NARUC Summer Committee Meetings
North Dakota Pipeline Authority
Justin J. Kringstad
July 23, 2013 – Denver, CO
Bakken-Three Forks Formations
Bakken-Three Forks Formations

- Oil Play with associated natural gas production
- Largest oil field (in square miles) in North America (18,000 square miles)
- Development made possible by the combination of horizontal drilling and hydraulic fracturing
Natural Gas Flaring Facts/Challenges

Primary Challenges
- Size of resource
- Young age of development
- Harsh winter conditions
- Resource potential still being explored

Regulations
- Flaring regulated by the ND Industrial Commission/Oil & Gas Division with existing penalties and incentives in place to reduce flaring
US Natural Gas Flaring

Source: U.S. Energy Information Administration
Keys to Reducing ND Flaring

1. Economics Must Work
2. Understanding Production Potential
3. New Gas Gathering Pipelines
4. Enhancing Existing Gathering Pipelines
5. Adequate Gas Processing Capacity
6. Adequate Interstate Pipeline Capacity
7. Flaring Alternatives (Short & Long Term)
Rich Natural Gas

Raw Natural Gas (1500+ BTU)
Processing Plant

Consumer Quality Dry Natural Gas
Methane ($3.49 MMBTU)

NGL’S (8-12 gpm)
Y-Grade or Fractionated

Ethane 41.64%
Propane 28.33%
Butane 16.53%
Natural Gasoline 13.51%

*Using NGL breakdown from the July 2012 BENTEK Natural Gas Study
Forecasting Williston Basin Gas Production

Production forecast is for visual demonstration purposes only and should not be considered accurate for any near or long term planning.
Solving the Flaring Challenge

GREEN – % of gas captured and sold

Why is the gas being flared?
Blue – Lack of pipelines
Red – Challenges on existing infrastructure

Statewide

May 2013 Data – Non-Confidential Wells
Capturing the 15%
Faster Well Connections

First Time Gas Sales Per Month

Number of Wells

JJ Kringstad - North Dakota Pipeline Authority
North Dakota Pipeline Miles

2,353 miles of new pipe in 2011
Roughly Distance from Seattle to Washington DC
2012 Data Available Q3 2013

Miles of Pipeline (Gathering and Transmission)

- YE 2009
- YE 2010
- YE 2011
Capturing the 13% Additional Compression

Older, lower pressure wells connected to plant

New, high pressure well causes older wells to flare
Capturing the 13% Looping Existing Pipelines
NGL buildup in gathering pipelines reduces area for gas to flow

More of an issue in winter months due to lower ground temperature causing more liquids to drop out
Natural Gas Processing & Transmission

5 New or Expanding Gas Plants 2013-2015
(See Website for Details)
ND Gas Plant Capacity

Million Cubic Feet Per Day

- Natural Gas Production
  (*Forecasted Case 1)
- Processing Plant Capacity

Open Capacity Leaving N. Dakota Is Tight

- Northern Border and Alliance Serve As the Primary Routes to Transport Gas From the Region.
- Each Have Limited Open Mainline Capacity to Carry Additional Williston Supply.
November 5, 2012 – EERC Associated Gas Use Study

December 18, 2012 – Natural Gas Flaring Alternatives (Company Presentations)

February 27, 2013 – EERC Use of Associated Gas to Power Drilling Rigs
Strengthening Landowner Relations
ND Wellhead Recovery Estimates

Estimate Data/Assumptions: April 2013 Production Data
Oil Price of $88/bbl, Natural Gas/NGL Wellhead Price of $8.00/MCF
Contact Information

Justin J. Kringstad, Director
North Dakota Pipeline Authority

600 E. Boulevard Ave. Dept. 405
Bismarck, ND 58505-0840

Phone: (701)220-6227
Fax: (701)328-2820
E-mail: jjkリングstad@ndpipelines.com

Websites:
www.pipeline.nd.gov
www.northdakotapipelines.com