AVEVA

AVEVA™ Pipeline Integrity Monitor

Tools to prevent, detect, and mitigate pipeline commodity releases

AVEVA Pipeline Integrity Monitor offers pipeline companies a holistic view toward preventing, detecting, and mitigating the impact of commodity releases.

Oil and gas pipelines are considered critical assets of economic development for any country and the pipeline companies operating the pipelines are generally required to ensure the safety of the population and environment where these pipelines runeither due to regulatory compliance or internal company policies.

Additionally, unauthorized and dangerous extractions (theft) in the middle of the pipeline are not uncommon in some parts of the world. In these cases, leak detection is not strictly about protecting the environment and pipeline property, but includes protection of the safety of the thieves themselves.

Focus on pipeline integrity

As a result of the above complexities, pipeline companies are putting a greater emphasis on utilizing pipeline integrity management. The purpose of pipeline integrity management is to ensure that pipelines do not cause harm to people or the environment, while at the same time provide reliable and secure service to pipeline operators and customers. Pipeline Integrity can coarsely be divided into preventing the leak from occurring, detecting the leak if it occurs, and mitigating the impact of the leak after it has occurred. AVEVA Pipeline Integrity Monitor is perfectly positioned to assist pipeline operators in this respect.

Prevent it from occurring

AVEVA Pipeline Integrity Monitor assists the pipeline operator with preventive features like over/ under pressure detection analysis.

Mitigate the impact

AVEVA Pipeline Integrity Monitor assists the pipeline operator with impact assessment analysis tools like giving an estimate as to the amount of volume lost and performing a location analysis.

Detect it

AVEVA Pipeline Integrity Monitor offers a number of methodologies for detecting a leak:

- Computational Pipeline Monitoring (CPM) based around Real-Time. Transient Model methodology as outlined in API RP 1130.

- CPM based around Volume Balance methodology as outlined in API RP 1130.

- CPM based around Compensated Volume Balance methodology as outlined in API RP 1130.

- Rate of Change (ROC) and Rate of Change Combination (ROCC) monitoring for rupture detection.

- Pressure loss leak detection for pinhole (theft) or rupture detection dependent on implementation.

- Shut-in detection taking into account pressure and temperature changes in a closed off section.

- Additionally, AVEVA Pipeline Integrity Monitor has the following functionality available:

  - Dynamic thresholds allow thresholds to be automatically raised and lowered due to activities being performed physically on the pipeline.

  - Leak location capability is available either based to nearest milepost or to identified operating section.

  - Intelligent voting mechanism (alarm layer) for analyzing output from various leak detection methodologies to consolidate to one leak/ no leak alarm.

An integrated approach

AVEVA Pipeline Integrity Monitor is one of the offerings based upon a common advanced application development environment for building advanced simulation software applications for the pipeline industry. This allows AVEVA Pipeline Integrity Monitor to have common configuration tools, common database, common pipeline common pipeline model connectivity, and common runtime environment with other offerings from AVEVA creating a unique integrated solution.

Trust the experts with the large customer base

AVEVA has been designing leak detection systems for pipelines for 20+ years and is recognized in the industry as experts in their field. During this time it has become apparent that there is no one leak detection methodology that fits every pipeline, there is no one-size-fits-all; each pipeline should be evaluated independently and recommendations made accordingly. AVEVA Pipeline Integrity Monitor continues the trend of providing leak detection fit for purpose while allowing the customer to take a holistic view of the why, where, and when associated with pipeline commodity releases.

To learn more, please contact your AVEVA representative or visit us online at aveva.com

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