Data Analytics/Data Management Solutions to Manage Pipeline Integrity and Comply with New PHMSA Regulations

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Pipeline performance needs to improve; there have been too many integrity management failures – not only for older networks, but also for relatively new pipelines. In addition, the midstream industry is ramping up their performance improvement quest by adopting Operational Excellence Management Systems (OEMS). Regulators are also increasing their pressure on industry to do better. Recent PHMSA proposed regulations for hazardous liquid pipelines will require pipeline operators to submit vast amount of pipeline component/network pedigree, inspection history, current condition, and risk attribute data, all tied to a GIS platform to enable PHMSA to create a multi-layer national pipeline network. This offers pipeline operators both the motivation and opportunity create such data-driven application to more effectively management their pipeline integrity and performance. This paper will address the following items:

- Pipeline/midstream performance challenge
- Desire to pursue operational excellence
- Overview of PHMSA pipeline network/asset data requirements
- Basic steps for DADM solutions
- Lessons learned from development of DADM solutions
- Pipeline operators can use DADM solutions to pursue operational excellence AND comply with PHMSA regulations

Data analytics/Data management (big data) applications offer promise to meet both performance improvement and regulatory compliance goals. This paper will cover a step-by-step approach for implementing such a system and factors that will drive success.