Virtual Pipeline Experience
Application of LNG Solutions to Expand LDC Service

NECPUC Conference

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Founded in 1882, UGI Corporation (NYSE: UGI) is a Fortune 500 company with over $10 billion in assets and $7 billion in revenues. We are a distributor and marketer of energy products and services including natural gas, propane, and electricity.

**UGI Corporation (NYSE: UGI)**

- **Domestic Propane**
  AmeriGas (NYSE: APU) distributes propane in 50 states and is the largest US retail propane marketer
  - MLP: UGI is General Partner and owns 24% of LP
  - ~2MM customers
  - ~1.4B gallons/year

- **UGI International**
  3 subsidiaries market propane and natural gas in 16 European countries
  - Major propane supplier in western and eastern Europe
  - ~700MM gallons/year

- **UGI Utilities**
  PA’s largest natural gas utility serving over 600,000 gas customers and 60,000 electric customers

- **UGI Energy Services**
  LNG, energy marketing, power generation and numerous midstream gas assets
UGI Energy Services has been marketing energy for over 20 years.

**Marketing**
- **Natural Gas**
  - ~ 240 Bcf per year (retail & wholesale)
  - > 38,000 customer locations
  - 36 LDCs

- **Power**
  - > 5,000 locations
  - 19 EDCs

**Midstream**
- **Peaking & LNG**
  - Temple LNG liquefaction, storage and vaporization
  - 6 Propane Air Plants

  **Storage**
  - 15 Bcf, North Central PA

- **Pipelines**
  - Auburn I & II
  - PennEast
  - Sunbury

**Generation**
- **Generation**
  - Hunlock: 130 MWs combined cycle

  - Conemaugh: 102 MWs coal-fired

  - Renewable energy: ~ 20 MWs
Through its subsidiary UGI LNG, Inc., UGIES owns and operates the Temple LNG facility near Reading, PA.

- Storage Capacity: 15 million gallons of LNG or about 1.25 Bcf
- Liquefaction Capacity: 10,000 Dth/day
- Vaporization Capacity: 205,000 Dth/day (capable of delivering into TETCO)
- Equipped with LNG tanker truck loading capability
- Receives natural gas via Texas Eastern Pipeline (TETCO)
- Regulated by the Federal Energy Regulatory Commission
- Owned and operated by UGI LNG, Inc.
- 100% of the capacity is contracted by UGI Energy Services
• **Purpose:** Expand LNG capacity to serve Northeast LDCs and Non-Traditional markets

• **Scope:** 10,000 Dth/day nitrogen cycle with 500,000 gallon cryogenic storage tank

• **Status:** Target COD: 2\textsuperscript{nd} Quarter 2017 – being commissioned
Traditionally Served Peaking Facilities in Northeast

LDC and non-Utility Customers
Expanded LNG Customer Base

“Virtual Pipeline” Customers

- Mining
- Locomotive
- Marine
- Stationary Industrials
- Truck Fleets
- Drill Rigs
Permanent and Temporary Customer LNG Sites
Applying Industrial Experience to Isolated Communities

• “Beyond The Mains”
  o No access to LDC pipeline network
    • Long-standing established communities
    • New housing developments

• Desire for natural gas
  o Environmental Sensitivities
    • Alternative to fuel oils & propane
  o Economic Considerations
    • Fuel pricing expectations
    • Housing customer attitude
UGIES Experience – Isolated Community

- Northcentral PA
  - Rural area - low population density
- No access to LDC P/L Network
- New development ~160 homes
- No interest in fuel oil
  - Simplified propane storage/delivery system
Common Threads: HHP and LDC Service

- Reliable and Reasonably Priced LNG Supply
- Practical and Practiced O&M Programs and Staff
- Tried and True LNG Equipment
- Funding Options
- Versatile Design: Baseload and Peaking Applications
Large-scale LNG Storage and Vaporization Facilities

- 2MM gallon Field-Erected Storage tank
- 70,000 Dth per day Vaporization Capacity
- Two Truck Off-Loading Racks
- COD: 4Q 2017

Sites under development in MidAtlantic and New England

- Providing traditional peaking and supporting non-peaking services
UGIES Service Offering
Traditional and Non-Traditional Customers

**Fuel Supply**
- Reserve capacity for FIRM supply service
- Multi-year Terms
- Transparent: Commodity Price & Non-Gas Costs
- Risk Management / Price Hedging Services

**Transportation Logistics**
- Provide a delivered product
- Lower cost and enhanced reliability/flexibility
- Arrangements with multiple carriers

**Technical Know-How**
- Experienced process engineers and seasoned technical staff
- Excellent safety record and safety-focused culture

**Infrastructure Development**
- LNG System Design
- Land Development and Permitting
- Construction Management
- Operations and Maintenance Oversight
Thank you for your attention

www.ugienergyservices.com/Lng
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