

# Annual Report 2003



## Transmission and Distribution Sectors

### Company Information

Company Name: \_\_\_\_\_

Gas STAR Contact: \_\_\_\_\_

Title: \_\_\_\_\_

Address: \_\_\_\_\_

City, State, Zip Code: \_\_\_\_\_

Telephone: \_\_\_\_\_

Fax: \_\_\_\_\_

E-mail: \_\_\_\_\_

- BMP 1: Directed inspection and maintenance at gate stations and surface facilities
- BMP 2: Identify and rehabilitate leaky distribution pipe
- BMP 3: Directed inspection and maintenance at compressor stations
- BMP 4: Use of turbines at compressor stations
- BMP 5: Identify and replace high-bleed pneumatic devices
- BMP 6: Partner Reported Opportunities (*Please specify*)

\_\_\_\_\_  
\_\_\_\_\_

Period covered by report: From: \_\_\_\_\_ To: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

\* In addition to reporting methane emissions reductions, you are welcome to include other information about your company's participation in Natural Gas STAR in the "Additional Program Accomplishments" section of this form. The Natural Gas STAR Program will use any information entered in this section to recognize the efforts and accomplishments of outstanding partners.



## Transmission and Distribution Sector Annual Report

### BMP 1: Directed Inspection and Maintenance at Gate Stations and Surface Facilities

#### Current Year Activities

**A. Facility summary:**

Number facilities surveyed: \_\_\_\_\_ facilities  
 Number of facilities with leaks found: \_\_\_\_\_ facilities

**B. Leak summary:**

Total number of leaks found: \_\_\_\_\_ leaks found  
 Total number of leaks repaired: \_\_\_\_\_ leaks repaired

**C. Cost summary:**

Total cost of surveys conducted: \$ \_\_\_\_\_ Total cost of leak repairs: \$ \_\_\_\_\_

**D. Methane emissions reduction:** \_\_\_\_\_ Mcf

*Please identify the basis for the emissions reduction estimate, using the space provided to show any calculations*

Actual field measurement  Other (Please specify)

Calculation using default\*

*Methane emissions reduction  
 = Average annual leak rate per facility (1,700 Mcf)  
 ^ Reduction efficiency (70%)  
 ^ Number of facilities at which leaking components were repaired*

\* Important note: The default value is to be used only for aboveground, high-pressure (>300 psig) inlet facilities at which the guidelines outlined in EPA's Lessons Learned: Directed Inspection and Maintenance at Gate Stations and Surface Facilities have been applied. In addition, partners should only report reductions once per year per facility **and** should verify that the default value is used only at facilities where leak repairs were performed.

**E. Total value of gas saved:** \$ \_\_\_\_\_

*Total value of gas saved  
 = Methane emissions reduction (in Mcf)  
 x Gas value (in \$/Mcf) [If not known, use default of \$3.00/Mcf]*

**F. How many facilities do you plan to survey next year?** \_\_\_\_\_ facilities

#### Previous Years' Activities

*Use the table below to report any past activities implemented, but not previously reported to the Natural Gas STAR Program*

Year	# Facilities Surveyed	Total Cost of Surveys (\$)	Total Cost of Repairs (\$)	Estimated Reductions (Mcf/yr)	Value of Gas Saved (\$)

**BMP 1 Comments:** *Please use the back of the page for additional space if needed.*



# Transmission and Distribution Sector Annual Report

## BMP 2: Identify and Rehabilitate Leaky Distribution Pipe

### Current Year Activities

**A. Replacement summary:**

Miles of distribution pipe replaced: \_\_\_\_\_ miles  
 Total cost of pipe replacement: \$ \_\_\_\_\_

**B. Leak summary:**

Total number of leaks repaired (excluding pipe replacement): \_\_\_\_\_ leaks repaired  
 Total cost of leak repairs: \$ \_\_\_\_\_

**C. Methane emissions reduction:** \_\_\_\_\_ Mcf

*Please identify the basis for the emissions reduction estimate provided, using the space provided to show any calculations*

- Actual field measurement
- Calculation using default (*Miles replaced x Leak rate conversion factor (Mcf/mi) = Methane emissions reduction*)

Type of Pipe Replaced	Main Replacement			Services Replacement		
	Miles Replaced	Leak Rate Conversion (Mcf/mi)	Emissions Reduction	Miles Replaced	Leak Rate Conversion (Mcf/mi)	Emissions Reduction
Cast Iron	_____ miles	239	_____ Mcf	_____ miles	0.2	_____ Mcf
Protected Steel	_____ miles	3	_____ Mcf	_____ miles	1.7	_____ Mcf
Unprotected Steel	_____ miles	110	_____ Mcf	_____ miles	0.1	_____ Mcf
Plastic	_____ miles	12	_____ Mcf	_____ miles	0.3	_____ Mcf
Copper	_____ miles	29	_____ Mcf	_____ miles	0.3	_____ Mcf
Not Available (Average)	_____ miles	29	_____ Mcf	_____ miles	0.3	_____ Mcf
<b>Totals:</b>	<b>_____ miles</b>		<b>_____ Mcf</b>	<b>_____ miles</b>		<b>_____ Mcf</b>

Other (*Please specify*)

**D. Total value of gas saved:** \$ \_\_\_\_\_

*Total value of gas saved = Methane emissions reduction (in Mcf) x Gas value (in \$/Mcf) [If not known, use default of \$3.00/Mcf]*

**E. How many miles of pipe do you plan to replace next year?**

\_\_\_\_\_ miles

### Previous Years' Activities

*Use the table below to report any past activities implemented, but not previously reported to the Natural Gas STAR Program*

Year	# Miles of Pipe Replaced	Total Cost of Replacements (\$)	# of Leaks Repaired	Total Cost of Repairs (\$)	Estimated Reductions (Mcf/yr)	Value of Gas Saved (\$)

**BMP 2 Comments:** *Please use the back of the page for additional space if needed.*



## Transmission and Distribution Sector Annual Report

### BMP 3: Directed Inspection and Maintenance at Compressor Stations

#### Current Year Activities

<b>A. Facility summary:</b> Number facilities surveyed: _____ facilities Number of facilities with leaks found: _____ facilities		<b>B. Leak summary:</b> Total number of leaks found: _____ leaks found Total number of leaks repaired: _____ leaks repaired	
<b>C. Cost summary:</b> Total cost of surveys conducted: \$ _____		Total cost of leak repairs: \$ _____	
<b>D. Methane emissions reduction:</b> _____ Mcf			

*Please identify the basis for the emissions reduction estimate provided, using the space provided to show any calculations*

- Actual field measurement
- Calculation using default

*Methane emissions reduction  
 = Average annual leak rate per facility (12,200 Mcf)  
 × Reduction efficiency (70%)  
 × Number of facilities at which leaking components were repaired*

- Other (Please specify)

<b>E. Total value of gas saved:</b> \$ _____  <i>Total value of gas saved        = Methane emissions reduction (in Mcf)        × Gas value (in \$/Mcf) [If not known, use default of \$3.00/Mcf]</i>	<b>F. How many facilities do you plan to survey next year?</b> _____ facilities
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#### Previous Years' Activities

*Use the table below to report any past activities implemented, but not previously reported to the Natural Gas STAR Program*

Year	# Facilities Surveyed	Total Cost of Surveys (\$)	Total Cost of Repairs (\$)	Estimated Reductions (Mcf/yr)	Value of Gas Saved (\$)

**BMP 3 Comments:** *Please use the back of the page for additional space if needed.*



## Transmission and Distribution Sector Annual Report

### BMP 4: Use of Turbines at Compressor Stations (New Installations or Retiring Reciprocating Engines)

#### Current Year Activities

**A. Turbine summary:**

Number of turbines installed: \_\_\_\_\_ turbines

Total cost of turbine installations  
(equipment and labor): \$ \_\_\_\_\_

**B. Reciprocating summary:**

Number of reciprocating engines retired: \_\_\_\_\_ engines

**C. Equipment description: Please provide specifications for turbines installed and/or reciprocating engines retired**

	Turbines	Reciprocating Engines
Model:		
Horsepower:		
Fuel Consumption:		

**D. Methane emissions reduction: \_\_\_\_\_ Mcf**

*Please identify the basis for the emissions reduction estimate provided, using the space provided to show any calculations*

- Standard Calculation  Other (Please specify)

*Methane emissions reduction per turbine installation*  
 = [Emissions rate from reciprocating engine per MMcf of fuel used  
 ^ Fuel consumption for reciprocating engine (in MMcf/hr)]  
 - [Emissions rate from turbine per MMcf of fuel used  
 ^ Fuel consumption for turbine (in MMcf/hr)]

*Please specify your data source:*

- Field measurement  
 Manufacturer specifications

- Calculation using default

*Methane emissions reduction*  
 = [0.234 scf/hp/hr  
 ^ Horsepower of turbine engines installed  
 ^ Hours turbine engines were used] / 1000

**E. Total value of gas saved: \$ \_\_\_\_\_**

*Total value of gas saved*  
 = Methane emissions reduction (in Mcf)  
 ^ Gas value (in \$/Mcf) [If not known, use default of \$3.00/Mcf]

**F. Future activity summary:**

How many turbines do you plan to install next year? \_\_\_\_\_ turbines

How many reciprocating engines do you plan to retire next year? \_\_\_\_\_ engines

#### Previous Years' Activities

*Use the table below to report any past activities implemented, but not previously reported to the Natural Gas STAR Program*

Year	# Turbines Installed	Total Cost of Installation (\$) (incl. equipment and labor)	# Reciprocating Engines Retired	Estimated Reductions (Mcf/yr)	Value of Gas Saved (\$)

**BMP 4 Comments:** *Please use the back of the page for additional space if needed.*



# Transmission and Distribution Sector Annual Report

## BMP 5: Identify and Replace High-Bleed Pneumatic Devices

### Current Year Activities

**A. Facility summary:**

Number of devices replaced: \_\_\_\_\_ devices

Percent of system now equipped with low/no-bleed units: \_\_\_\_\_ %

**B. Cost summary:**

Estimated cost per replacement (including equipment and labor): \$ \_\_\_\_\_ /replacement

**C. Methane emissions reduction:** \_\_\_\_\_ Mcf

*Please identify the basis for the emissions reduction estimate provided, using the space provided to show any calculations*

Standard calculation

*Methane emissions reduction*  
 = [Annual emissions from high-bleed devices replaced (in Mcf/yr)  
 - Annual emissions for the replacement devices (in Mcf/yr)]  
 x Number of devices replaced

*Please specify your data source:*

- Field measurement
- Manufacturer specifications

Calculation using default

*Methane emissions reduction*  
 = 124 Mcf/yr x Number of devices replaced

Other (Please specify)

**D. Total value of gas saved:** \$ \_\_\_\_\_

*Total value of gas saved*  
 = Methane emissions reduction (in Mcf)  
 x Gas value (in \$/Mcf) [If not known, use default of \$3.00/Mcf]

**E. How many high-bleed devices do you plan to replace next year?** \_\_\_\_\_ devices

### Previous Years' Activities

*Use the table below to report any past activities implemented, but not previously reported to the Natural Gas STAR Program*

Year	# Devices Replaced	Total Cost of Replacements (incl. equipment and labor) (\$)	Estimated Reductions (Mcf/yr)	Value of Gas Saved (\$)

**BMP 5 Comments:** *Please use the back of the page for additional space if needed.*



# Transmission and Distribution Sector Annual Report

## BMP 6: Partner Reported Opportunities (PROs)

(For more details on PROs, visit [www.epa.gov/gasstar/pro/index.htm](http://www.epa.gov/gasstar/pro/index.htm))

### Current Year Activities

**A. Activity description: Please provide a separate PRO reporting form for each activity reported**

Check one of the following:

Transmission

- Use fixed/portable compressors for pipeline pumpdown
- Install vapor/fuel recovery systems
- Monitor/replace compressor rod packing systems
- Install electric starters on compressors
- Replace wet compressor seals with dry seals
- Other (Please specify): \_\_\_\_\_

Distribution

- Reduce/downgrade system pressure
- Use smart regulators/clocking solenoids
- Re-inject blowdown gas
- Purge/retire low pressure gas holders
- Other (Please specify): \_\_\_\_\_

Please describe how your company implemented this practice/activity:

**B. Level of Implementation (check one):**

- Number of units installed: \_\_\_\_\_ units
- Frequency of practice: \_\_\_\_\_ times/year

**C. Are these emissions reductions (check one):**

- Continuing/ongoing
- One-time

**D. Methane emissions reduction:** \_\_\_\_\_ Mcf

**E. Cost summary:** Estimated cost of implementing this practice/activity (including equipment and labor): \$ \_\_\_\_\_

Please identify the basis for the emissions reduction estimate provided, using the space provided to show any calculations

- Actual field measurement
- Calculation using manufacturer specifications/other source
- Other (Please specify)

**F. Total value of gas saved:** \$ \_\_\_\_\_

Total value of gas saved  
= Methane emissions reduction (in Mcf)  
x Gas value (in \$/Mcf) [If not known, use default of \$3.00/Mcf]

**G. To what extent do you expect to implement this practice next year?**

### Previous Years' Activities

Use the table below to report any past implementation of this PRO, but not previously reported to Natural Gas STAR

Year	Frequency of Practice/Activity or # of Installations	Total Cost of Practice/Activity (incl. equipment and labor) (\$)	Estimated Reductions (Mcf/yr)	Value of Gas Saved (\$)

**BMP 6 Comments/Additional Benefits:** Please describe any additional economic, operational, environmental, or safety benefits achieved by implementing this practice/activity. Use the back of the page for additional space if needed.



## Transmission and Distribution Sector Annual Report

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- Purge/retire low pressure gas holders
- Other (Please specify): \_\_\_\_\_

Please describe how your company implemented this practice/activity:

**B. Level of Implementation (check one):**

- Number of units installed: \_\_\_\_\_ units
- Frequency of practice: \_\_\_\_\_ times/year

**C. Are these emissions reductions (check one):**

- Continuing/ongoing
- One-time

**D. Methane emissions reduction:** \_\_\_\_\_ Mcf

**E. Cost summary:** Estimated cost of implementing this practice/activity (including equipment and labor): \$ \_\_\_\_\_

Please identify the basis for the emissions reduction estimate provided, using the space provided to show any calculations

- Actual field measurement
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**F. Total value of gas saved:** \$ \_\_\_\_\_

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**D. Methane emissions reduction:** \_\_\_\_\_ Mcf

**E. Cost summary:** Estimated cost of implementing this practice/activity (including equipment and labor): \$ \_\_\_\_\_

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- Actual field measurement
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**F. Total value of gas saved:** \$ \_\_\_\_\_

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= Methane emissions reduction (in Mcf)  
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## Transmission and Distribution Sector Annual Report

### Additional Program Accomplishments

The Natural Gas STAR Program will use any information entered here to recognize the efforts and achievements of outstanding partners.

Please include any additional information you would like to share about your company's participation in Natural Gas STAR. Examples may include:

- Activities to strengthen your program (e.g., training/education, innovative technologies or activities, pilot projects, employee incentive programs).
- Efforts to communicate your participation and successes (e.g., internal newsletters, press releases, company Web site).
- Participation in Natural Gas STAR program activities (e.g., contributions to case studies, presentation at annual workshop).

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**Additional Accomplishments:**

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**Additional Accomplishments:** *Please use the back of the page for additional space if needed.*