

# Inspect and Repair Compressor Station Blowdown Valves



Partner Reported Opportunities (PROs)  
for Reducing Methane Emissions

## PRO Fact Sheet No. 601

### Applicable sector(s):

Production     Processing     Transmission and Distribution

**Partners reporting this PRO:** KM Interstate Gas Transmission (now Kinder Morgan Inc.)

**Other related PROs:** Test and Repair Pressure Safety Valves, Conduct DI&M at Remote Facilities

Compressors/Engines   
Dehydrators   
Pipelines   
Pneumatics/Controls   
Tanks   
Valves   
Wells   
Other

### Technology/Practice Overview

#### Description

Compressor station operations place significant pressure, thermal, and mechanical stresses on blowdown valves. These stresses wear down valve components (e.g., plugs, seals, seats) making them significant methane emissions sources.

Blowdown vent stacks are normally elevated and inconvenient to access. As a result, it is difficult to test frequently for gas leakage through the blowdown valves. One partner, however, initiated a practice to annually inspect and repair leaking blowdown valves at compressor stations.

#### Operating Requirements

Ladders or a bucket-truck may be required to access blowdown vent stacks.

#### Applicability

This practice is applicable to all sites.

### Methane Savings: 2,000 Mcf per year

#### Costs

Capital Costs (including installation)

<\$1,000     \$1,000 – \$10,000     >\$10,000

Operating and Maintenance Costs (annual)

<\$100     \$100-\$1,000     >\$1,000

#### Payback (Years)

0-1     1-3     3-10     >10

#### Benefits

Reducing methane emissions was a primary justification for the project.

### Methane Emissions Reductions

The amount of avoided methane emissions is based on EPA's emissions factor for transmission compressor station blowdown valves as reported in "Preliminary Review of Natural Gas Star Best Management Practices-Emissions Reduction Default Values" (pg. 19). One partner reported saving 3,907 Mcf by repairing seven valves.

---

## **Economic Analysis**

### **Basis for Costs and Savings**

Methane savings of 2,000 Mcf per year were associated with repairing ten station blowdown valves per year at one compressor station.

### **Discussion**

This practice can pay back quickly. The primary consideration for repairing station blowdown valves is to save natural gas. Costs include the labor for two operators to test and change a leaking blowdown valve (one hour per station at \$25 per hour) and labor and parts for one technician to recondition a defective valve (assume one hour at \$25 per hour). Travel time to the station is excluded because work will be performed as part of an ongoing inspection and maintenance program. Labor costs are paid out by gas savings and there are no capital equipment costs.