


<h1>Implementation Plan</h1>  <h1>Transmission Sector</h1>	<h3>Company Information</h3> <p>Company Name: _____</p> <p>Gas Star Contact: _____</p> <p>Position: _____</p> <p>Address: _____</p> <p>City, State, Zip Code: _____</p> <p>Telephone: _____</p> <p>Fax: _____</p> <p>Email: _____</p>
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Implementation Plan Elements

ELEMENT 1 Best Management Practices (BMPs)

The following BMPs have been identified as significant opportunities to cost effectively reduce methane emissions from the transmission sector. They were selected based on their applicability to the industry, economic feasibility, and cost-effectiveness. There are three core BMPs for the transmission sector:

- BMP 1** Directed inspection and maintenance at compressor stations
- BMP 2** Use of turbines at compressor stations
- BMP 3** Identify and replace high-bleed pneumatic devices

For detailed information on these BMPs, please refer to the Lessons Learned publications on the Natural Gas STAR website: <https://www.epa.gov/natural-gas-star-program/recommended-technologies-reduce-methane-emissions>.

ELEMENT 2 Additional Activities

Current partners have reported many processes and technologies that are considered additional Best Management Practices by the program. New partners are encouraged to evaluate and report current and new practices or technologies that cost effectively reduce methane emissions.

ELEMENT 3 Inventory Past Reductions

Partners are encouraged to report past methane emission reductions back to 1990. Accounting for these historical reductions will create a permanent record of your company's methane emission reduction efforts. In addition, reviewing past activities will help guide companies' participation in Natural Gas STAR by creating a base of understanding of current activities to facilitate planning of future activities.

The Implementation Plan is designed to be a dynamic tool for Natural Gas STAR Partners to plan their program activities. As company priorities and plans shift over time, the Implementation Plan may be revised or updated by submitting a new form to the program. The Partner should only share non-Confidential Business Information (CBI) to fulfill Gas STAR Program requirements.

ELEMENT 1 Best Management Practices

BMP 1 Implement Directed Inspection and Maintenance at Compressor Stations	
A DI&M program is a system for performing routine leak detection and repair where leak measurement data from previous inspections are used to guide subsequent inspections and direct maintenance to those leaks that are cost effective to repair.	Estimated Reduction Potential 8,540 Mcf per station
Will you be implementing this BMP? <input type="checkbox"/> Yes <input type="checkbox"/> No If no, why? <input type="checkbox"/> Not cost effective <input type="checkbox"/> May consider at a later date <input type="checkbox"/> Other _____ please describe:	
If yes, at what scale will you be implementing this BMP? <input type="checkbox"/> Company Wide <input type="checkbox"/> Pilot Project <input type="checkbox"/> Other _____	
Please describe:	
Activity Summary	
Total number of compressor stations? _____	
Total number of compressor stations at which DI&M will take place? _____	
Inspection Schedule	
Stations will be inspected: <input type="checkbox"/> quarterly <input type="checkbox"/> annually <input type="checkbox"/> biannually <input type="checkbox"/> other _____	
Please list in detail the number of compressor stations that will implement BMP 1 in upcoming years.	
Year _____	Number of compressor stations _____
Year _____	Number of compressor stations _____
Year _____	Number of compressor stations _____
Year _____	Number of compressor stations _____
Additional Information on Anticipated Plans and Projects	

If additional space is needed, please continue on the back.

BMP 2 Use of Turbines at Compressor Stations

Reciprocating engines used to drive compressors throughout transmission systems release significant amounts of methane in their exhaust. Replacing these engines with turbines can reduce a large portion of these methane emissions.

Estimated Reduction Potential
0.234 Mcf/hp/hr per replacement

Will you be implementing this BMP? Yes No

If no, why?

- Not cost effective
- May consider at a later date
- Have already implemented
- Other _____ please describe:

If yes, at what scale will you be implementing this BMP?

- Company Wide
- Pilot Project
- Other _____

Please describe:

Activity Summary

Please fill out the table below to show the total number of engines selected for BMP 2.

	Reciprocating Engines in Operation	Reciprocating Engines to be Retired	Turbines to Replace Retired Reciprocating Engines	New Turbine Installations (i.e., not Replacing Retired Engines)
Number				
Horsepower				
Fuel use (e.g., MMcf/year)				

Installation Schedule

Total number of turbines installed by the end of:

Year 1: _____ Year 2: _____ Year 3: _____ Year 4: _____

Total number of reciprocating engines retired by the end of:

Year 1: _____ Year 2: _____ Year 3: _____ Year 4: _____

Additional Information on Anticipated Plans and Projects

If additional space is needed, please continue on the back.

BMP 3
Identify and Replace High-Bleed Pneumatic Devices

<p>Pneumatic devices used in the transmission sector actuate isolation valves and regulate gas flow and pressure at compressor stations, pipelines, and storage facilities. In the distribution sector they are used on meter runs at gate stations for regulating flow and pressure. Replacing high-bleed pneumatic devices with low- or no-bleed devices reduces or eliminates emissions and improves safety.</p>	<p align="center">Estimated Reduction Potential</p> <p align="center">124 Mcf/yr/device</p>
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Will you be implementing this BMP? Yes No

If no, why?

Not cost effective

May consider at a later date

Have already implemented

Other _____ please describe:

If yes, at what scale will you be implementing this BMP?

Company Wide

Pilot Project

Other _____

Please describe:

Activity Summary

Number of high-bleed pneumatic devices in system? _____

Number of high-bleed pneumatic devices to be replaced? _____

Replacement Schedule

Number of high-bleed pneumatic devices to be replaced by the end of:

Year 1: _____ Year 2: _____ Year 3: _____ Year 4: _____

Additional Information on Anticipated Plans and Projects

If additional space is needed, please continue on the back.

ELEMENT 2 Additional Activities

Additional Activities

Your company may take advantage of additional technologies or practices to reduce methane emissions. The following is a list of some of the additional activities that have been reported by other Natural Gas STAR partners, which may be applicable to your operations (for more information on these activities, please view: <https://www.epa.gov/natural-gas-star-program/recommended-technologies-reduce-methane-emissions>):

- Use pipeline pump-down techniques to lower gas line pressure before maintenance
- Use composite wrap repair
- Install electric compressors
- Use hot taps for in-service pipeline connections
- Replace wet compressor seals with dry seals

Additional activities you will be implementing	Please describe
Activity _____ At what scale will this activity be implemented? <input type="checkbox"/> Company Wide <input type="checkbox"/> Pilot Project <input type="checkbox"/> Other _____	
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ELEMENT 3 Inventory Past Reductions

An inventory of past reductions will help to create a permanent record of your past efforts.

As a first step, many new partners find it useful to inventory and document past methane emission reduction efforts. The inventory process helps companies quantify the success of their past activities and target future methane emission reduction efforts. Historical methane emission reductions identified as part of the inventory process can be reported to the Natural Gas STAR Program.

Will you inventory past activities to include in your annual report? Yes No

If yes, please describe your company's plans for reviewing past methane emission reduction activities.

The Natural Gas STAR Program thanks you for your time.

Please send completed forms to:

Regular Mail

**Natural Gas STAR Program
U.S. EPA (6207A)
1200 Pennsylvania Avenue, NW
Washington, DC 20460**

Express/Overnight Mail

**Natural Gas STAR Program
1201 Constitution Ave NW
Room Number 4353PP
Washington, DC 20004**

Questions? Please call Jerome Blackman at (202) 343-9630, or send an email to GasSTAR@epa.gov.

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