

erpecnews special feature - leak detection, by Nick Needs



Having a leak, might be more interesting than you think!

If I was to be totally honest, there can't be many things less interesting to talk about at a dinner party than tank monitoring! OK, some women might find it slightly more appealing than football but that's another story. However in the industry

today, stock control and environmental protection seem to be on everyone's minds, especially since fuel prices have gone through the roof and legislative demands continue to put pressure on those who are not doing their utmost to protect the planet from exposure to harmful substances. The fact is we should all know the basics when it comes to such an important matter, so for the benefit of us all, I asked Jost Berg, President of SGB in Germany, a company that leads the field in leak detection systems, to clarify some critical points on the subject and explain a few of the current issues they are dealing with. SGB monitors double walled tanks and pipes with vacuum or pressure leak detectors, offering a continuous monitoring solution. This type of systems is also known today as a leak prevention system, as it detects potential threats before any leakage occurs into the environment. Jost explains, "Our system operates to Class one, the highest protection level offered in the European standard EN 13160. This piece of legislation though, provides for another four classes of leak detection technology, all of which need to be considered by operators, prior to choosing the right solution for them. Class one monitors the tightness of the double walls, pipes and tanks and gives off an alarm when one of the walls starts to leak, informing the operator before any substance can enter the environment. Class two addresses the liquid systems utilising a mixture of water, anti fungus and anti bacterial additives, plus other substances which combine to provide a warning if a tank is breached in any way. These are used particularly with double walled steel tanks, but certain authorities have now realised that the liquid is water polluting itself and as a result several European countries have now prohibited its use i.e. Switzerland and Germany. Denmark, Holland and Italy are also moving away from using this procedure."

Class three cover the systems where there is a double walled tank, or a tank in a bund with a sensor located at the deepest point of the interstice or in the bund. With this system, if a leak occurs from

inside the tank an alarm will automatically detect it. However, there is nothing to monitor the outer wall and should a leak occur here, this would allow polluted products to enter the environment undetected.

Class four brings us to gauging systems, measuring the level of the stored product. For accurate readings to be taken there has to be no movement of the fuel at the time the information is required i.e. when dispensing fuel or taking in new fuel deliveries for example. At a suitable time the level of fuel is recorded and if it has dropped disproportionately to the amount of fuel dispensed, then it would be normal to conclude that there must be a leak somewhere. Basic and straightforward maybe, but this is another system where a warning comes after the pollution has already occurred.

Class five describes the monitoring wells, which are drilled beside a tank and are equipped with a hydrocarbon sensor. Leaks will be detected when product floating on the groundwater level passes the sensor. These systems will only tell the owner two things: "The environment is now polluted and almost certainly there will be some expensive cleaning up to do".

SGB, established in 1962 was the first company in the world dealing with vacuum or pressure based systems for leak detection. Their first clients were 100's of thousands of German households who had tanks for their heating oil. "In 1965 there was new legislation in Germany stating that ground water had to be protected from pollution." Jost says, "In those days the company was working with oil tanks and knew about how frequently they leaked. We developed a vacuum system to keep the product in the tank and if it leaked, air or ground water was sucked into the tank causing a pressure change. This ultimately could be used for an alarm indication. In our systems today the vacuum or pressure is provided by a pump and the application is designed as a standalone facility offering continuous monitoring of the interstitial space, i. e. the space between the inner and outer walls of a tank or a pipe. It is maintenance free and crucially does not allow for any false alarms. In comparison to any other system, like a gauging system for example, our system will always prove more effective as there are no tolerances to deal with. Incredibly, some gauging systems allow for a 0.2 gallons loss per hour without indication, which is just not safe." This seemed to me like an enormous degree of loss but Jost confirmed that this is definitely the case. He continued, "In 1970 the legislation in Germany for double wall tanks arrived and we changed our product specifically to work with these new directives. By creating a vacuum or pressure between the walls, we were able to monitor continuously and detect a pin prick hole on either wall instantly. Everything became that much more effective and of course much safer, not least for the environment."

"Our first journey into the retail petroleum market came shortly after 1970. Switzerland and Austria were very quick to follow Germany with double wall legislation, but alarmingly many other countries in Europe did not follow until the 1990's", I asked Jost if initially they contacted the oil companies or did the oil companies contact them and he told me it was a bit of both. "Shell was the first oil company we worked with and we needed to convince them that they should put SGB on their specification lists. It was the installers though who were hopefully going to buy the product and

happily for us, they did. This was the beginning of a long and successful business relationship between Shell and ourselves, who we now support on a global basis." I asked Jost how important the installers are today in terms of getting any new product into the market. He said "The installers are key to us as partners. They need to understand the technology and have to be trained to install the equipment correctly. Our business contacts are a mixture of the mineral oil companies who recommend us to approach certain installers and installers who ask us to speak with the various oil companies. It's a bit like 'Cat and Mouse' but more recently the interest from oil companies in certain countries has started to decline, due to them contracting out more of the business to the installers, PMC's and facilities management companies. Because of this reason I would say the installers are starting to become much more important, for example in Germany, our home market, business is now concentrated through just a few of the bigger installers i.e. Tokheim Göhler, Lanzerath etc."

Do you work closely with the major pump dispenser companies was another question I put to Jost. He replied, "No, not really. 99 percent of our leak detection equipment is a standalone solution, with its own pump and pressure switch. Only for installations involving leak detection equipment and a submersible pump, would there be a combined solution. We do though have a close working relationships with certain pipe manufacturers like Brugg for example, which like us is a high quality manufacturer from Germany".

With SGB being firmly established in Europe, supplying many of the MOC's there like Esso, BP, Chevron and Conoco, it was an obvious question to ask Jost what he was doing in Singapore, the place we were meeting to conduct this interview. He commented, "The market here is just developing for us and we have had a few meetings resulting in a degree of interest. In this part of the world, leak detection is not too common but as new environmental legislation for double walled tanks grows, it will change significantly over the next few years". Perhaps though, it is the USA, rather than Asia, which should be taking a closer look at the damage being caused by leaking tanks. Jost claims that in California they have leaking petrol stations involving MTBE, which causes cancer and is not bio degradable. Methyl Tertiary-Butyl Ether is a chemical compound manufactured by the chemical reaction of methanol and isobutylene. MTBE is produced in very large quantities, over 200 000 barrels per day in the U.S. back in 1999 and is almost exclusively used as a fuel additive in motor gasoline. It is one of a group of chemicals commonly known as 'oxygenates' because they raise the oxygen content of gasoline. At room temperature, MTBE is a volatile and flammable liquid that dissolves rather easily in water. He told me that today, MTBE is often found in many Californian drinking wells. "Dealing with the problems surrounding hazardous substances being leaked into the environment is not just about cleaning up around a petrol station. There are much wider implications worldwide to think about", he said. So you have an interest in the US market, I asked him. "A little bit", he cautiously replied.

In Europe, Jost pointed out that much still has to be done in countries like Turkey, Greece, Russia and the CIS, where in leak detection terms, not much has happened yet. He did mention though that somewhere in Kazakhstan there is a government building which has its fuel tank monitored by SGB.

"It is starting to happen slowly in these countries" he said, "We just have to be patient". I suggested to him that dealing with Greece at the moment, in the middle of such a difficult trading time, might be a bit challenging. "Perhaps they will have to pay in advance", he said with a laugh and a big smile, which seemed the perfect place to end this most enjoyable encounter, with one of erpec's most prominent delegates. If you would like to meet Jost, he will of course be joining us for erpec 13 next year in Nice, France on April 16th - 18th.

More information on SGB can be found at

www.sgb.de

Contact information



SGB GmbH
Hofstr. 10
57076 Siegen
Germany

 +49 271 48964 0

 +49 271 48964 6

 www.sgb.de