



# NiSource Gas Transmission & Storage<sup>®</sup>

**Chris Helms**  
CEO NGT&S

Pipeline Safety: Looking to the Future While  
Resolving the Past

OGA Market Conditions Conference

July 19, 2011

# SYSTEM OVERVIEW

## Pipeline

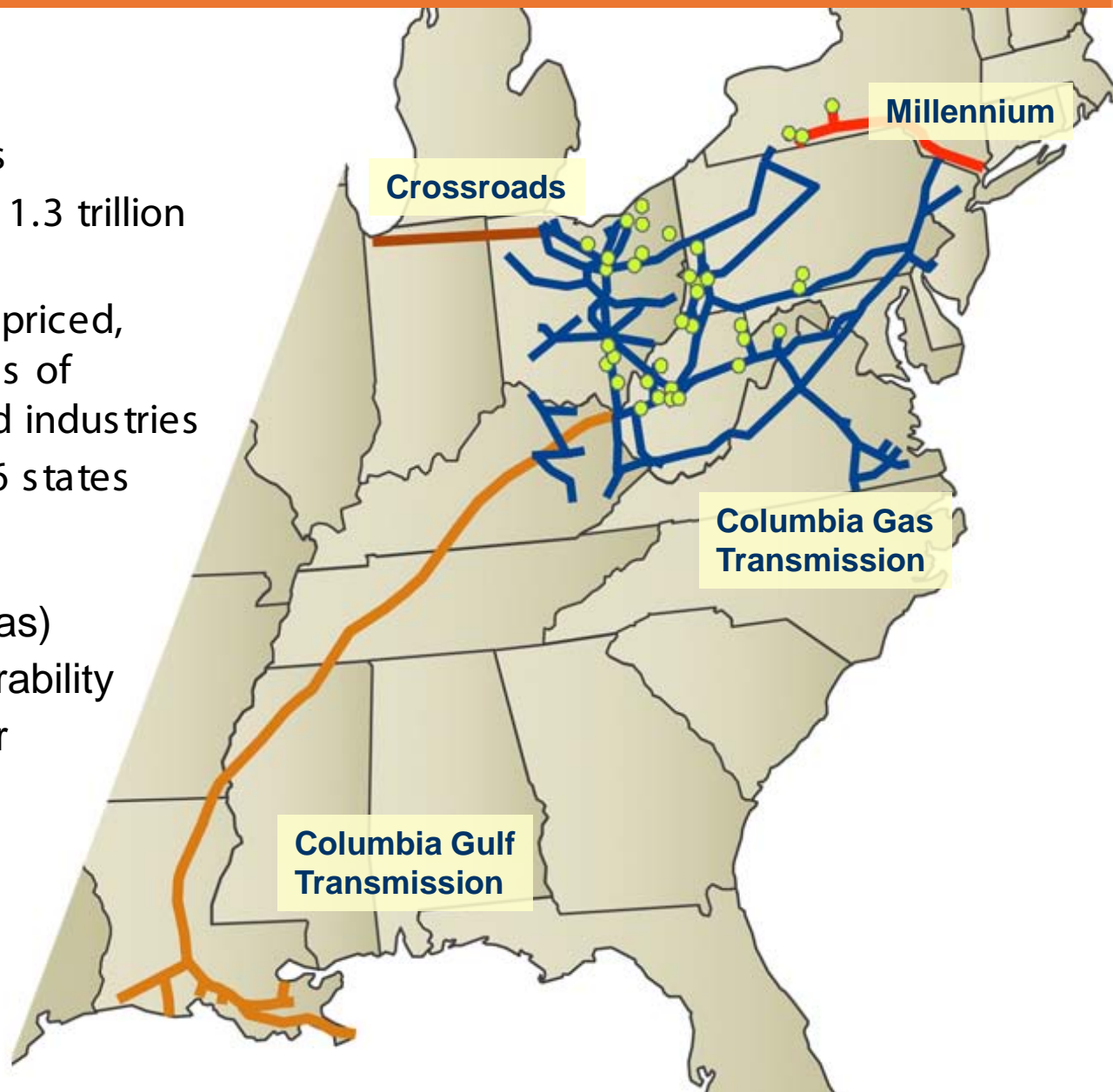
- More than 15,000 miles
- Delivers approximately 1.3 trillion cubic feet per year
- Provides competitively priced, clean energy for millions of homes, businesses and industries
- Serves customers in 16 states

## Storage

- 280 MMDth (working gas)
- 4.7 Bcf/d design deliverability
- 37 storage fields in four states

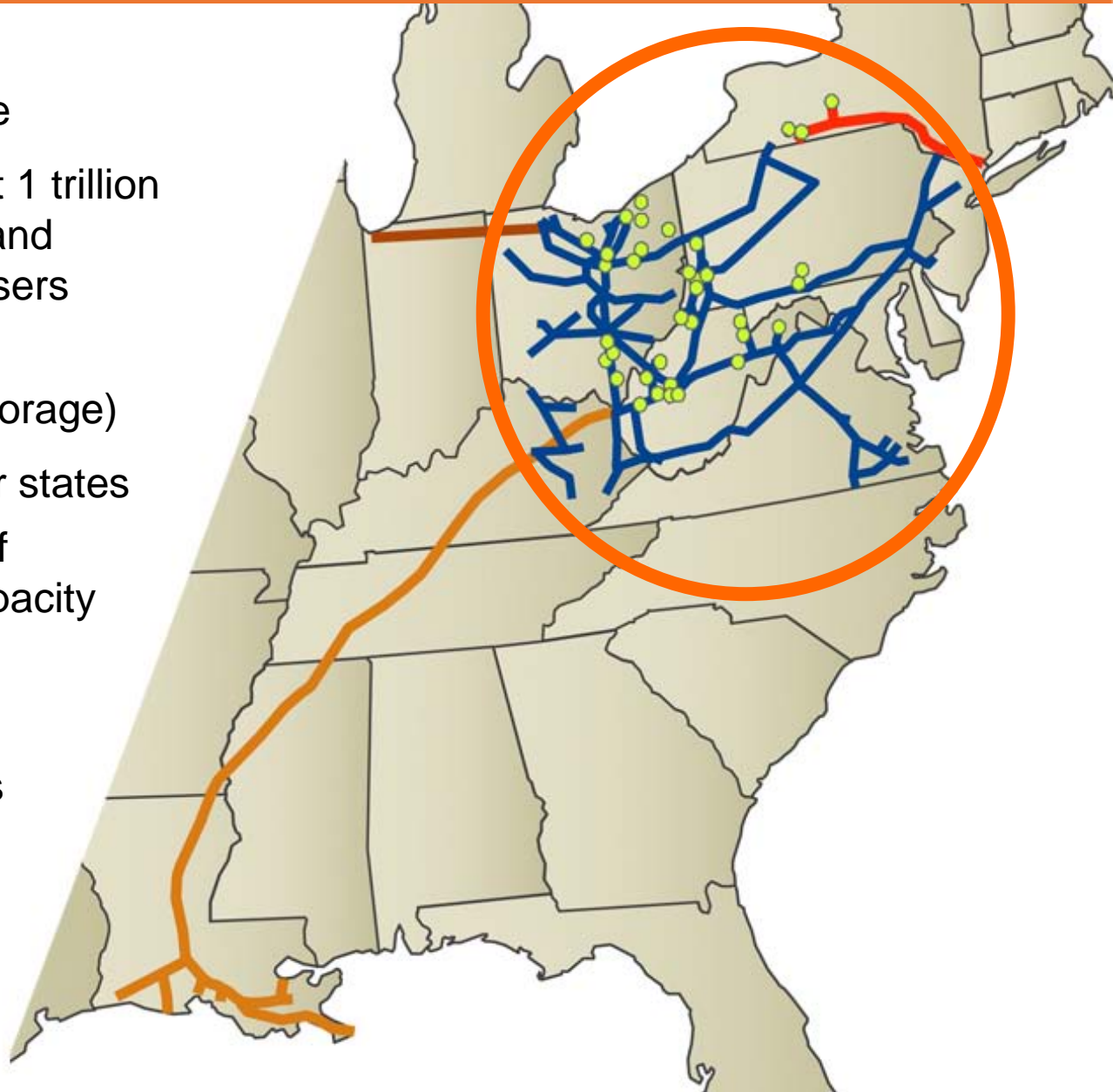
## Compression

- 104 stations
- 1.1 million horsepower



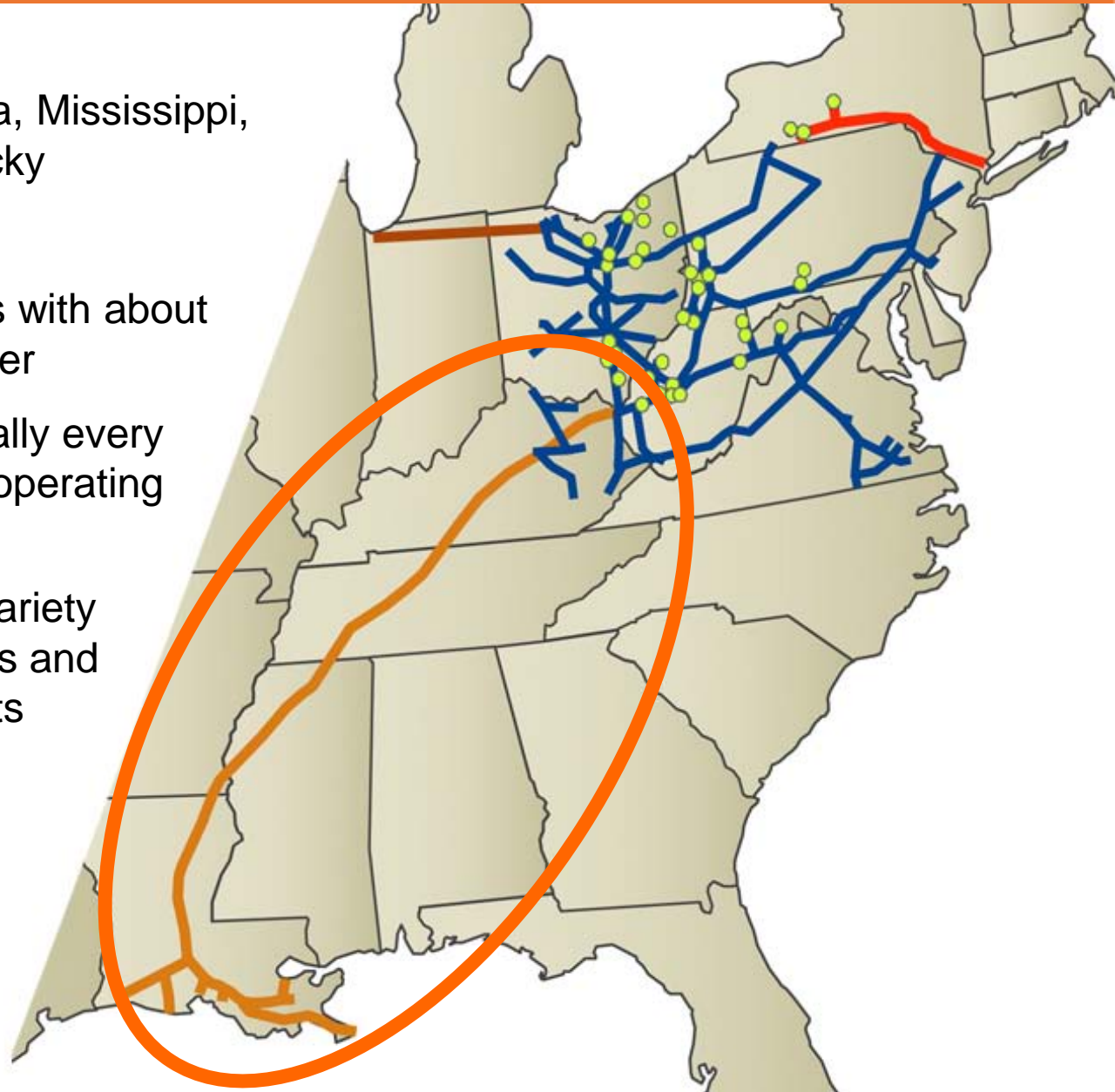
# COLUMBIA GAS TRANSMISSION

- 12,000 miles of pipeline
- Annually delivers about 1 trillion cubic feet to 72 LDCs and several hundred end-users
- Peak day deliveries:  
7.4 Bcf (4.7 Bcf from storage)
- 37 storage fields in four states
  - More than 650 Bcf total operating capacity
  - Approx. 280 Bcf working capacity
- 92 compressor stations with more than half a million horsepower



# COLUMBIA GULF TRANSMISSION

- Operations in Louisiana, Mississippi, Tennessee and Kentucky
- 3,400 miles of pipeline
- 11 compressor stations with about half a million horsepower
- Interconnected to virtually every major pipeline system operating in the Gulf Coast
- Provides service to a variety of on-system customers and to pipeline interconnects serving markets in the Midwest, Southeast and Northeast



## What is a “transmission pipeline”?

- High-pressure, larger-diameter pipeline; transports gas from production to market

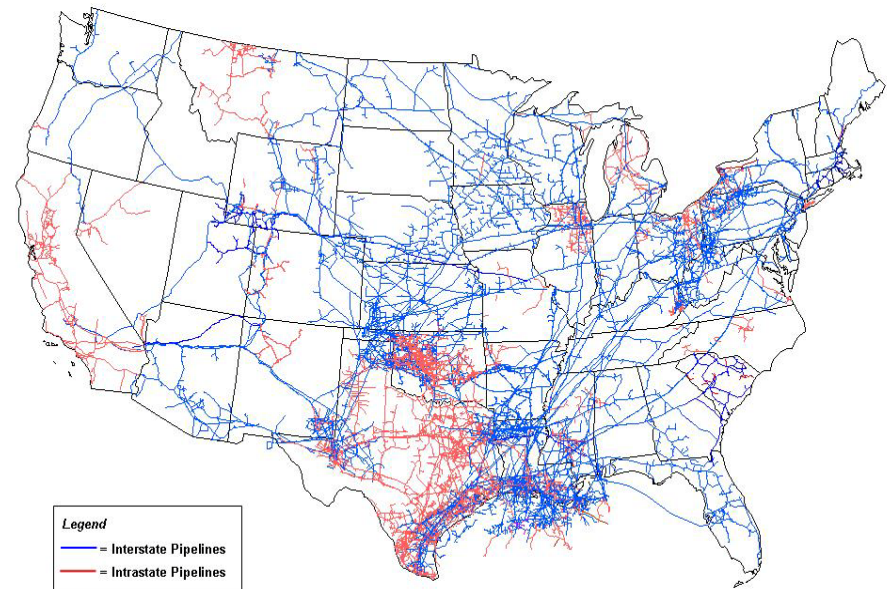
## How many miles of transmission pipeline are in the U.S.?

- 302,110

## Who are the owners of transmission pipeline?

- Interstate pipeline
- Intrastate pipeline
- Local distribution company (LDC)
- Municipalities

*(1) 296,441 miles onshore + 5,669 miles offshore; (2) 197,869 miles onshore + 4,834 miles offshore*



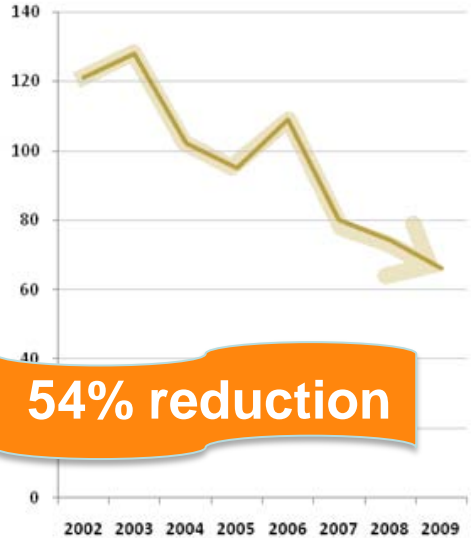
Source: Energy Information Administration, Office of Oil & Gas, Natural Gas Division, Gas Transportation Information System

## Risks to Pipeline Safety (per ASME B31.8S)

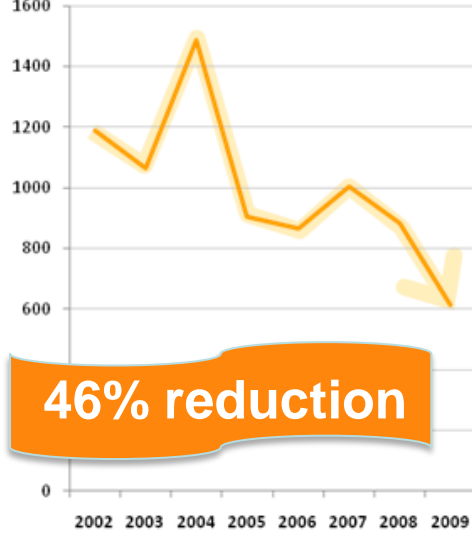
- Excavation / Third Party Damage
- External Corrosion
- Internal Corrosion
- Manufacturing Flaws
- Construction Flaws
- Outside Forces
- Operator Error
- Equipment Failure
- Stress Corrosion Cracking

### 2002 – 2009: Significant progress made to reduce leading risks

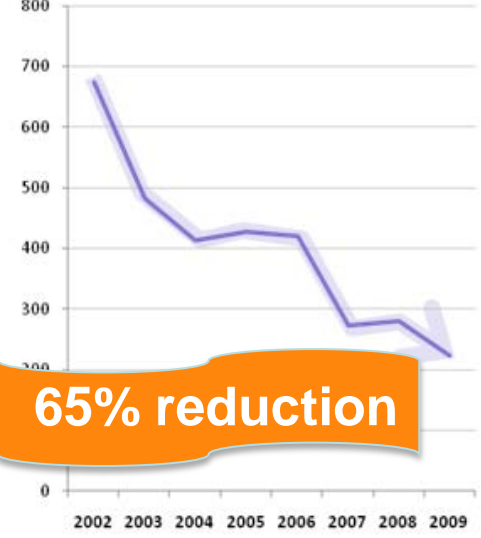
#### Excavation Damage Leaks



#### Corrosion Leaks



#### Material & Weld Leaks



# WHAT ARE THE THREATS TO PIPELINE SAFETY AND HOW DO WE MANAGE THEM

*Management requires comprehensive data integration and risk assessment*

<b>Category</b>	<b>Probability</b>	<b>Management</b>
<b>Corrosion:</b> <ul style="list-style-type: none"><li>▪ Internal</li><li>▪ External</li><li>▪ Stress Corrosion</li></ul>	Threat increases over time	Prevention, Periodic Assessment, Repair and Mitigation
<b>Defects:</b> <ul style="list-style-type: none"><li>▪ Manufacturing</li><li>▪ Fabrication &amp; Construction</li><li>▪ Equipment</li></ul>	Threat is stable unless activated by change in service conditions	Prevention, Initial Assessment and Repair
<b>Events:</b> <ul style="list-style-type: none"><li>▪ Excavation Damage</li><li>▪ Incorrect Operation</li><li>▪ Natural Force Damage</li><li>▪ Other outside forces</li></ul>	Threat occurs unpredictably	Prevention, Education, Training and Surveillance

## WHAT DOES THE SAFETY DATA MEAN?

- Serious incidents involving the public have been declining for four decades
  - *Leak trends indicate efforts are delivering positive results*
- However, significant incidents - while infrequent - are still occurring at an unacceptable level
- Integrity management standards provide a framework for managing pipeline safety threats
  - *Studies show that effective mitigation requires a comprehensive approach based on data integration and risk assessment*
  - *There is no simple solution for ensuring pipeline safety – multiple tools and processes must be employed and tailored to each particular pipeline*

**Pipeline safety is a shared responsibility –  
between operators, the government and the public.**

- Trade association representing natural gas transmission pipeline operating companies in North America
- 26 member companies, representing approximately 203,000 miles of Pipeline and Hazardous Material Administration (PHMSA) regulated transmission pipeline\*
- Leaders in furthering pipeline safety through studies, committees, workshops, electronic media and interaction with PHMSA
- Provide opportunities for developing and sharing industry best practices and proactive in assisting other pipeline industry segments
- Members are regulated for pipeline safety directly by the U.S. Department of Transportation's PHMSA\*\*
- Members are regulated economically by the Federal Energy Regulatory Commission (FERC)

*\*PHMSA regulated transmission pipelines operated both onshore and offshore by INGAA members, as reported in the PHMSA 2009 Annual report*

*\*\*2011 New INGAA Member Pacific Gas & Electric is regulated by the California Public Utility Commission*

# IMCI

## Integrity Management Continuous Improvement

1

**Our goal is zero incidents**  
*a perfect record of safety and reliability for the national pipeline system.*  
**We will work toward this goal every day.**

2

**We are committed to a safety culture** as a critical dimension to **continuously improve** our industry's performance.

3

**We will be relentless** in our pursuit of **improving by learning** from the past and anticipating the future.

4

We are committed to **applying integrity management principles** on a **system-wide** basis.

5

**We will engage our stakeholders,** *the local community to the national level* - so they understand and can **participate in reducing risk.**

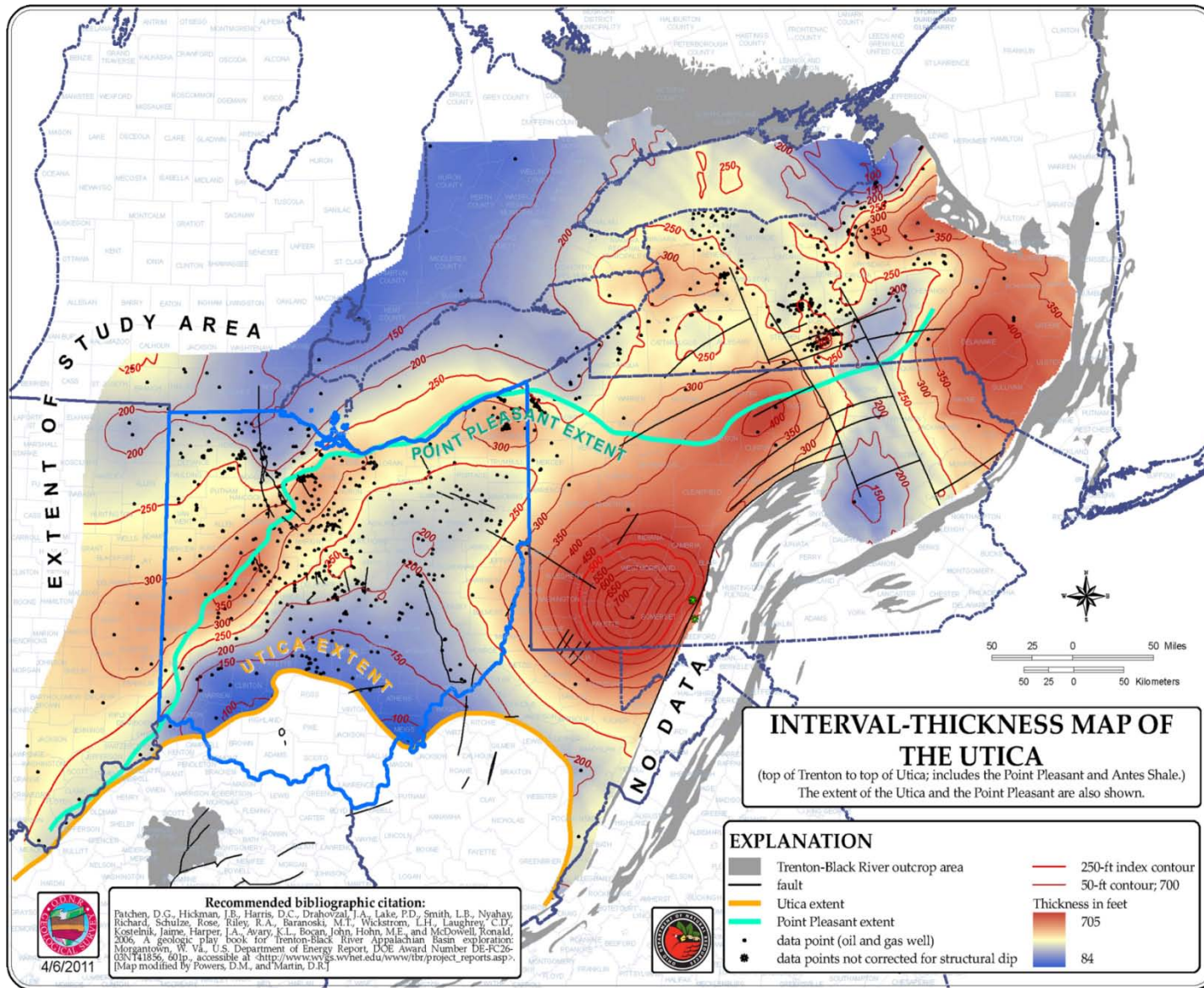
## Driving improvement in key areas – *a comprehensive approach to mitigating risks*

- Creating Stakeholder Engagement to Achieve Common Goals
- Evolving Risk Management Processes
- Improving Existing Integrity Management Tools
- Ensuring Safety of Older Pipelines
- Accelerating Technology Development & Deployment
- Defining “Responsible Operator” Management Systems
- Improving Emergency Preparedness & Response
- Ensuring Asset Integrity During New Construction



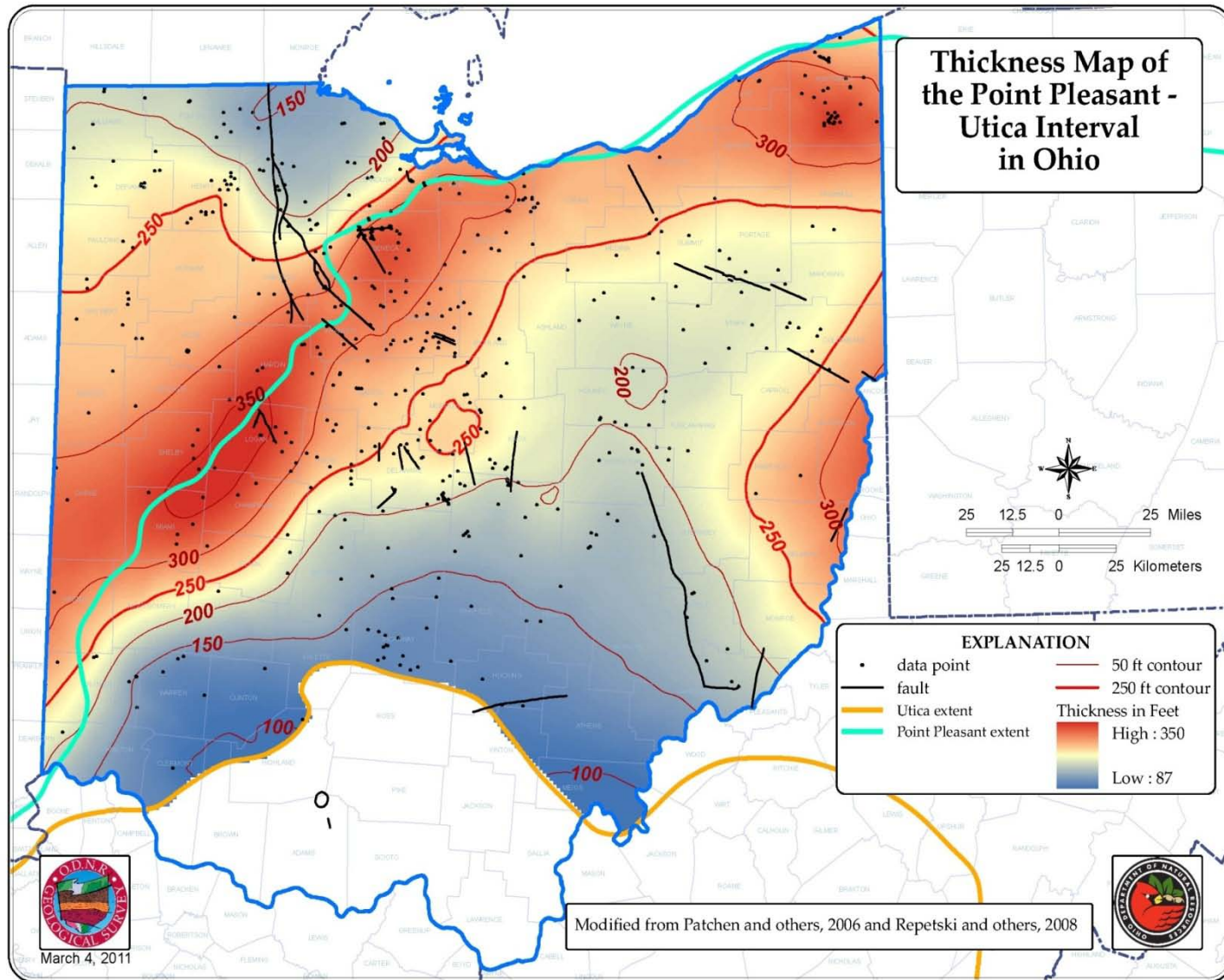
*We share a common goal and together we can ensure the safety of our critical infrastructure.*

# UTICA SHALE DRILLING AND RESOURCE ASSESSMENT IN OHIO\*

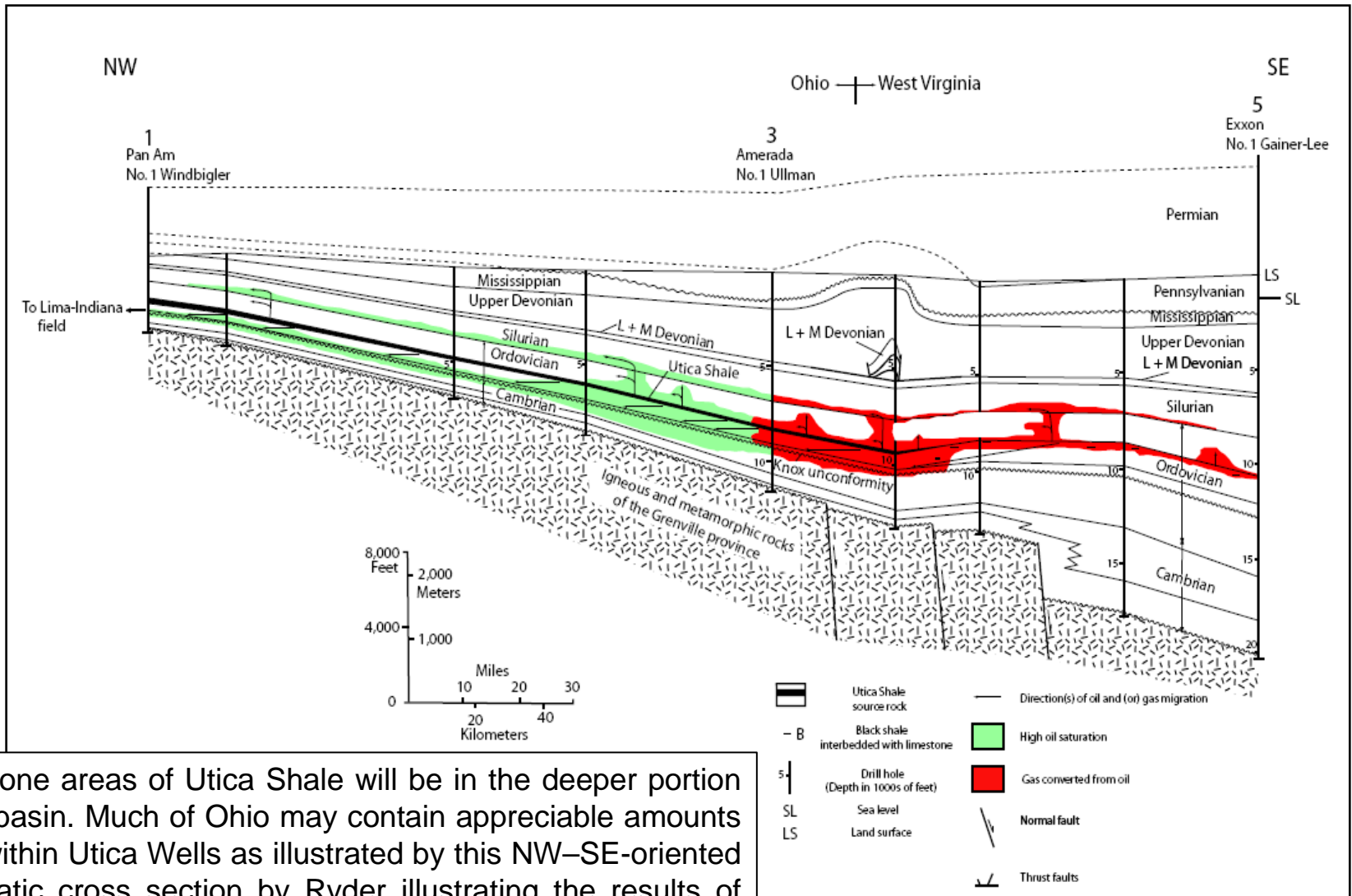


\* Coalition of Ohio Land Trusts  
 Summer 2011  
 Statewide Meeting,  
 Ohio Department of Natural Resources

# UTICA SHALE DRILLING AND RESOURCE ASSESSMENT IN OHIO



# WHY OHIO MAY BE THE FOCUS OF THE UTICA-POINT PLEASANT PLAY



Gas-prone areas of Utica Shale will be in the deeper portion of the basin. Much of Ohio may contain appreciable amounts of oil within Utica Wells as illustrated by this NW–SE-oriented schematic cross section by Ryder illustrating the results of geochemical analyses of well samples.

Ryder, 2008

## Ohio may be the focus of the Utica play

- Ohio is friendly to drilling
  - *HB133 – drilling on State Lands*
  - *Conducive and strong regulatory environment*
- Ohio has UIC primacy and an adequate number of brine injection wells – with more on the way
- NY and Quebec moratoriums
- Drilling depths in Ohio ~3,500 to 10,000'
- Interlayered carbonate and shale in Ohio
- Maturation and kerogen types indicate more liquids and oil in Ohio

\*Coalition of Ohio Land Trusts Summer 2011 Statewide Meeting, Ohio Department of Natural Resources

- It was recently announced that the State of Ohio is launching a wide-ranging economic impact study to assess the potential of the Utica Shale.
- This study will be much more wide-ranging than a similar study that was conducted to assess the impact of the Marcellus Shale a few years ago.
- In addition to Penn State, several universities will be involved in the study.
- In addition to the physical potential of the field, the study will attempt to assess the impact that Utica will have on taxes and jobs in the State of Ohio as well as the impact on both upstream and downstream opportunities that will result from both Utica and Marcellus.
- NiSource supports the study itself and encourages your participation.



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