



Pipeline Integrity Management: part of the core business activities in the gas industry

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When asked what are the marketing fundamentals for the gas industry my answer is:

- Gas-infrastructure needs to be SAFE; otherwise gas will not be accepted by the public
- SECURITY of SUPPLY (the customer can not stockpile gas) and
- Gas prices should be COMPETITIVE.

It is for good reasons I start with the safe gas-infrastructure issue as a marketing fundamental. Unsafe operations will be disastrous. Disastrous to the own employees of the company: injuries, disabilities if not death. Disastrous to the environment: leakages of gas, oil or otherwise. Disastrous to the customer: accidents, explosions and disruption of supply.

But these harmful effects will have also very negative effects for the company involved. Effects, which could add up to a (temporarily) loss of the “license to operate”.

So let's have a further look into the issue of a safe infrastructure. Because it sounds simpler than in reality it is. It would be helpful to discern three aspects of the concept: safety itself, reliability and costs. These three aspects are always intertwined and should be well managed. Well managed in order to preserve the acceptable balance between the three aspects. A balance, which is only 'acceptable' when it is a balance in the eye of the different stakeholders (not only the shareholders but also the management and employees, the public authorities, the customers and the general public).

That is a balancing act which can not be dealt with nowadays without an appropriate focussed management as part of the core business of the gas company: “Pipeline Integrity Management” (PIMS) is a crucial part of the core business of the gas company.

So what are the requirements in order to be successful?



First of all ‘safety’ and a ‘safe gas infrastructure’ should one way or another way, be a recognisable part of the mission/vision of the gas company. It should be recognised by anyone interested (within as well as outside the company) as part of the permanent priorities of that company.

It should also be made known actively throughout the rank and files of the company.

Second a designated Pipeline Integrity Management System should be set up. This system, if filled on a continuous base with the relevant data, and process parameters of the pipe-grid system of that company will enable management to continue the difficult balancing act with safety, reliability and costs.

“Balancing”, one should acknowledge a continuous availability of all the relevant data involved. So not only about the hardware of the pipe-grid. That in itself is already encompassing much more than just the length of the pipelines and the precise routing. It also includes the design features of the pipeline system like materials used, material properties, wall thickness, type of coating, quality of welds and so on.

It includes also the requirements of the authorities, which are laid down in the –often numerous- licenses, permits and the like. Furthermore the formalised insights and parameters of the maintenance strategy and inspection history.

A very good insight in the function of the different elements of a pipeline system (compressors, safety-valves, blending stations and so on) is also necessary. It also not only enables the management to know how the system works when all the pieces function like they were designed. Perhaps even more important from this know-how base, it should be possible within the right PIMS to assess what can best be done in order to minimise damage if something in the pipeline system breaks down.

A good PIMS will also entail the relevant information with respect to the precise trajectories of the pipelines, the cover used. But also the land use by others like railroads, housing or other pipelines. It enables the responsible management better to develop proactive activities when needed, or limit damage in case something happened.



All this has not yet a direct link or translation to costs, which however should also be part of the above-mentioned balancing act.

In order to enable such links and translations into costs one needs an appropriate asset register and a concise set of cost-data of spare parts, maintenance and repair activities and performance history.

The latter is important to a well-designed maintenance strategy as part of the PIMS.

It will be clear that one needs a well-developed IT-system in order to be able to carry out such a PIMS. Without it the appropriate balancing act will not be feasible.

But enabling PIMS to function as is required, asks also for the right organisational structure. A structure in which the different parts of the total process find their 'natural' place to be carried out. An organisational structure, which can function thanks to an appropriate allocation of rights and responsibilities of all involved.

Writing this article in 'CIS & Russian Oil & Gas' leads presumably to the question what is the state of the art of PIMS in the Russian gas industry. Given the huge size of the CIS gas pipeline systems it is – at least for me – impossible to answer that question. There is also no need to do so. The responsible pipeline managers should answer that question. They are knowledgeable and responsible.

I can only point to the fact that at least the exports from the CIS to Western Europe have a good track record of reliable deliveries since the start of these exports some thirty years ago.

At the same time one realises that export-customers are not the only customers of the vast Russian gas industry. Furthermore the requirements set by the public authorities also evaluate to higher levels to which we as an industry have to comply with.

The consequence of this is: there is no 'pause' or time to 'take a nap'. On a continuous base one should further develop, update and improve PIMS in order to deliver what the stakeholders (shareholders, customers, employees, public authorities and the general public) require and are entitled to: a well managed balancing act of the pipeline system through PIMS.

I wish management as well as employees of the CIS gas industry all the success in doing so.