SkoFlo's Pressure Independent Technology Saves Millions in Annual OPEX

SkoFlo's pressure Independent Chemical Injection Metering Valves (CIMVs) deliver stable, reliable, continuous, and accurate flow of chemicals. This translates to significant savings in annual OPEX, minimizing chemical waste due to overdosing. The table below summarizes estimated chemical injection flow rates from the Mozambique Coral field.

Non-pressure independent CIMV chemical wastage

Qty CIMVs	Chemical	Flow Rate (GPM)	Total Gallons/Year	$/Gallon	Annual Chemical Cost*	5% Over dose	10% Over dose
6	Wax Inhibitor	0.051	161,481	$ 20.00	$ 3,229,624	$ 161,481	$ 322,962
12	Corrosion Inhibitor	0.004	24,521	$ 18.00	$ 441,373	$ 22,069	$ 44,137
12	80 % MEG**	22.015	41,655,902	$ 12.00	$ 499,870,829	$ 24,993,541	$ 49,987,083
3	Methanol	11.0075	17,356,626	$ 1.25	$ 21,695,783	$ 1,084,789	$ 2,169,578
				Totals	**$ 525,237,608**	**$ 26,261,880.39**	**$ 52,523,760.78**
*based on estimated market prices in 2016							
**assume 70% MEG recovery with no cost for refining							

In this example, yearly chemical costs exceed $500 million.

SkoFlo's stable and continuous flow delivery

In a distributed chemical injection system, the following contribute to instability: Multiple lines branching into different wells, changes in well pressure, and supply pressure.

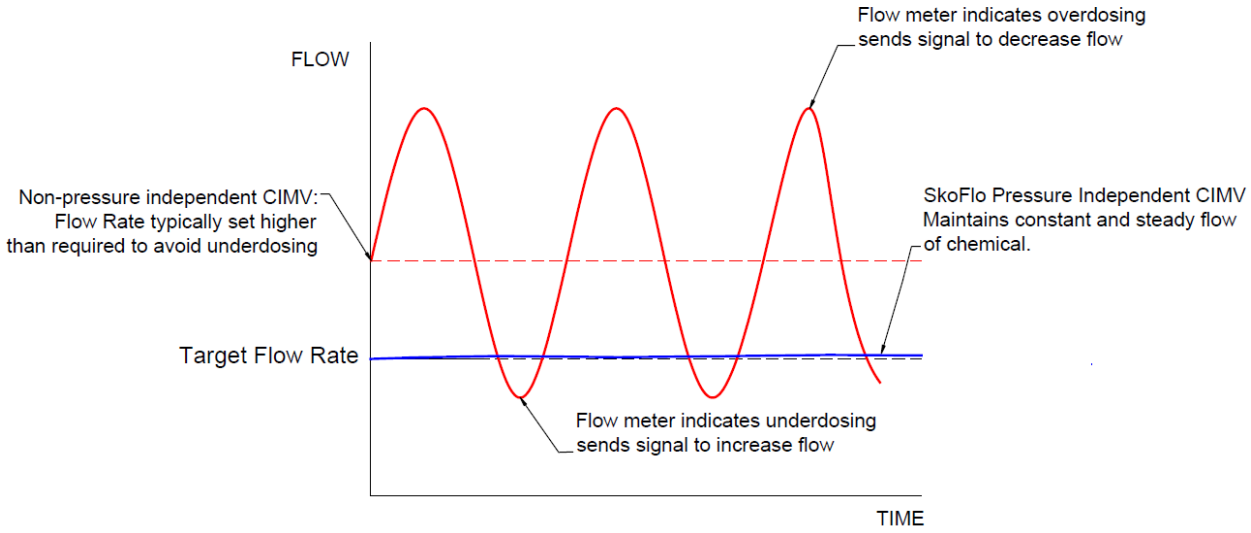
SkoFlo's patented technology has been proven since 1989 and it is the only *true pressure independent CIMV*. The mechanical spring balanced piston responds within milliseconds to maintain system stability and accurate delivery.

Non-pressure independent CIMV

For every pressure imbalance, a *non-pressure independent* CIMV reacts to changes in flow measurement by dithering the stem motor resulting in erratic delivery of chemicals.

This will have a cause and effect relationship with other *non-pressure independent* CIMVs in the branched lines. All the CIMVs on the branch will be hunting for their set flow rate resulting in overdosing and underdosing.

In order to overcome the limitations of non-pressure independent CIMVs, operators typically set target flow rates higher than what is required to eliminate the risk of underdosing. This is illustrated in the graph below.



Summary

A seemingly insignificant percent increase in chemical usage due to overdosing results in much larger operational cost that far outweigh product price differences. In today's environment where cost savings are of paramount importance, it is critical to evaluate operational costs when making capex decisions. For the Mozambique Coral field, there is a ***$1 million per week cost savings*** as a result of selecting a SkoFlo Pressure Independent CIMV.