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Dredging Summit & Expo:
Vancouver, B.C.

KruseDQM System:
Pipeline Monitoring Program

New Dredge Builds:
Ellicott, Royal IHC and more

The brass-toned meter (i.e., SONARtrac meter) installed on a working dredge discharge pipe.

Dredging Industry Showing Interest in CiDRA Non-Invasive Volumetric Flow Meter

BY JUDITH POWERS

CiDRA Minerals Processing Inc. has entered the dredging market with its SONARtrac® volumetric flow meter that uses passive sonar to measure slurry flow in a pipeline. Because the system is non-intrusive, installed on the outside of a pipe, it is not subject to wear and requires no maintenance.

Joseph Poplawski, North America Regional sales manager explained that the sensors consist of piezoelectric sensor elements bonded to a monolithic stainless-steel structure that can be wrapped around a pipe. The sensors are strain sensitive and detect the strain created on the pipe wall by passing vortices in the slurry, converting the readings to velocity.

CiDRA is a Connecticut-based company focused on process optimization and asset recovery solutions in large industrial markets.

The company developed the SONARtrac meter in 2000 and has sold it into a variety of industries, including oil sands, minerals processing, paper and pulp, power, dredging and non-mineral processing, with about 5,000 units installed around the world. It has been installed mostly on steel pipe, but is just as effective on polyethylene or any other material pipe, Poplawski said.

In recent years, companies in the dredging industry have begun to show an interest in the sensor because of its non-intrusive design that is not exposed to the abrasive slurries common in dredging. Dredging customers include a major navigation dredging company, a phosphate dredging company in Florida, and several aggregate and mining dredges, Poplawski said.

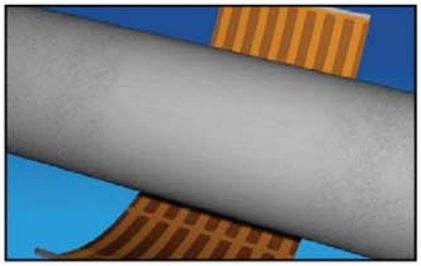
DSC Dredge has included the SONARtrac meter as an option on its custom dredges.

"It's the only non-magnetic meter we can automate into our system," said DSC President Robert Wetta. "We went to a magnetic meter that has a rubber liner that wears out, and as an alternative, we have found the SONARtrac to have reliability and repeatability. We tell customers that it's the best value in a flow meter," he said.

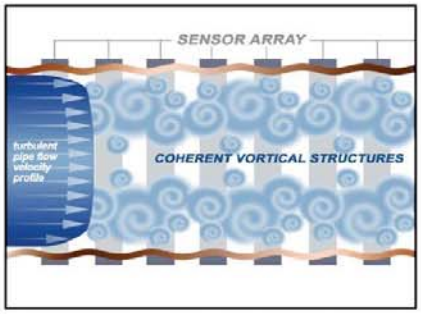
Installing the meter is uncomplicated. It must be placed away from elbows or pump discharge that create uncommon turbulence. It is attached to the pipe using tension screws, and an attached meter displays the velocity readings.

Joseph Poplawski, left, and Roman Malina in the company's display at the Dredging Summit in Vancouver, where they showed an interactive SONARtrac model.

Poplawski and Roman Malina, regional sales manager for Western Canada, introduced the SONARtrac system with a display at the recent Western Dredging Association Summit & Expo in Vancouver, B.C. In the display was a SONARtrac meter measuring air flow through the pipe. Visitors would see the change in the velocity reading when the air flow was interrupted.



The individual sensor elements are bonded to a monolithic stainless-steel structure that can be wrapped around the pipe.



This exaggerated view of the micro strain on a pipe wall created by passing vortices in the slurry. The piezoelectric sensor elements detect these changes and the system translates them to velocity.

The alignment pinning system consists of nine tension screws with Belleville washers.