

Application News

Turbine Meter System Withstands Extreme Temperatures In Mining Operation

Industry: Industrial

Service: Flow Rate/Total

Fluid: Diesel Fuel

Overview

Voisey's Bay is located on the northern coast of Labrador, Canada, just southwest of the community of Nain. A large nickel deposit was discovered along the western shore of the bay in September 1993. This deposit is considered to be one of the most substantial mineral discoveries in Canada in the last 40 years.

Two nickel sulphide concentrates (also containing copper and cobalt), namely, a high grade and a middling grade, as well as a copper sulphide concentrate, are being produced at Voisey's Bay. Open pit mining began in August 2005 and processing began in September 2005.

Since the discovery of the Voisey's Bay deposit, efforts have been stepped up to find similar deposits in coastal Labrador.

Situation

A major mining company operating at Voisey's Bay utilized diesel generators to power their facility. Accurate monitoring of diesel fuel usage was key to the efficiency and reliability of the generators. To ensure dependable fuel flow measurements, this application required flowmeters able to withstand extreme temperature swings in the installation environment.

In addition, the mining company required CE approvals on all flow electronics as well as specific equipment documentation packages.

Solution

The diesel generator supplier for the Voisey's Bay facility turned to Flow Technology for a rugged, highly accurate flow measurement solution. The fuel metering system consisted of an FT Series turbine flowmeter paired with the LinearLink™ TCI (Temperature Compensated Interface).

Utilizing the LinearLink TCI, the flow measurement system can accurately measure diesel fuel at temperatures as low as -50° F.

The turbine flowmeter is a "fail open" technology, meaning that in the event of a malfunction, fuel continues to be fed to the generator - ensuring there is no interruption of power to the manufacturing facility.

System Description

Flow Technology's FT Series turbine flowmeter employs a proven flow measurement technology to provide exceptionally accurate and reliable digital outputs. Because of its versatility, the FT meter is the solution for a wide variety of liquid and gas flow sensing applications.

The LinearLink TCI represents a new, sophisticated electronics platform for flow meter linearization and viscosity correction. It provides significant improvements in flow meter accuracy even under extreme temperature conditions.

Technical Information

Flow Meter (Model Number): FT-16NEU3-LEAT5
Electronics: LNT-3-C0-MA-9-CE
Flow Rate: 19-190 LPM
Fluid: Diesel Fuel



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