

June 2006

### The Challenge

A major challenge facing the oil and natural gas extraction industries, and in particular the Coal Bed Methane (CBM) gas extraction industry, is that sites are often located in extremely remote and dispersed areas.

At each well head, there is a need for continuous monitoring and control of oil and natural gas processes, as well as various other types of liquids and gases.

In a typical application, data must be moved from remote well head locations via 4-20mA or 1-5Vdc signals to a Remote Terminal Unit (RTU). The RTU then sends the data to a DCS, SCADA or similar centrally-located computer-based system by radio transmission.

All of the remote monitoring and control equipment must be powered with 12 or 24Vdc batteries. The problem is finding dependable instrumentation that can operate reliably under battery power in harsh environmental conditions.

### Low-Power Solutions

Moore Industries offers a wide array of practical automation and instrument solutions designed specifically for oil and natural gas applications.

This includes low power solutions for:

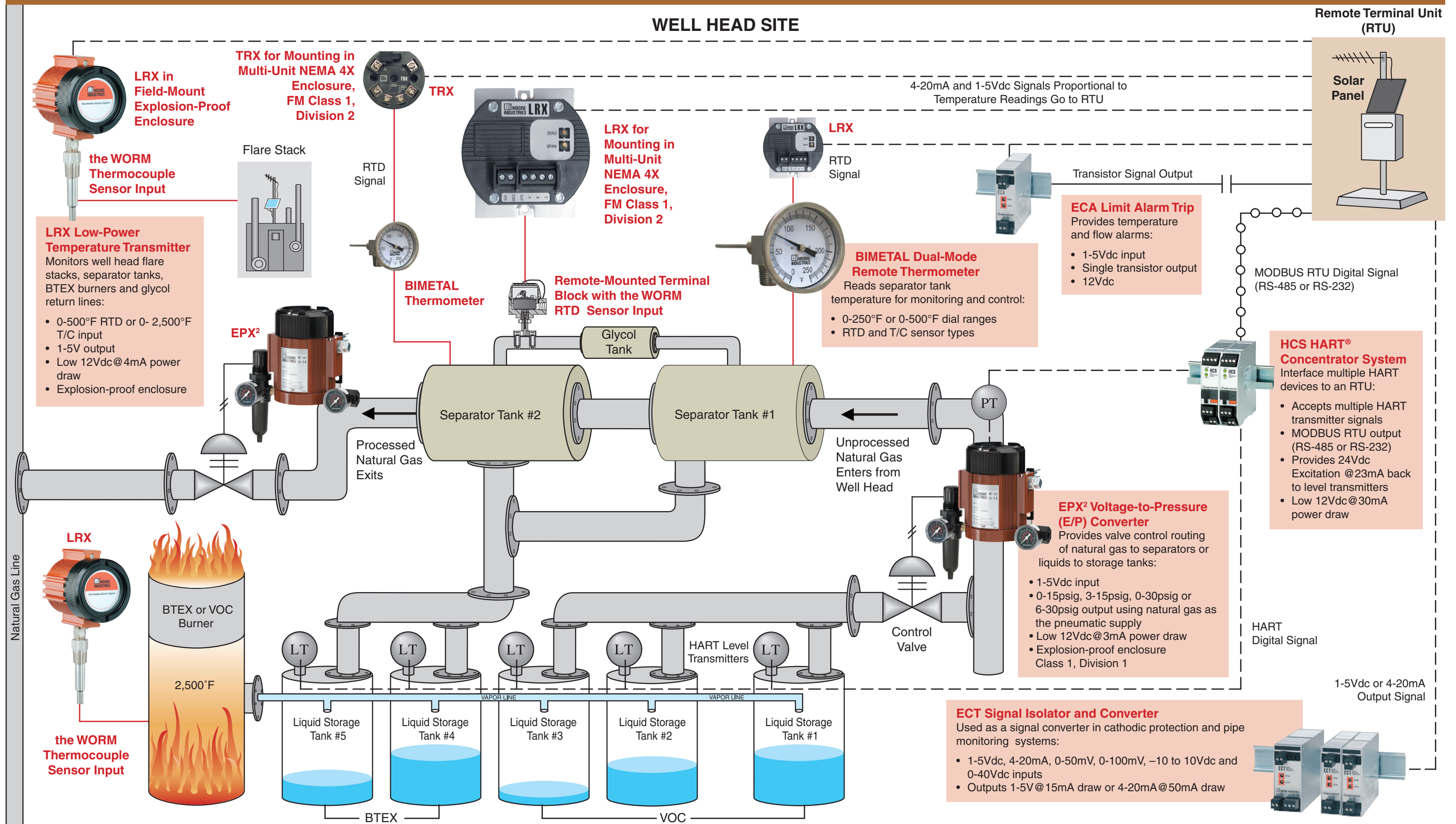
- **Monitoring temperature, pressure and flow conditions at oil and natural gas well sites.**
- **Gas extraction, processing, storage and transport.**
- **Tank and pipeline cathodic protection.**

**Interface Solutions**

**Monitor • Display • Alarm Record • Control**

**Temperature • Level • Flow Pressure • Status**







# Automation and Instrument Solutions for Oil and Natural Gas Well Head Applications

## Complementary Solutions



When large numbers of process signals must be transmitted between the field and control room, our **NCS NET Concentrator System®** Process Control and Distributed I/O is the ideal solution.

The **TRY (isolated) and TRX (non-isolated) PC-Programmable Temperature Transmitters** take a weak, low-level RTD or thermocouple signal and convert it to a high-level analog signal more suitable for long-distance transmission.

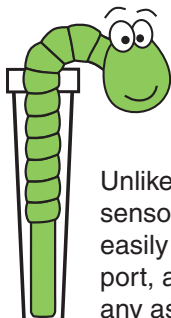


When wires can't be run for practical or economic reasons, the **WLM Wireless Link Module** provides accurate and reliable wireless connectivity between remote field sites.

The **FDY Frequency-to-DC Transmitter** monitors the flow of fluids leaving a remote site, such as a natural gas well site, to verify that a natural gas separation process is working properly.



## "the WORM®" Flexible RTD and Thermocouple Sensors



The standard for our temperature assemblies, this versatile, spring-loaded, flexible sensor trims-to-length, providing quick and easy installation.

Unlike conventional sensors, such as straight sensors, the WORM's flexible design allows it to easily slide right through the connection head port, and into the assembly, without removing any assembly components.

## Ready-to-Install Temperature Assemblies for Surface Measurements

Featuring our innovative WORM Flexible Temperature Sensor, these versatile temperature assemblies mount directly to tanks, pipes, motors, compressors, reactors or anywhere else a skin (surface) temperature measurement is needed.

Precise engineering and solid, sturdy construction allow these assemblies to endure the harshest plant conditions and field environments.



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Australia • [sales@mooreind.com.au](mailto:sales@mooreind.com.au)  
Tel: (02) 8536-7200 • FAX: (02) 9525-7296

Belgium • [info@mooreind.be](mailto:info@mooreind.be)  
Tel: 03/448.10.18 • FAX: 03/440.17.97  
The Netherlands • [sales@mooreind.nl](mailto:sales@mooreind.nl)  
Tel: (0)344-617971 • FAX: (0)344-615920

China • [sales@mooreind.sh.cn](mailto:sales@mooreind.sh.cn)  
Tel: 86-21-62491499 • FAX: 86-21-62490635  
United Kingdom • [sales@mooreind.com](mailto:sales@mooreind.com)  
Tel: 01293 514488 • FAX: 01293 536852