

Hungry fungi feast on VOCs and odours

By Janet Mowers

An odour and VOC-eating machine may soon be put to work in Western Canada's oil patch. The Bio-Reactor by Bio-Reaction Industries is a compact, mobile, and effective way to handle the hazardous byproducts.

"These people have taken a biofilter the size of a football field and shrunk it into a nice, compact unit," said Brian Winters, president of Proeco Corporation.

It uses hungry, naturally-occurring fungi to take care of high volumes of volatile organic compounds (VOCs), sulphur-derived compounds, and H₂S.

Winters describes the Bio-Reactor as a "compost-packed cleaning tower."

It has several components, but the most vital is the Bio-Matrix, comprised of spheres of compost-like material. A system inside the machine heats and keeps the compost wet.

Bio-Reaction Industries describes the technology as a "sustainable non-chemical solution for odours or non-regulated VOC applications."

According to Winters, the Bio-reactor can handle up air flows of 10,000 cu. ft/minute and up to 20,000 parts per million units of contamination.

"These are big time units," says Winters.

They may be big time units, but they are compact with a small footprint.

Systems can be engineered to handle air flows from 50 cu. ft./min to over 10,000 cu. ft./minute. Potential applications could include glycol dehydrators, process vents, tank vents, oil patch odour, and benzene reduction.

Units are mobile, and can be taken from one plant shutdown to the next to help manage VOCs, instead of releasing them into the air.

There are said to be no byproducts with the system: no NO_x, no SO_x, and very few CO₂ emissions with this system, according to Bio-reaction. This system also has very low energy and no fuel requirements, and is low maintenance.

A system can be engineered and designed to meet specific needs and applications.

Proeco Corporation is the exclusive Canadian representative for this technology. Winters adds if this technology catches on, he may set up a manufacturing facility and start turning out systems in Edmonton. Bio-Reaction Industries is based in Tualatin, Oregon.

Fourteen units have been put to work in the oilfield in the United States. One of the units proved itself at a glycol dehydrator in the Southern United States over a period of three years. There is only one out in the field in Canada. It has been installed at Custom Environmental Services to destroy aerosol propellants such as propane.

And how did Winters come across such new technology? He does his homework and attends a lot of environmental trade shows.

Winters, who is also the president of the Environmental Services Association of Alberta (ESAA), states that his company's objective is "to bring new and exciting things to the oil patch."