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PIMS International provides services and software for clients worldwide to support successful implementation of pipeline integrity management programs that fulfill the local legal requirements.

PIMS International combines over 25 years of experience in the gas and oil industry with 10 years of experience of quality software development. With this union we plan, develop and implement pipeline integrity management systems that assist our customers with cost effective asset management and ensure they meet the local legal requirements for safe and reliable operation of their pipeline system.

Risk Assessment

The method of risk assessment has been developed on behalf of Gasunie by PIMS International (PI) in close cooperation with Gaz de France Suez NL and Total EP NL. Major objective of the development of the methodology was to develop a coherent Safety Management System and to meet the requirements of the BEVB (Dutch Act on Integrity Management of Transmission Pipelines, 01/01/11).

The method Bowtie of Risk Assessment is based on a combination of the well known bowtie methodology and the additional requirements on life cycle management as been described in the NTA 8000, the Dutch code on Pipeline Integrity Management System (PIMS).

Remark: the BEVB refers to the NTA 8000 as the PIMS code covering all legal requirements.

Integrity control, as been defined by a Safety Management System (SMS) like the NTA 8000, is a process of continuous improvement and has to be an integral part of all operational activities of the pipeline operator. Risk assessment has to play a key role in this process: (new) risks are identified and neutralized by appropriate (new) measures that are the basic elements for the Annual Integrity Management Plan. Control of the effectiveness of this Plan has to be monitored by a set of Performance Indicators that should provide the operator with a comprehensive view the way he is running his business. The NTA 8000 has a primary focus on the effectiveness of integrity- and risk control however, it provides the opportunity to balance safety, performance and also costs. The bowtie methodology of PI covers both aspects: it enables the pipeline operator to manage his integrity and risk on the most economic way. An overview of the bowtie methodology including the performance indicators is given in the following chapters.

Performance Indicators can be derived from the bowtie parameters following a logical and systematic approach. No brainstorm sessions with, in general, a more or less random set of performance indicators but a highly structured and transparent method with maximum reference to the key element of the SMS: the risk assessment itself. In fact, the performance indicators are the basic elements of the bowtie diagram resulting from the risk assessment:

1. The unwanted event,
2. The barriers that minimize the failure frequency of that unwanted event,
3. The barriers that minimize the consequence(s) of that unwanted event.

This set of performance indicators represents exactly the issues that have to be controlled by the Asset Integrity Manager. All underlying parameters (corrosion control, 3rd party interference prevention etc.) contribute to these high level performance indicators but don't have to be reported separately. Moreover, the bowtie diagram supports the Asset Integrity Manager in balancing between all threats and related measures in **prioritization: finding the most economic measures to meet the risk- and integrity objectives**.

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PIMS in Space

PIMS International has acquired a project funded by the ESA Integrated Applications Program (ARTES) that focuses on monitoring gas and oil pipelines using space borne sensors. End users (Gasunie, The Netherlands, and SASOL Mozambique and South Africa) are involved throughout the project in the definition of the user requirements and testing of the system.

The first work package of this project is the definition of user requirements and system requirements. To define the user requirements PIMS International has visited SASOL South Africa and Gasunie. During these visits, the problems in the current operations have been discussed and user requirements have been identified. After the visits, the user requirements are translated into system requirements. At this moment two reports are written, one for SASOL, and one for Gasunie.

Besides the system requirements, an overview of the different space born technologies is made in work package 2. The different sensor technologies investigated are among others LIDAR, SAR and Optical sensors. Trade-offs between the different sensor technologies are made and potential revisit times, resolutions have been estimated. Also a software program is developed that can automatically detect changes in space born imagery. This has been demonstrated during a visit of SASOL at PIMS international.

At this moment, the results of work package 1 and 2 are combined to be able to draw conclusions about the possibilities of a space born pipeline monitoring system for SASOL and Gasunie.

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NEN Training sessions

Starting January 2011 the new regulation NTA 8000 and BEVB (Dutch Act on Integrity Management of transmission Pipelines) is the standard to which pipeline owners in the Netherlands must comply.

PIMS International is active in informing stakeholders about the coming regulations. Together with NEN we have given training sessions to present the implications of the upcoming changes. The training on PIMS practice required to meet NTA 8000 requirements and the development of functional specification for an IT-PIMS system based on risk assessment with bowtie technology.

The next training sessions, lectured by PIMS International (Rob Bos), will be the 9th and 21rst of June. For more information, please click here.

Joost&Co supporting PIMS international

Since the start of this year PIMS international is cooperating with Joost&Co, using the expertise of the agency in multiple Risk assessment projects. Young Joost&Co talents support PIMS international project with risk analysis, modelling and data processing getting projects up to speed, while using the full potential of students with analytical/mathematical backgrounds. For more information on Joost&Co, please click here.

PIMS International Newsletter

Please have a look at the attached brochure for some more information about PIMS International. If you have any questions, please do not hesitate to contact us. Stay informed about current news and events of PIMS International. Subscribe to our newsletter with the following link.

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