Multi-Chem’s Low Dosage Hydrate Inhibitors (LDHI) effectively control hydrates to maintain well, flowline, and pipeline integrity while lowering total costs in offshore applications. Extensive research, product development, and application experience at Multi-Chem has resulted in LDHI products designed specifically for continuous use hydrate control applications on long, deepwater subsea tiebacks.

Requiring lower dosage rates than traditional methanol or glycol based inhibitors, Multi-Chem’s LDHI offshore solutions prevent hydrate plugs that can create complete blockages, improving health, safety and environmental (HSE) performance by reducing chemical storage and handling hazards associated with thermodynamic inhibitors such as methanol and glycols.

Multi-Chem’s chemical experts perform an extensive system survey to determine which type of inhibitor is best suited for the application, and provides a cost-effective LDHI program to reduce the risks of plugged lines and system failures associated with hydrates. Our advanced technologies allow continuous LDHI treatments while controlling topsides fluid separation and water quality, with special formulations available to eliminate methanol contamination of export crude and associated penalties. In addition, Multi-Chem provides DeepSEAL™ certified products for use in umbilical lines to help ensure stabilized chemical application in deepwater systems.

Offering best-in-class technology, Multi-Chem continues to introduce innovative products and applications for LDHI solutions, including:

- Anti-Agglomerate (AA) inhibitors that prevents hydrates from adhering to each other by keeping hydrate crystals in a slurry that can be flushed out with remaining fluids
- Kinetic Hydrate Inhibitors (KHI) that prevents hydrates from forming for a period of time – or holds them static for a period of time. If the residence time of the fluids in a pipe is shorter than the hold time, no hydrates form
- Hybrid applications that combine use of AA and KHI chemistries in conjunction with thermodynamic inhibitors for application when needed under certain production conditions
For testing and assessing LDHI, Multi-Chem has developed a first-of-its-kind system of highly advanced rocking cells, specially designed to withstand corrosive gases. The system provides an opportunity to better simulate actual flow conditions, reducing risks of plugged lines and system failures during later field application.

**Flow Assurance Engineering Support and Consulting**

Multi-Chem’s team of flow assurance engineering consultants provide modeling work, process and procedure reviews and writing, field design assistance, and general flow assurance consulting. Using state-of-the-art transient and steady-state fluid flow modeling software, Multi-Chem experts monitor and consult on changes to help ensure production at optimal levels. Detailed onsite training is also available from Multi-Chem to inform and educate with regard to safe and effective use of LDHI chemical technologies.

**Features**

- Expert system survey determines the LDHI best suited for the offshore application
- Lower dosage rates are required than traditional methanol or glycol based inhibitors
- Innovative, field-proven solutions like Anti-Agglomerate (AA) and Kinetic Hydrate Inhibitors (KHI)
- First-of-its-kind system of highly advanced rocking cells for testing and assessing LDHI
- Detailed onsite customer training is available

**Benefits**

- Extends well life better than thermodynamic inhibitors in systems with significant produced water
- Advanced technologies allow continuous LDHI treatments while controlling topside fluid separation and water quality
- Lower dosage rates reduce logistics costs like delivery, storage, and pump requirements
- Special formulations eliminate methanol contamination of export crude and associated penalties

**Value Delivered to Our Customers**

- DeepSEAL™ certified products available for use in umbilical lines, helping ensure stabilized chemical application in deepwater systems
- Highly experienced flow assurance engineering and support team provides ongoing support and training

**High Performance Anti-Agglomerate LDHI**

**Prevents Hydrates in Deepwater (2,200 ft. of water)**

**20-mile Natural Gas Subsea Tieback**

Substantially increased the producing life of the field by successfully controlled hydrates under high water cut conditions (60% water cut), treating water production of up to > 1800 bwpd.

**High Performance Anti-Agglomerate LDHI**

**Extends Life of 33-mile Subsea Tieback Well**

(3,300 ft. of water)

Protected flowline from hydrate restrictions and blockages after water breakthrough caused increased water cut and water production, allowing an additional 500,000 bbls of oil to be produced.

For more information, please contact your local sales representative or e-mail multichem@halliburton.com