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CLH talks about their implementation of SST sensors

An innovative system of sensors installed in the piezometric network at the various facilities warns of the presence of hydrocarbons in groundwater in real time.

A concern for guaranteeing the safety of all our operations and activities leads us to constantly reviewing the protective measures we have in place at our worksites. "The objective is to prevent any type of incident with a preventive attitude and, in order to do so, we've implemented the most modern of safety systems in order to benefit from the advantages offered by this technology," says Juan Bonilla, Director of Transformation.

This is the context for the groundwater monitoring project the company has developed at twelve of its facilities. The initiative is a significant advance in spill detection, particularly those not observed upon simple sight in addition to being an environmental protection guarantee.

"The system allows us to receive real time notifications if hydrocarbons are detected in the groundwater below our facilities," explains the Assistant Director of HSSE, Jesús Manso. This immediacy in view of a possible spill makes it possible to respond as quickly as possible to minimise the consequences.

"THIS SYSTEM GETS RID OF THE UNCERTAINTY AND ALLOWS US TO ANTICIPATE ANY CONSEQUENCES OF A POSSIBLE SPILL"

This warning is sent when the sensor placed in a piezometric well (vertical cylindrical boreholes into which piezometric piping is dropped to the phreatic level for monitoring) detects free-phase hydrocarbons in the groundwater. "A signal is emitted right then which is captured by the switchboard and sent to the company's information systems. In just a few seconds, we receive notification of the incident which allows us to activate the safety protocol instantly to verify the alert," says environmental specialist Daniel López.

An interphase probe inserted in the piezometer verifies whether there is any oil in the water. "The sensors are covered with very sensitive material which degrades upon contact with hydrocarbons and sometimes there may be a false warning, but that doesn't happen too often," clarifies Daniel López. The checks are made through the equipment maintenance company which is a guarantee for transparency and veracity.

STRATEGIC POINTS

Our facilities have a piezometric network that enables water table monitoring. The position of the piezometers is determined by a preliminary study of the plant and ground to establish the groundwater flows. Thus, the piezometers are installed in the most sensitive spots and in places such as tanker truck loading areas or where there are buried pipes.

"The twelve facilities monitored where 114 sensors have been installed were chosen due to their special characteristics and in order to cover practically all of the territory where we operate. Our goal is to gradually increase the number of facilities with this system," explains the Head of Environmental Affairs, Pedro Herrero.

According to Jesús Manso, this system for the company means "peace of mind as it gets rid of the uncertainty and allows us to anticipate any environmental or economic consequences of a possible spill".

HOW DOES THE SYSTEM WORK?



A PIONEER PROJECT

The groundwater monitoring system implemented is a milestone for the company as it's a pioneer in the use of this technology.

"Our philosophy of ongoing improvement leads us to studying the market in search of the best solutions to guarantee the safety of our activities," explains environmental specialist Daniel López.

The project was presented as a case study at the 19th Annual International Aboveground Storage Tank Conference & Trade Show, organised in Orlando (Florida, USA) by the National Institute for Storage Tank Management.



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