

Customer Case Study

LoCI Controls' real-time data and control system maximizes revenue while controlling nitrogen in the gas collection system at a mid-continent LFG to high BTU project

Customer Problem

During rapidly changing weather, the Hamm Landfill in Lawrence, KS would routinely experience significant changes in gas quality that were difficult to control with manual collection well tuning. During periods of rapidly rising barometric pressure — often experienced during cold fronts in the winter months — the landfill would see a significant increase in nitrogen and oxygen concentrations in the landfill gas. The increased concentrations frequently resulted in gas composition that did not meet pipeline specifications. While gas quality would improve during periods of rapidly falling pressure, the operator was unable to increase LFG collection to capitalize on the improved quality.

LoCI Solution

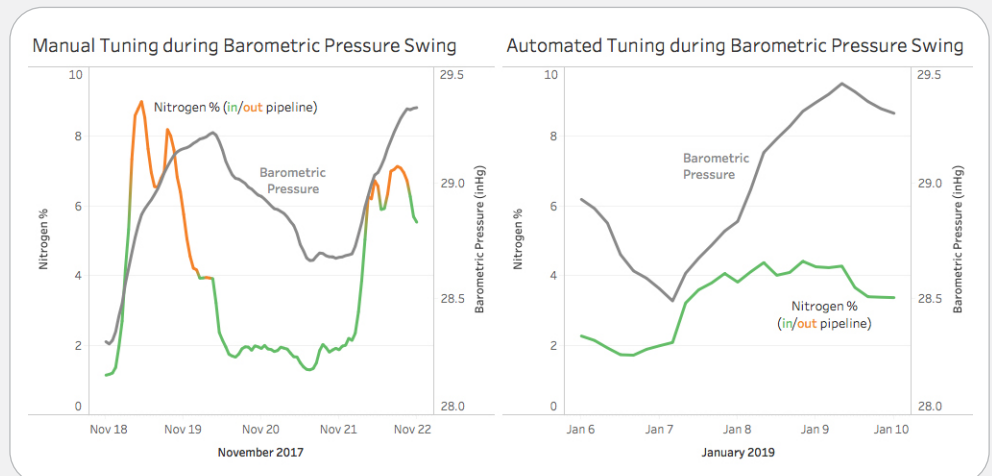
LoCI's real-time data and control system was installed on 100% of the collection wells, with a combination of Controllers and Sentries used. The WellWatcher® platform's analytics and control algorithms automatically tuned the collection system 24/7/365. By deploying LoCI's system, the landfill was able to capitalize on periods of declining barometric pressure by increasing flow through incremental valve adjustments. In addition, LoCI's technology maintained gas quality during periods of rising barometric pressure.

All LoCI landfill gas collection operations were supported by both LoCI analysts, who remotely reviewed data and alerts, as well as LoCI's on-site field service representatives, who performed routine maintenance and provided customer support.



Results

Automated landfill gas collection reduced downtime at the plant from gas composition not meeting pipeline requirements vs. manual tuning during the same six month period in the year prior (October 2018 – March 2019) by 95%, from an average 73 hours per month to less than six hours per month. In addition, gas delivered to the plant that met requirements increased by 15–20%, resulting in ROI for the project operator of over 2–3x monthly.



The graph above shows a representative cold front passing over Lawrence, KS in the winter months, comparing nitrogen concentration in the landfill gas collected before and after leveraging the LoCI system.