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## Technology saves water at refineries

Process devised by Santa Catarina-born engineer for refinery being built in Pernambuco attracted the attention of Saudis. The water used in pipe cleansing drops from 16 million to 400,000 litres.

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used in cleansing refinery pipes, and is attracting attention overseas, including Saudi Arabia, the world's leading oil producing country. The process has caused water usage to drop from 16 million litres to 400,000 litres at the Atmospheric Distillation Unit (ADU) at Petrobras' Abreu e Lima Refinery, under construction in the state of Pernambuco. The process was developed by mechanical engineer and naval construction technician Bernardino Nilton do Nascimento, who works as a

São Paulo - A technology created by a Brazilian should reduce the amount of water

conditioning supervisor for OAS, the company in charge of building the unit under consortium Conest, which also includes company Odebrecht.

Construction started in 2009 and the refinery is scheduled for completion in 2014. The ADU, however, will be completed by March 2013, and will include the new technology. Instead

of using chemicals to clean the pipes, followed by rinsing with large amounts of water - which is the traditional process -, the pipes are rinsed with an abrasive product using sponges, in a dry process, and then an anticorrosive. Water is used only for testing leaks. As a result, the volume of water used declines significantly.



method

The 400,000 litres which are used are then treated and returned to nature, Nascimento

explains. The pipes are usually cleansed before the refinery starts operating, and because that may take a long time, the old process often needs to be repeated, causing more water to be spent, because the cleansing is valid for approximately eight months. With the new method, the refinery can take up to two years before it enters into operation, counting from the cleansing of the pipes, and the process

does not need to be repeated. "The performance is good, better than we had imagined," says Nascimento. The technology can be applied to pipes that carry oil, steam, gasoline and other substances. It was introduced this year in Rio de Janeiro during the People's

Summit, held during the Rio+20, and attracted the attention of Saudi businessmen who were in attendance. They were handed material about the process, and Nascimento should give a talk about it next year in Saudi Arabia. Sponge-Jet, the company which supplied the sponges and equipment, operates in the Arab country and is intermediating Nascimento's trip to the region.

Nascimento owns the patent for the system, but says he does not intend to sell it. Concerned about environment and sustainability worldwide, the engineer says he will only profit from consulting. He wants companies to use the method, thus increasing the durability of global water resources. "Water is a product which belongs to all, it's an asset of all humanity," he says. The initiative has earned awards in Brazil and abroad, and there is interest in using it at another refinery, in Rio de Janeiro. According to Nascimento, the cost of the process is equivalent to that of the traditional one.

Nascimento says he is highly interested in taking his process to the Middle East, and admires the Arabs who have built cities in the desert, such as Dubai, where water is scarce. He compares it to other areas of the world, including Brazilian cities, which settled near rivers and took all they could from them. Nascimento was born in the state of Santa Catarina, but currently lives in Recife. His family, however, lives in Niterói, Rio de Janeiro, to which he travels frequently.

In addition to the new process, the refinery boasts other environment-friendly initiatives, such as demanding higher-durability products from suppliers, including guarantees, and holding them accountable for recycling items after they have been used at the refinery.

\*Translated by Gabriel Pomeranchlum

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