

Process Tower Liquid Carry-Over

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THE PROBLEM

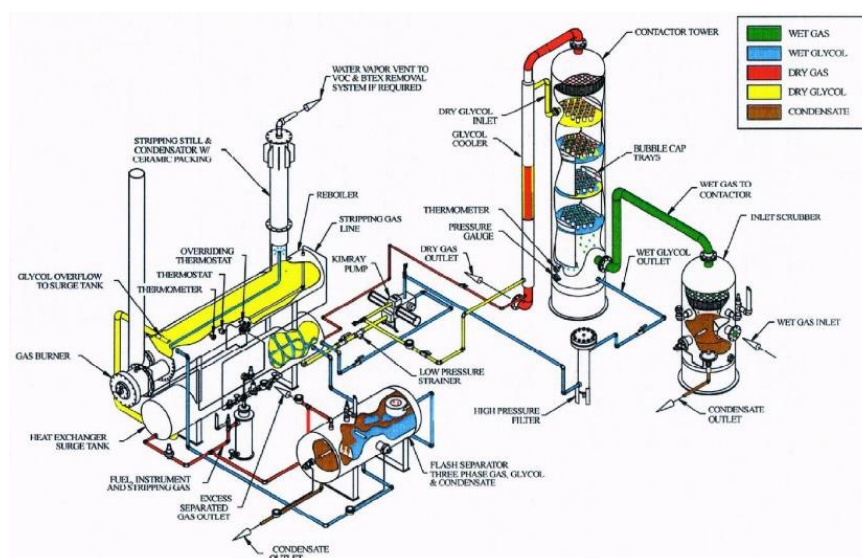
Canada's largest gas production company had amine and glycol carry-overs liquids from their process towers. Industry practice accepts a loss of ~3 lb /MMSCF (2×10^{-4} kg/Nm³), but greater losses became a significant cost burden. Conventional treated gas after-scrubbers are recommended, but often not installed, or don't function well, and cause a pressure drop.

BACKGROUND

Amine and glycol process towers are widely used for sweetening and dehydration of natural gas. The towers operate at 800 to 1,000 psig with a gas flow between 37 to 70 MMSCF/d. Liquid carryover is a common occurrence and creates operational challenges.

IDENTIFIED ISSUES

- Downstream equipment repair costs and downtime were unacceptable
- Chemical losses were unacceptably high
- Disposal costs of produced fluids contaminated with chemicals added more cost
- Off-specification gas caused complaints from downstream customers



THE INNOPIPE SOLUTION



LOW COST IN-LINE SEPARATOR

Small footprint 6" & 8" ID, non-piggable versions of InnoPIPE were flanged in downstream of the towers and achieved carried-over chemical recovery of 99%.

The chemical was circulated back to the reboiler.

Capturing the same volumes using conventional separators would have required vessels in size ranges from 54" dia. to 60" dia. with special internals such as coalescing elements.

TIME & MONEY

The producer was able to save 60% of budgeted vessel costs versus conventional vessels, and was able to install during a scheduled plant turnaround due to our quick delivery capability. Vessels were delivered within 8 weeks after drawing approval. The producer resumed high volume production. Pressure loss across the InnoPIPE units was minimal with no additional boost required.



INNOPIPE SIZE	GAS CAPACITY MMSCF/D @ 100/ 500/ 1000 PSIG	LIQUID CAP./D BBL/ LITERS
6" x 10"	5.2/ 23/ 48	300 Bbl/ ~47,969 l
8" x 12 "	9.5/ 43/ 87	500 Bbl/ 79,494 l

OTHER LIQUID RECOVERY APPLICATIONS

REFINERIES

Refineries see gas compositions with a lot of contaminants which require costly additives to process. Recovery of otherwise lost specialty chemicals has an immediate impact on the bottom line.

Protect screw, vane, and other compressors from liquid carryover and/or remove lube oil lost downstream

InnoPIPE recovers liquids downstream of any high gas flow/ low liquid process with minimal pressure loss.

CURIOUS IF INNOPIPE CAN RECOVER LOST LIQUIDS FROM YOUR GAS PROCESS STREAMS?

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