



INTRODUCTION

Faced with increasing pressure from investors and pending regulations in New Mexico, a large producer set out to significantly lower the natural gas emissions at their upstream production facilities in the Delaware Basin.

PROBLEM

Pneumatic gas-operated pressure regulators were identified as a source of emissions. While they did not bleed continuously, emissions were released when the regulators actuated.

The producer had been using these standard regulators at their facilities for some time. They were very effective at maintaining their set points and controlling production.

In addition, the company's field operators were very familiar with these regulators and were comfortable operating, troubleshooting, and performing routine maintenance on them.

A change would be unwelcome and could cause unwanted disruption to production if they transitioned to radically different controllers.

PRODUCTION DETAILS

- Artificial Lift: gas, plunger, ESP and rod lift
- Oil Production: 200 bbl facility
- 8 Pressure Regulators

SOLUTION

After consulting with Kimray product experts, they discovered an option that made sense: Pressure Regulators with Outside Supply.

These were very similar to their existing regulators, but they could use an outside pneumatic supply from air compressors to operate—thus eliminating natural gas emissions.

The producer made an investment in air compressors and worked with Kimray to begin converting and installing Pressure Regulators with Outside Supply to take advantage of this change.

Date of installations: February 2022

Summary of Installations:

Entire Facility – 8 Regulators

- 2-phase Separator—2 Back Pressure with Outside Supply Regulators (BPOS)
- 3-phase Separator —2 BPOS
- Heater Treater — 1 BPOS
- Buy-back meter — 1 Pressure Reducing with Outside Supply Regulator (PROS)
- Sales meter — 1 BPOS
- Flare Meter — 1 BPOS

RESULTS

After 2 months of operation, the producer reported the following results:

100% Decrease in Emissions Released

Whereas the producer had been venting gas in these applications when the previous regulators actuated, the BPOS and PROS provided a 100% reduction in emissions due to the use of compressed air for actuation.

Increased Regulator Life

This solution also lengthened the life of the regulators before maintenance was needed because the compressed air was cleaner and drier than process gas used with the previous regulators.

The BPOS and PROS were still in good working order and had required zero maintenance.