Natural Gas Summit 11/14/12

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Maureen Ball

Joined Central New York Oil and Gas (Inergy) in 1999. Participated in the development and construction of various storage, compression, gathering and pipeline assets in both New York and Pennsylvania.

Projects include the Stagecoach Storage Facility, the Stagecoach Phase II Expansion, the Thomas Corners Storage Facility, the North South Compressor Stations, the Marc 1 Pipeline Project, the M1N and M1S Compressor Stations, the Seneca Storage / Millennium Tie-in and the Finger Lakes Project.

Marcellus Storage/Transportation Hub

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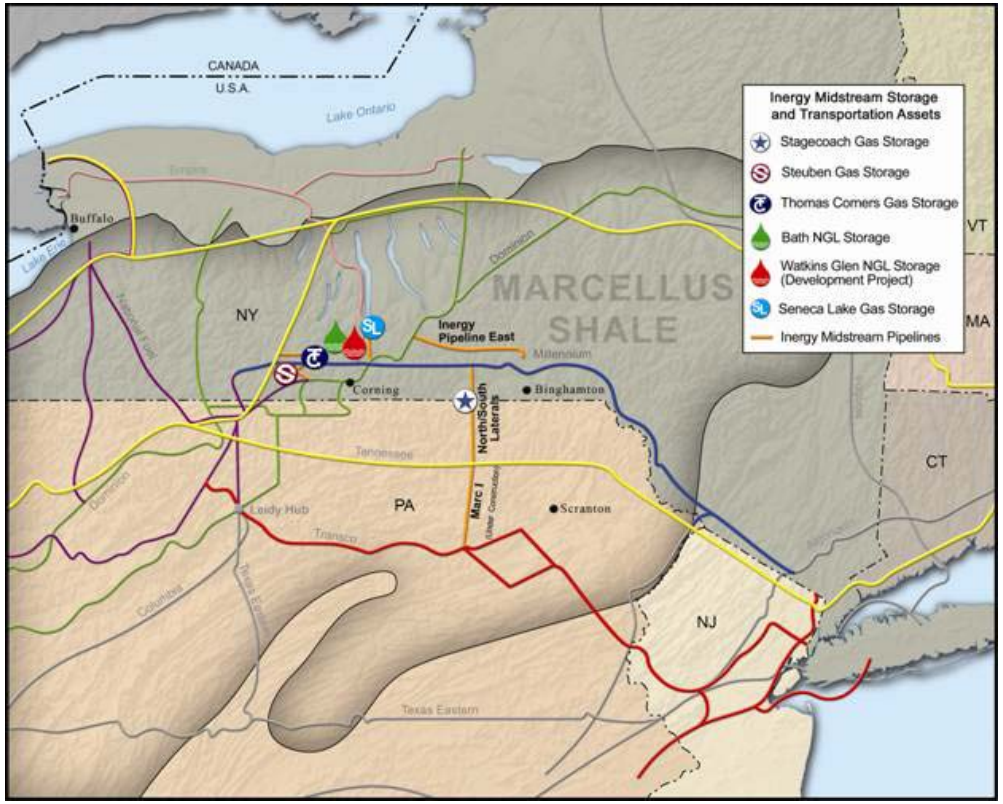
Strategic assets serving Marcellus production and demand markets



- Largest independent natural gas storage operator in the NE
- 39.7 Bcf high-deliverability working NG storage capacity within 150 miles of New York City
- 183 miles of NG gathering and transmission pipelines in the NE region
- Offer customers: Reliability, Flexibility, and Optionality with integrated storage and transportation of NG

Storage

- Stagecoach Gas Storage
- Thomas Corners Gas Storage
- Seneca Lake Gas Storage
- Steuben Gas Storage

Transportation

- North/South Laterals
- Marc 1 Line
- Inergy Pipeline East

Inergy Northeast Assets – CNYOG/ASC

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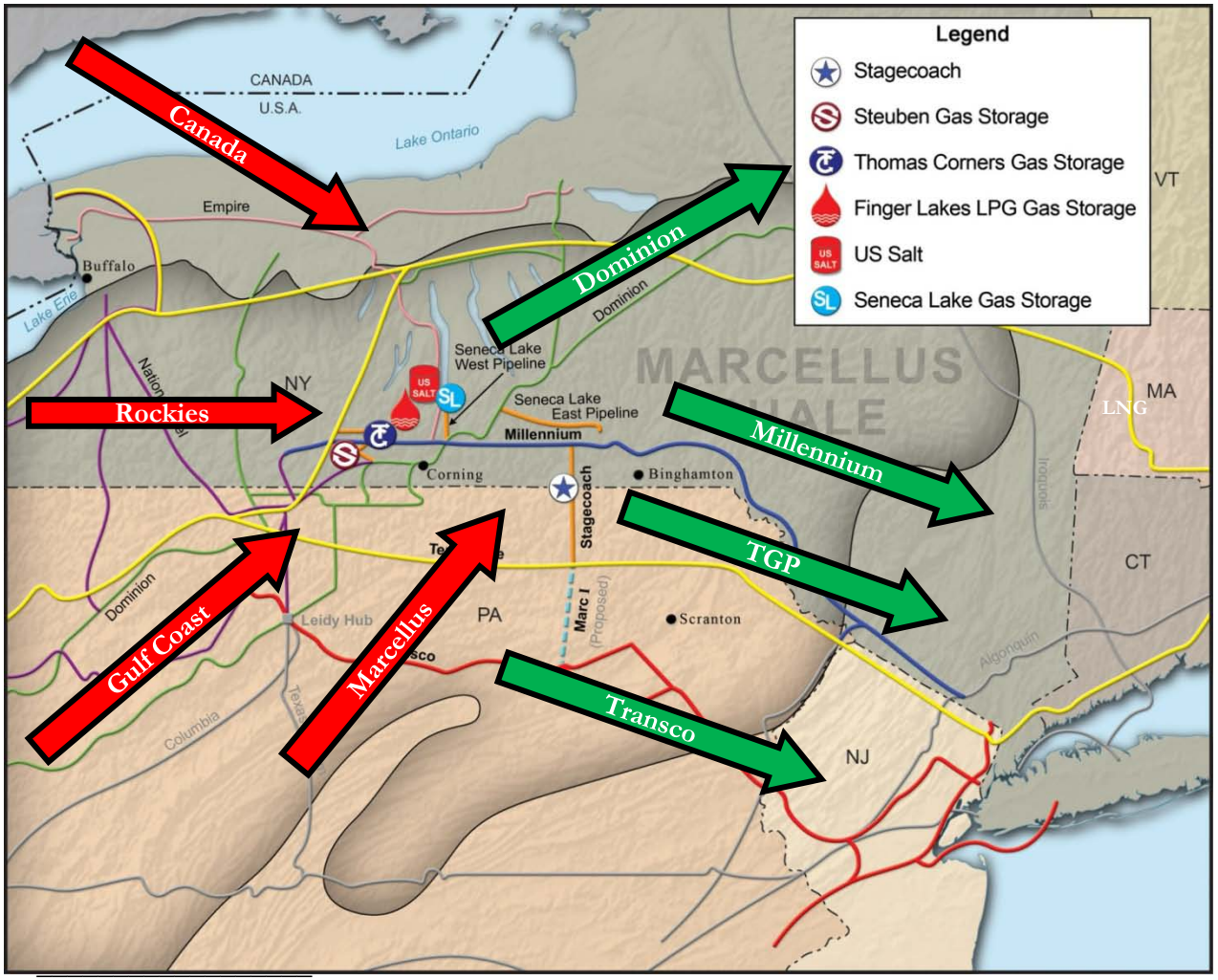
39.7 Bcf working gas storage capacity with 183 miles of pipelines



Central New York Oil & Gas

Stagecoach (26.3 Bcf)

94.271 miles of gathering and transmission lines

North and South Stations

NS1 and NS2 compressor stations

(Additional compression to provide firm wheeling services between TGP and Millennium pipelines)

M1N and M1S Stations

Compression for the Marc 1 line

Arlington Storage

Steuben Gas Storage (6.2 Bcf)

16 miles of gathering and transmission lines

Thomas Corners (5.7 Bcf)

17.1 miles of gathering and transmission lines

Seneca Lake (1.5 Bcf)

55.17 miles of transmission lines

Blue font denotes expansion projects.

Stagecoach Owego NY

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Storage Overview

- Located approximately 150 miles northwest of New York City
  - Closest storage facility to the NYC market
  - Connections to Millennium, TGP & Transco by North & South Laterals and Marc 1 Line
- Maximum inventory of 32 Bcf
  - 6 reservoirs
  - Working gas capacity = 26.3 Bcf
- 17 horizontal storage wells provide high injection and withdrawal capabilities
  - Cutting-edge central compressor facility
- High performance, multi-cycle gas storage facility
  - Withdrawal capabilities = 500 MMcfd (max)
  - Injection capabilities = 500 MMcfd (max)

North South Compressor Stations

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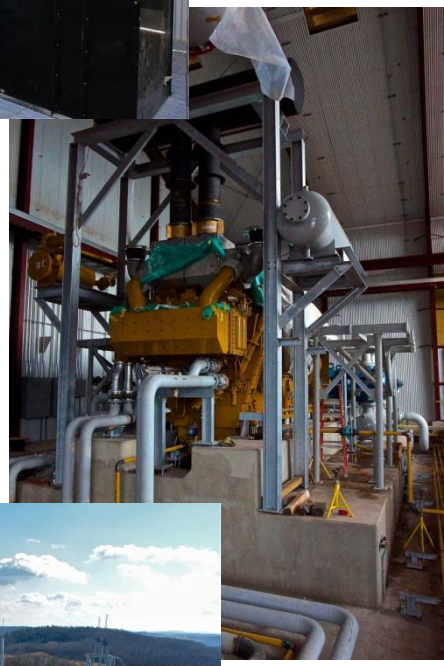
- **NS1 Compressor Station Owego, NY**
  - The station is connected to Millennium and to CNYOG's North Lateral
  - 13,000 hp electric driven compression
  - Future plans include the construction of a three mile pipeline connecting CNYOG's North Lateral line to Inergy's Pipeline East which connects to Dominion



- **NS2 Compressor Station Wyalusing, PA**
  - The station is connected to TGP's 300 Line and CNYOG's South Lateral and Marc 1 Line
  - 15,000 hp electric driven compression

These additional compression facilities went into service in 2011 and help move gas through Inergy's existing 12 mile North and / or 24 mile South Laterals

M1N & M1S Compressor Stations

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- **Marc I Hub Line**
  - A 39 mile bi-directional NG pipeline located in Bradford, Sullivan and Lycoming counties providing firm wheeling opportunities between TGP, Millennium, Transco and all points in between with compression from both:

- **M1N Compressor Station Wyalusing, PA**
  - In Service summer of 2012
  - 15,300 hp electric driven compression

- **M1S Compressor Station Muncy Valley, PA**
  - In Service November 2012
  - 14,300 hp Gas fired compression

CNYOG Storage and Transmission

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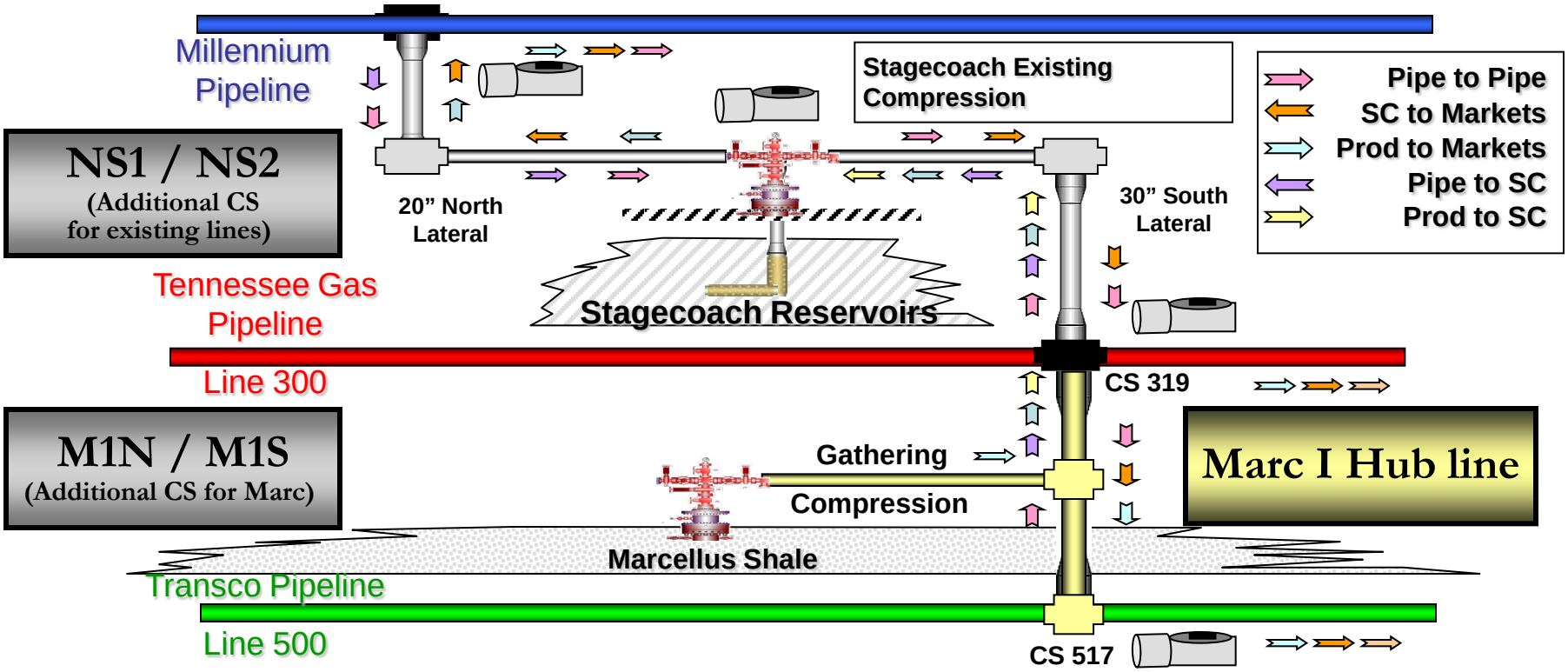
CNYOG can currently transport gas for various shippers and producers from Transco's 500 line in Unityville, PA to TGP's 300 line in Wyalusing, PA and then to the Millennium line in Owego, NY. Future plans include the construction of a three mile pipeline connecting CNYOG's North Lateral line to Inergy's Seneca East Line which connects to the Dominion Transmission line.



Steuben Gas Storage Company

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Overview

- Located in Steuben County, NY
- Total working gas storage volume 6.2 Bcf
- 10 Injection and withdrawal wells
- Facility-owned 16 mile pipeline connected to Dominion, TGP and Millennium
- Devonian reef

Thomas Corners Storage Facility

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Overview

- Located in Steuben county, New York, northwest of Corning
- Total working gas storage volume 5.7 Bcf
- Two-cycle non-seasonal service
  - Withdrawal capabilities = 140 MMcfd (max)
  - Injection capabilities = 70 MMcfd (max)
- 17.1 miles of pipeline with connections to TGP, Millennium and Dominion
- 8 Injection and withdrawal wells
- Designed to minimize environmental impact

Seneca Lake Storage Facility

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Overview

- **Located in Schuyler County, NY and situated on Inergy's US Salt property**
- **1.5 Bcf working gas underground bedded salt natural gas storage facility**
  - Daily injection/withdrawal capacity of up to 72,500 and 145,000 Dth, respectively
- **Connections to Dominion Transmission Pipeline**
  - The 18.54-mile, 16-inch West Line connects storage to Dominion near Big Flats, NY
  - The 37.17-mile, 12-inch East Line connects the Dominion Line to the Binghamton, NY City Gate
- **Connections to the Millennium Pipeline were constructed in 2011**

Gas Transportation Overview

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North / South Laterals

325,000 Dth/Day capacity of firm wheeling services between Millennium & Tennessee Gas Pipeline and all points in Between

36 miles of pipeline with compression at NS1, Stage-Coach, and NS2

Inergy Pipeline East

30,000 Dth/Day of capacity between Dominion, the Binghamton, NY gate And the Millennium Pipeline

37.17 miles of pipeline with compression at Seneca storage

MARC I

550,000 Dth/Day capacity of firm bidirectional transportation services between Tennessee & the Transco Leidy Line and all points in between

39 miles of pipeline with compression at M1N and M1S

FERC Project Filing

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- **Process for Natural Gas Certificate**
  - **Must file a detailed application with Federal Energy Regulatory Commission FERC which includes:**
    - **Maps of the ROW**
    - **A description of the proposed facilities**
    - **And a number of specific environmental resource reports such as:**
      - **Water use and quality**
      - **Vegetation and wildlife**
      - **Cultural resources**
      - **Socio-economics**
      - **Geological resources**
      - **Soils**
      - **Land use**
      - **Air and noise quality**
      - **Project alternatives**
    - **FERC will conduct a thorough review to determine if the project is in the best public interest before issuing a Certificate of Public Convenience and Necessity which authorizes construction. This review evaluates:**
      - **The need for the project**
      - **Costs of transporting the gas**
      - **Financial and market competition**
    - **FERC will develop an Environmental Assessment or Impact Statement to evaluate the project's anticipated impact on the public and the environment**
    - **FERC's review process may include:**
      - **Public meetings in communities affected by the project**

FERC Projects

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- Building a FERC authorized Project including storage, compression , gathering and pipelines also entails:
  - Obtaining numerous local, state and federal permits and clearances
  - These permits address:
    - All natural resources including land, air, water, vegetation and wildlife
    - Interests of the general public
  - Local Permits:
    - Building permits
    - Road crossing permits
  - State Permits:
    - Land (erosion and sedimentation permit)
    - Water (Hydrostatic test water acquisition and discharge permit, storm water discharge permit)
    - Stream and river crossings
    - Cultural resources preservation
    - Threatened and endangered species preservation
    - Air emissions
    - Road crossing permits
  - Federal:
    - Wetlands preservation and crossings
    - Streams and rivers
    - Threatened and endangered species
    - Air emissions
    - Environmental resource reports
    - Noise

Pipeline Installation

- **Pipeline Installation Sequence**
  - Civil and environmental surveys completed and ROW marked for clearing crew
  - Clearing crew removes trees and brush within ROW
  - Temporary erosion control devices installed
  - ROW is graded
  - Topsoil separated from subsoil in agricultural/residential areas

Pipeline Installation

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- **Pipeline Installation Sequence**
  - **Heavy equipment such as trenching machines would dig the trench**
  - **Joints of pipe are delivered to ROW (coating is tested and inspected)**
  - **Pipe is bent to fit trench and welded (all welds are x-rayed and tested)**

Pipeline Installation

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- **Pipeline Installation Sequence**
  - **Pipe is lowered in to the trench**
  - **Trench is back filled and if topsoil was removed it would be returned**
  - **Construction debris is removed**

Pipeline Installation

- **Pipeline Installation Sequence**
  - **ROW would be re-graded, seeded, and temporary and permanent erosion control devices would be installed**
  - **After the ROW has re-vegetated the temporary erosion control devices are removed**
  - **Prior to gas flowing, the pipeline is pressure (hydro) tested to insure there is no leakage**

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Pipeline Construction

Moving assembly line
(graphic not to scale)

continued below

Safety and Operations

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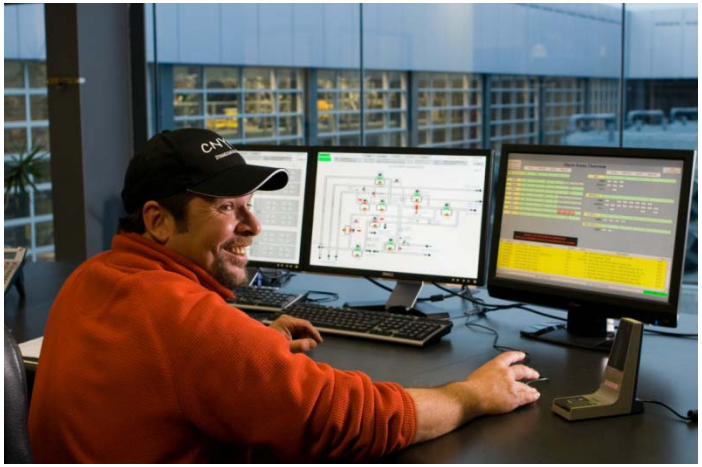
All of us at Inergy are committed to being a good neighbor. Keeping our community safe is our number one priority.

- Safety
  - Comprehensive emergency response plan in place
  - Public Education for the affected public, emergency responders and emergency officials, local public officials, and excavators and contractors
- Operations
  - Responsible to the daily operations of the facilities and ROW
  - Follow the companies Operation's and Maintenance Procedure's Manual which are based on the US Department of Transportations Pipeline and Hazardous Material Safety Administrations (PHMSA) 49 CFR 192 document



Community Benefits

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- Inergy employs over 75 local midstream employees who live and work in the community
- Inergy continuously contributes to over 75 local organizations and groups helping the community

PENNSYLVANIA

- Inergy utilizes over 250 Pennsylvania contractors, consultants, and vendors
- These Pennsylvania contractors, consultants, and vendors provided Inergy with over $20,000,000 worth of goods and services last year
- Inergy's North East Regional Office and 3 natural gas compressor stations are located in Pennsylvania and contribute to the local tax base

NEW YORK

- Inergy utilizes over 400 New York contractors, consultants, and vendors
- These New York contractors, consultants, and vendors provided Inergy with almost $23,000,000 worth of goods and services last year
- Inergy has 5 natural gas compressor stations located in New York and they are the largest tax payer in Tioga and Schuyler Counties
- Inergy also owns and operates US Salt and the Bath NGL Storage Facility

Future NE NG Projects

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- Key Drivers for NE NG Midstream Development
  - Supply, supply and more supply
  - Marcellus and Utica Shale production has and will continue to change the way NG will trade and move to markets in the Northeast, and the rest of the country
  - Marcellus and Utica Shale NG production could reach 17 Bcf per day in 2020, potentially making the Marcellus the single largest producing gas field in the US
  - 2 to 3 billion a year of new midstream infrastructure will be required to transport, process, and store Marcellus and Utica production for the foreseeable future
  - Numerous opportunities exist for midstream companies to reconfigure existing assets, and/or build new infrastructure to process, transport and store Marcellus and Utica productions
  - Plus demand for NG is increasing anchored by coal conversions and new gas fired generation

- Over 40 pipeline projects have been announced in the NE / Mid-Atlantic region through 2015. Not all the projects will happen but good projects with the right market support have a chance barring permit, land, regulatory and construction issues.
- Thank you for your time