



## Natural Gas STAR Methane Challenge Program Implementation Plan

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**Partner Name**

**Current as of (date)**

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### Partner Implementation Manager

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

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

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

City/State/Zip: \_\_\_\_\_

Telephone/Fax: \_\_\_\_\_

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

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# Natural Gas STAR Methane Challenge Program Implementation Plan

## Partner Methane Challenge Commitments<sup>1</sup>

### BMP Commitment Option

	Source	Start Date	Achievement Year
<b>Onshore Production</b>			
<input type="checkbox"/>	Pneumatic Controllers		
<input type="checkbox"/>	Fixed Roof, Atmospheric Pressure Hydrocarbon Liquid Storage Tanks		
<b>Gathering and Boosting</b>			
<input type="checkbox"/>	Pneumatic Controllers		
<input type="checkbox"/>	Fixed Roof, Atmospheric Pressure Hydrocarbon Liquid Storage Tanks		
<input type="checkbox"/>	Reciprocating Compressors - Rod Packing Vent		
<input type="checkbox"/>	Centrifugal Compressors - Venting		
<b>Natural Gas (NG) Processing</b>			
<input type="checkbox"/>	Reciprocating Compressors - Rod Packing Vent		
<input type="checkbox"/>	Centrifugal Compressors - Venting		
<b>NG Transmission &amp; Underground Storage</b>			
<input type="checkbox"/>	Reciprocating Compressors - Rod Packing Vent		
<input type="checkbox"/>	Centrifugal Compressors - Venting		
<input type="checkbox"/>	Transmission Pipeline Blowdowns between Compressor Stations		
<input type="checkbox"/>	Pneumatic Controllers		
<b>NG Distribution</b>			
<input type="checkbox"/>	Mains – Cast Iron and Unprotected Steel ( <i>Commitment Rate:</i> )		
<input type="checkbox"/>	Services – Cast Iron and Unprotected Steel		
<input type="checkbox"/>	Distribution Pipeline Blowdowns ( <i>Commitment Rate:</i> )		
<input type="checkbox"/>	Excavation Damages		

## Partner Methane Challenge Commitments

### ONE Future Emissions Intensity Commitment Option

Segment:		Intensity Target:		Target Year:	
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<sup>1</sup> Partners may delete unused rows within the table, and may duplicate rows and add relevant details as needed (e.g., a corporate parent partner that has different commitments for each LDC can duplicate relevant rows to list the commitments for each LDC).



# **Natural Gas STAR Methane Challenge Program Implementation Plan**

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## **EXECUTIVE SUMMARY**

Northern Natural Gas is a subsidiary of Berkshire Hathaway Energy based in Omaha, Nebraska and has been in business since 1930. Northern Natural Gas owns and operates the largest interstate natural gas pipeline system in the United States. Northern Natural Gas' pipeline system stretches across 11 states, from the Permian Basin in Texas to Michigan's Upper Peninsula, providing access to five of the major natural gas supply regions in North America. Northern Natural Gas, along with all of the Berkshire Hathaway Energy companies, believes responsible environmental management is good business; it benefits our customers and improves the quality of the environment in which we live. This belief is the basis for the Environmental RESPECT Policy that guides our efforts and commitment in the areas of Responsibility, Efficiency, Stewardship, Performance, Evaluation, Communication and Training.

The 2016 Natural Gas STAR Methane Challenge Program Implementation Plan outlines initiatives, which are ambitious and meaningful, and supports Berkshire Hathaway Energy's commitment to the American Business Act on Climate Pledge.

### **Current Initiatives**

Northern Natural Gas has been an active participant in the Natural Gas STAR Program since 1994. Northern Natural Gas has achieved methane emission reductions using various methods. The largest component of methane emission reductions is the performance of leak surveys and associated leak mitigation at facilities.

Pneumatic devices powered by pressurized natural gas are widely used throughout pipeline systems. As part of normal operation, these devices release or bleed natural gas to the atmosphere. Northern Natural Gas is systematically replacing these devices with low-bleed or no-bleed devices.

In many cases, when maintenance is required on a natural gas pipeline, natural gas must be vented to ensure safe working conditions. Northern Natural Gas has used many techniques to minimize the amount of gas that is vented, including using in-line compressors, portable compressors and hot taps.

Northern Natural Gas has been successful in implementing methane reduction initiatives, which have a positive impact on the environment. In addition to the environmental benefits, reduction in methane emissions reduces unaccounted-for gas loss (UAF), which ultimately reduces the overall fuel costs to our customers. Through these initiatives, Northern Natural Gas has conserved approximately 7,691,165 dekatherms of methane and has saved shippers approximately \$35.7 million in fuel costs, based on historical natural gas market value.

Northern Natural Gas conducts ground and aerial leak detection surveys and systematically employs cutting edge technology for aerial leak detection. This program has successfully identified small leaks on the system that otherwise may have gone undetected for longer periods of time. Identified leaks are responded to quickly and mitigation plans implemented as soon as possible.

## **COMMITMENTS**

To continue Northern Natural Gas' long-standing commitment to environmental respect, Northern Natural Gas will commit to maximize blowdown gas recovery and/or emission reductions through utilization of one or more of the below options to reduce methane emissions from non-emergency blowdowns by at least 50% from total potential emissions each year. Total potential emissions equals calculated emissions from all planned maintenance activities in a calendar year, assuming the pipeline is mechanically evacuated or mechanically displaced using non-hazardous means down to atmospheric pressure and no mitigation is used. These commitments will be achieved through the following implementation plan.

### **Mitigation Options:**

- Route gas to a compressor or capture system for beneficial use, or
- Route gas to a flare, or
- Route gas to a low-pressure system by taking advantage of existing piping connections between high- and low-pressure systems, temporarily resetting or bypassing pressure regulators to reduce system pressure prior to maintenance, or installing temporary connections between high and low pressure systems, or
- Utilize hot tapping, a procedure that makes a new pipeline connection while the pipeline remains in service, flowing natural gas under pressure, to avoid the need to blow down gas.

## **IMPLEMENTATION SCHEDULE**

The following activities and milestones will be achieved to ensure that the above commitments are met.

### **Reduce venting during construction activities**

- Identify and prioritize planned construction activity that will require pipeline segments to be evacuated.
  - Due date: December 31, 2016
- Add instructions/guidelines to the Gas Management Plan to prioritize construction activity that requires pipeline segments be evacuated. Conduct training on the revised operating procedure and engineering standard for operations managers and engineering staff.
  - Due date: December 31, 2016
- Determine cost effective methods, either line stops, portable compression or evacuation, to minimize volumes vented
  - Due date: December 31, 2016
- Ensure project schedules allow for additional time to complete line stop installation, portable compression or evacuation methods during construction and outage windows
  - Due date: December 31, 2016
- Estimate and document reduction in volumes released compared to historical practices of venting
  - Due date: February 1, 2017
- Develop and implement project work scope executing plans to minimizing venting
  - Due date: March 1, 2017
- Review success of the reduction program and recommend improvements for future efforts
  - Due date: December 1, 2017