



ITT

PUMPLINES

Innovation ... Technology ... Leadership

A newsletter for users of pumps, controls, monitoring and maintenance services
Winter 2007

New President

Ken Napolitano was named President of ITT Industrial & BioPharm Group in December, 2006. Ken had functioned as Interim President since August, 2006, when Bill Taylor assumed the role of President, ITT China. Prior to this appointment, Ken held the position of Vice President, Sales and Service Operations - Americas, for IBG.



Over his 26-year career with the company, Ken has held a variety of key positions in sales, operations, and marketing, including the development of IBG's Monitoring and Controls business, and more recently leading the turnaround of the ITT PRO Services organization.

Ken received a Bachelor of Science degree in Interdisciplinary Engineering & Management from Clarkson University and has participated in the ITT sponsored Ashridge Executive Education program.

Predictive condition monitoring helps keep beer ice cold and flowing.

Predictive condition monitoring has become an increasingly common tool in manufacturing processes of all kinds. Once reserved only for mission-critical pieces of equipment, the advent of low-cost sensors and user-friendly software is spreading the use of continuous condition monitoring throughout the plants of many industries.

For a beer lover, few processes are more mission-critical than what it takes to produce a consistent, high-quality brew. And for a beer maker, maintaining precise temperatures during fermentation is one of the most critical and costly elements of a successful brewing process.

That's why one of America's largest brewing companies uses the ITT ProSmart™ System — with its ammonia compressors — to keep beer as cold as needed. With an experienced team of brewmakers and a bit of help from ITT, this brewer has brought advanced problem-solving to beer making.

How a leading brewer uses predictive condition monitoring

Rising energy costs make it imperative to operate a plant as efficiently as possible, as downtime at any manufacturing plant can cost thousands of dollars. This is especially true with the second largest beer maker in the U.S., where a delicate balance of temperature, aging, and fermentation must be maintained to create the perfect beer.

With more than 50 brands of beer made to exact detail and quality at six breweries across the U.S., this brewer relies on a team of nearly 6,500 people to get the job done. A critical aspect of the job involves slowly warming the beer to 60° C, then cooling it



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Engineered for life



Feature

Predictive condition monitoring **Continued...**

down to room temperature. To cool the beer, the plant employs a series of ammonia compressors.

All of the compressors are connected to each other and run at the same time, which keeps the plant's process moving at a very efficient pace. If one of the compressors suddenly failed, it would throw off the timing and temperature of the others with catastrophic results.

With the help of ProSmart, the brewing team at the plant has been able to pinpoint the location of potential problems in less time and prevent them. In the past, teams of maintenance specialists known as "vibration groups" monitored the factory floor on a monthly basis to measure the vibrations of the compressors and collect maintenance data from all machines en route. However, this is a labor-intensive and time-consuming process, which is a drain on the maintenance, repair, and operations budget.

About the system

ProSmart™ is a predictive, online condition-monitoring system that automatically collects trends and displays data.

Each system incorporates the same essential tools. However, the size of the operation and number of machines determine the number of Field Mounted Devices needed to get the job done. They can be upgraded as operational needs increase.

- ProSmart generates alarms based on inputs sensing vibration, temperature, oil condition and level, fluid flush and leak, pressure and speed to generate patented algorithms called "Smart Alarms," which notify users via cell phone, pager, e-mail and a Web-based, wireless browser.
- ProSmart's continuous monitoring, analyzing and annunciating technology identifies and diagnoses equipment problems through the sensors before they have a chance to turn into unexpected downtime or catastrophic failure.
- The system uses a simple color-coding sensor to communicate different messages to the operator — green means good; yellow means caution; and red signals a problem.
- It is connected to locally-available power. Data is fed 24/7 via wireless transmitter through a protected Wide Area Network to ProSmart's central computing server.
- The data is then analyzed and compared with the diagnostic rules-based program for that particular piece of equipment, which enables

operators view trends and to predict failures.

The power of predictive monitoring

Recently, a maintenance specialist at the brewery was alerted to an issue by a call to his cell phone from the ProSmart system.

The system detected a high rate of change in vibration on one of the compressors. This signaled either bearing distress within the compressor or an abnormal change in flow.

When the compressor was stopped for alignment review, the onsite analysis showed everything intact on the compressor. This suggested the cause of the high-vibration problem was external to the compressor, which in the long run helped prevent a catastrophic failure costing thousands of dollars.



'Engineered for life' Story Competition Winners

Congratulations to our award winning storytellers. Watch for these case stories in upcoming issues of *Pumplines*.

Winner

Michael Marquez – Quadna, Inc. Phoenix, AZ
How do you maintain hot water pressure to a large medical complex requiring optimum reliability due to its critical mission?

Michael and the Quadna team designed and manufactured a skid to house Goulds G&L SSV pumps and ITT PumpSmart PS200 controllers. Read about the problems they faced and solutions they delivered to this healthcare provider.

2nd Prize

Mark Romero – Beckwith & Kuffel Seattle, WA
The US Army Corps of Engineers needed a ballast system that would provide the delicate trim and balance needed aboard a catamaran being built to support construction operations at the Omstead Dam project. The solution Mark and the B&K team found included Goulds Axial Flow pumps and ITT PumpSmart PS75 controllers.