

BULK LIQUIDS MOVEMENT TANKS & TERMINALS – PUMP AND MANIFOLD SOLUTIONS

ENHANCE THE RELIABILITY AND INSIGHT INTO YOUR TERMINAL OPERATIONS.



MAKING EFFICIENT AND RELIABLE PRODUCT MOVEMENTS WITH CLEAR VISIBILITY TO LINEUPS.

Knowing the location of all products, and their needed movements, is critically important for terminal managers. Process control is key. But it's also necessary for essential assets to function safely, accurately, and reliably.

Without clear visibility into the real-time health and operational status of pumps and manifolds, dangerous leaks may go unnoticed. And lineup problems, manual or automated, can result in downgrades, delays and other costly mistakes.



HYDROCARBON LEAKS

Leaks caused by mechanical failures can be catastrophic. Early detection of hydrocarbon leakage can help avoid toxic releases, fires, and HSSE incidents.



VALVE LINEUP ERRORS

Valve lineup errors or faulty valves can cause product contamination that leads to rework, scheduling backups, demurrage charges, dissatisfied customers, and loss of business.



LACK OF SYSTEM DATA

Poor information, lack of system integration, and unreliable equipment can lead to unscheduled shutdowns or downtime that adds demurrage costs.



POOR EQUIPMENT VISIBILITY

Inability to detect equipment problems, such as pump cavitation, bearing wear, and stuck valves, can lead to equipment failure and unplanned downtime.



MANUAL MONITORING

Manual equipment checks are time consuming and labor intensive, often imprecise, and may pose unnecessary safety risks to your personnel.



BAD INSTALLATION

Improper design or installation can lead to equipment damage or unavailability, which may prevent the terminal from completing product movements on time.

WHAT IF YOU COULD DELIVER ACCURATE PRODUCT QUALITY AND QUANTITY FOR EVERY CUSTOMER, EVERY DAY?

Scalable, cost-effective automation gives you ongoing visibility into essential assets, helps to mitigate equipment failure and risks, and ensures optimum lineup performance. So you can rely on accurate, timely product movements, despite limited budgets or staff.

GAIN VISIBILITY

With greater insight into essential assets, you can identify and solve adverse conditions before they become adverse consequences. Reduce manual checks, save time, prevent bottlenecks.

MITIGATE RISK

Pump and valve monitoring, plus hydrocarbon detection, helps you prevent and minimize the potential for equipment failure or leaks. Operate safely and reliably, while lowering your risk.

OPTIMIZE LINEUPS

Valve position sensors, digital diagnostics, flow meters and other solutions make it easier to fulfill a wide range of complex contracts, accurately and consistently, for all your customers.

OUR CUSTOMERS CAN REALIZE THE VALUE BY IMPROVING...

Value Model

Process automation is designed to prevent line fill errors and contamination, as well as mitigate the risks of equipment failure and leaks. These examples show the cost of reworking gasoline contaminated with diesel, and replacing a centrifugal pump.

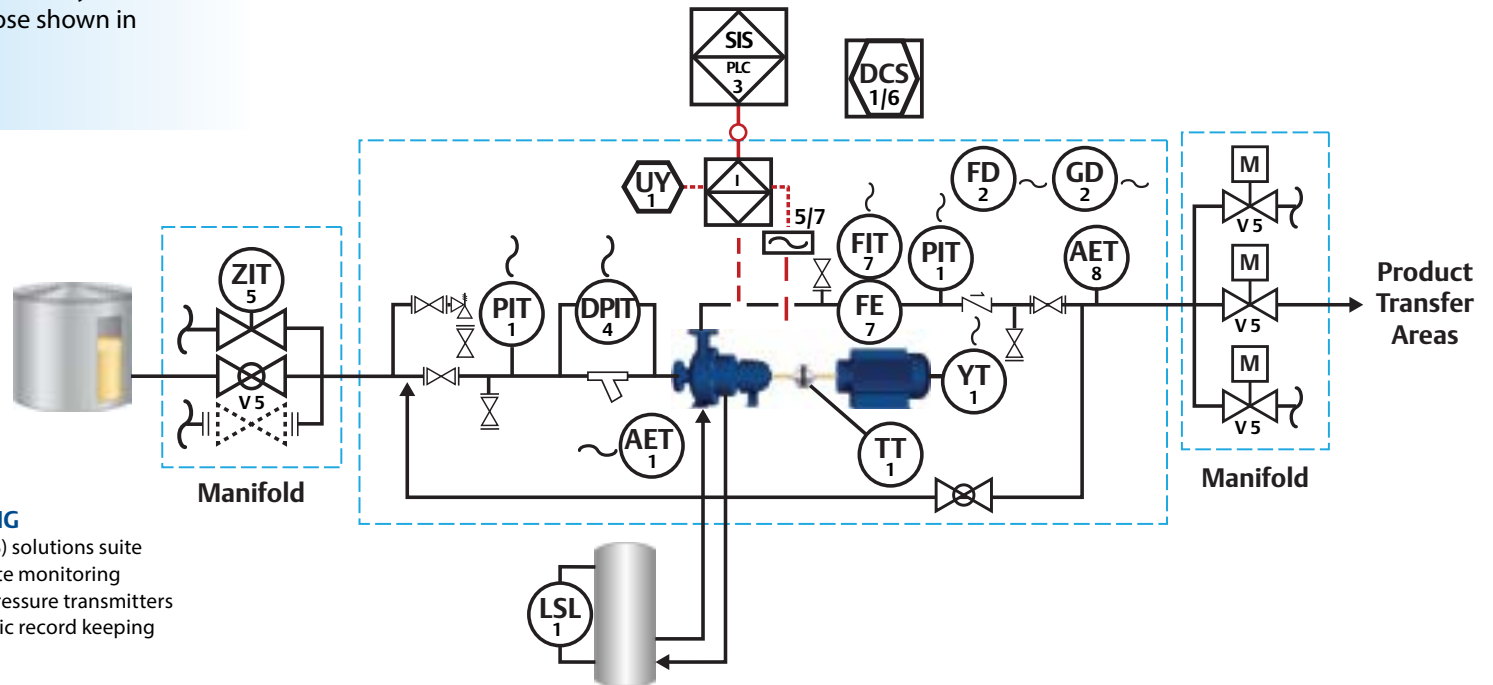
Incident	Units	Cost
1. Line fill error (lack of knowledge)		
Downgraded gasoline	69,450 bbls	
Transmix processing	\$11.76/bbl	\$816,732
2. Pump failure, leak and fire		
Gasoline product loss	100 bbls	\$9,660
Pump replacement		\$50,000

Value of preventing these two incidents: \$876,392

(excludes cleanup costs, fines, penalties, legal fees, lost revenue)

PUMP AND MANIFOLD SOLUTIONS GUIDE

Emerson provides automation solutions that enable you to operate more efficiently and flexibly, while enhancing safety and reliability. The numbers below correspond to those shown in the diagram.



1

PUMP HEALTH MONITORING

- Essential Asset Monitoring (AMS) solutions suite
- Full wireless capability for remote monitoring
- Rosemount temperature and pressure transmitters
- Emerson Log Books for electronic record keeping

2

FIRE & GAS DETECTION

- Rosemount flame and gas detection

3

SAFETY SHUTDOWN SYSTEMS

- DeltaV™ SIS safety instrumented system
- Venessa & Virgo Triple Offset valves
- EIM and Bettis actuators isolation
- Fisher FIELDVUE™ DVC6200 digital valve

4

STRAINER PLUG MONITORING

- Rosemount differential pressure flowmeters

5

MOVEMENTS CONTROL LOOP

- Venessa & Virgo Triple Offset valves
- Fisher wireless valve position sensing
- EIM and Bettis actuators
- DeltaV distributed control system

6

TERMINAL MANAGEMENT AND AUTOMATION SOLUTIONS

- TerminalManager
- DeltaV distributed control system
- Emerson Log Books for electronic record keeping

7

FLOW CONTROL

- Rosemount differential pressure flowmeters
- Rosemount vortex flowmeters

8

EROSION/CORROSION MONITORING

- Roxar corrosion monitoring

PARTNER WITH EMERSON TO SOLVE PUMP, MANIFOLD, AND OTHER TERMINAL MANAGEMENT CHALLENGES

“WIRELESS VALVE MONITORING ENABLED US TO NOT ONLY REDUCE LEAKS AND BAD BATCHES, BUT ALSO TO AVOID THE HIGH COST OF REWORK, DOWNTIME, AND LOST MATERIAL. ELIMINATING THESE COSTS—UP TO \$25,000 PER INCIDENT, NOT INCLUDING FINES—IS A GOOD THING FOR OUR PLANT.”

KEVIN ROOT
UNIT MANAGER, HARCROS CHEMICALS INC.
KANSAS CITY, MO



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