

## **WKM Consultancy Areas of Expertise**

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Government agencies, engineering companies, insurers, academia, and legal firms are among our clients. We conduct educational workshops, perform relative risk assessments, and develop pipeline integrity/risk management programs.

Our risk-engineering experts have provided the pipeline industry with consulting services such as:

### **Risk Management**

Risk management has been embraced by both the pipeline industry and regulatory agencies as a way to increase public safety and optimize all aspects of pipeline design, operations, and maintenance. WKM Consultancy has been at the forefront of developing practical and compliant pipeline risk management techniques. We have developed risk management programs for many of the world's largest pipeline companies under the scrutiny of the Office of Pipeline Safety in the US and other government agencies internationally. Since each WKM consulting hour is backed by many years of hands-on experience, we provide high value risk management services and a competitive advantage in today's dynamic marketplace.

### **Risk Assessment**

WKM Consultancy wrote the first and only book on pipeline risk assessment and risk management (see "Pipeline Risk Management Manual"). Our relative risk assessment experience is unsurpassed in the pipeline industry. We have completed risk assessments on over 30,000 miles of gas transmission, hazardous liquid and HVL pipelines worldwide (click on [QUALS](#) button below for Client List and Project Summary). WKM Consultancy was also selected to complete relative and absolute risk analyses for the highly controversial Longhorn Pipeline and Georgia Strait Crossing Pipeline projects (click on [RESOURCES](#) button below to view risk assessment documents). We provide assistance with every aspect of risk modeling, including; capturing corporate risk beliefs, designing a risk algorithm, gathering risk-related data, pre-processing data, creating an enterprise-wide database, generating segment risk rankings, analyzing risk results, identifying most cost effective risk mitigation methods, proposing risk-based budgets, and scheduling integrity assessments.

### **Integrity/Risk Management Programs**

In addressing recent US regulatory initiatives, WKM Consultancy has developed pipeline IMP plans and transmission/distribution/gathering/facilities risk management plans for state and Office of Pipeline Safety review. This work includes the IMP-related elements; integrity threat classification, consequence analysis, impact modeling, databases development, risk assessment, risk-based segment prioritization, risk model validation, integrity assessment justification, baseline assessment plans, risk mitigation measures, in-line inspection, pressure testing, direct assessment, and non-destructive examination. Also, our Risk Engineers have over 40 years of experience developing pipeline procedures and plans related to training, performance, communications, quality control and management of change (MOC).

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### **HCA Segment Identification**

WKM Consultancy has extensive experience performing oil and gas pipeline release modeling, calculating direct and indirect impacts, and identifying segments that may affect a High Consequence Area (HCA). WKM Consultancy has completed comprehensive Consequence Analyses that consider all potential acute and chronic impacts of a product (e.g., oil, gas, HVLs, chemicals, water) release on human health and safety, the environment, and pipeline operations. We have the resources to gather all HCA and potential receptor information, create a GIS base map, overlay pipe segment centerlines, delineate hazard zone boundaries, and display HCA segment attributes. Contact us for an estimate to gather right-of-way data and identify your pipeline's HCA segments (click on the CONTACT US button below to request an estimate).

### **Procedures/Plans**

WKM Consultancy has developed over 15 procedure manual sets (e.g., operations, maintenance and emergency procedures) for compliance with US DOT (OPS & USCG), EPA, and state regulations ("complex facilities") with various natural gas, LPG, crude oil and petroleum products pipeline systems associated with US refining and storage facilities. Whether you need to create a complete set of pipeline manuals, an independent plan, or only a new procedure, our pipeline professionals assist can you.

### **Engineering**

Our principal engineers have over 70 years of combined experience in every aspect of oil and gas pipeline engineering, including; design, testing, construction, operations, maintenance, emergency response and management. Our engineers can assist you with preliminary pipeline design, preparing specifications, contractor bidding, construction inspection, and integrity testing.

### **Due Diligence**

WKM Consultancy has participated in the pipeline asset acquisition due-diligence process for several oil and gas companies. Our Risk Engineers have performed risk assessments on acquired facilities, using a "typical" industry algorithm, generated indexed rankings of facilities, identified non-compliance concerns, compared acquired facility risks to existing system risks, and estimated the cost of an integrity improvement plan.

### **Expert Witness**

Among many projects involving litigation preparation and expert witness, WKM Consultancy was selected as a technical advisor to the US DOT, EPA and DOJ agencies to complete qualitative and quantitative pipeline risk assessments for the high profile Longhorn Partners Pipeline oil to gasoline pipeline conversion project in Texas, and, also, risk management expert witness testimony for the controversial Georgia Straight Crossing project at Canadian NEB hearings on Vancouver Island.