » Implement assessment scheduling and tracking within the GIS
  - » Track and maintain plan activities that include new construction, preventive maintenance, etc. within the operator's system
  - » Dynamically visualize all planned and completed activities
  - » Analyze and report on system activities based on business needs and key performance indicators