



## Natural Gas STAR Program 2003



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## Overview

- WGR's Program Overview
- 2002 Report Summary
  - Historical Survey
  - 2002 Methane Emission Reductions
- Methane Emission Reduction Activities



# WGR's Gas STAR Program Overview



- WGR Submitted first annual report April 2003
- Included an historical review of reductions back to 1990
- Semi-Annual Update for Field Managers

# 2002 Report Summary



## 2002 Reductions

132,922 MCF/year

Estimated Value (@\$4/MCF): \$ 539,688 per year

## Historical Review back to 1990

### One Time Reductions (Hot Taps)

46,373 MCF

Estimated Value (@\$4/MCF): \$ 185,492

### Annual Reduction

446,361 MCF/year

Estimated Value (@\$4/MCF): \$ 1,785,444 per year

# Methane Emission Reduction Activities



## Compression Consolidation and Optimization

Removal of net compressors

Based on 2002 Report by Clearstone Engineering

3,242 MCF/year reduction for each unit removed

Oklahoma Area (1995-2002)

Net 68 Units Removed ~ 220,456 MCF/year

West Texas Area (2002)

Net 32 Units Removed ~ 103,744 MCF/year

Total: 324,200 MCF/year

Estimated Value (@\$4/MCF): **\$ 1,296,800 per year**

# Compression Consolidation and Optimization



**Skid Mounted Compressors**



## Hot Taps/Clamp and Fuse

2002: 190 procedures ~ 3,910 MCF

1990-2001: 2304 procedures ~ 46,373 MCF

Total: 50,282 MCF

Estimated Value (@\$4/MCF): **\$ 201,128**



## Convert Gas to Pneumatic Controls

1994 Fontenelle Station

164 Control Loops

Reduction of 86,198 MCF/year

Estimated Value (@\$4/MCF): **\$ 344,792 per year**





### Installation of Liquid Stabilizer Skid at San Juan Plant

Eliminated venting of pigging liquids and vapors (2002)

Estimated Methane Emission Reduction: 1,332 MCF/year

Estimated Value (@\$4/MCF): **\$ 5,328 per year**



### Replace Dehy with Methanol Injection

Four Corners Station 2001

Eliminate gas pump and overheads

Estimated Methane Emission Reduction: 3,050 MCF/year

Estimated Value (@\$4/MCF): **\$ 12,200 per year**



### Change Gas to Electric Chemical Pump

Red Mesa (San Juan Area) 2001

Estimated Methane Emission Reduction: 1,324 MCF/year

Estimated Value (@\$4/MCF): **\$ 5,296 per year**



### Install Flare to Prevent Pipeline Maintenance Venting

Valve Station #1 (San Juan Area) 2001

Estimated Methane Emission Reduction: 23,137 MCF/year

Estimated Value (@\$4/MCF): **N/A**



## Route Dehy Overhead Emissions to Flare

San Juan Plant 1999

Estimated Methane Emission Reduction: 7,120 MCF/year

Estimated Value (@\$4/MCF): **\$ 28,480 per year**

## Conclusions



- WGR's Gas STAR Programs continues to grow as it is kept before our field managers
- Values of gas saved can be used to enhance the economics of capital projects
- Gas STAR enhances environmental awareness

