



# Consumers Energy Utilizing Temporary Compression to Minimize Methane Emissions

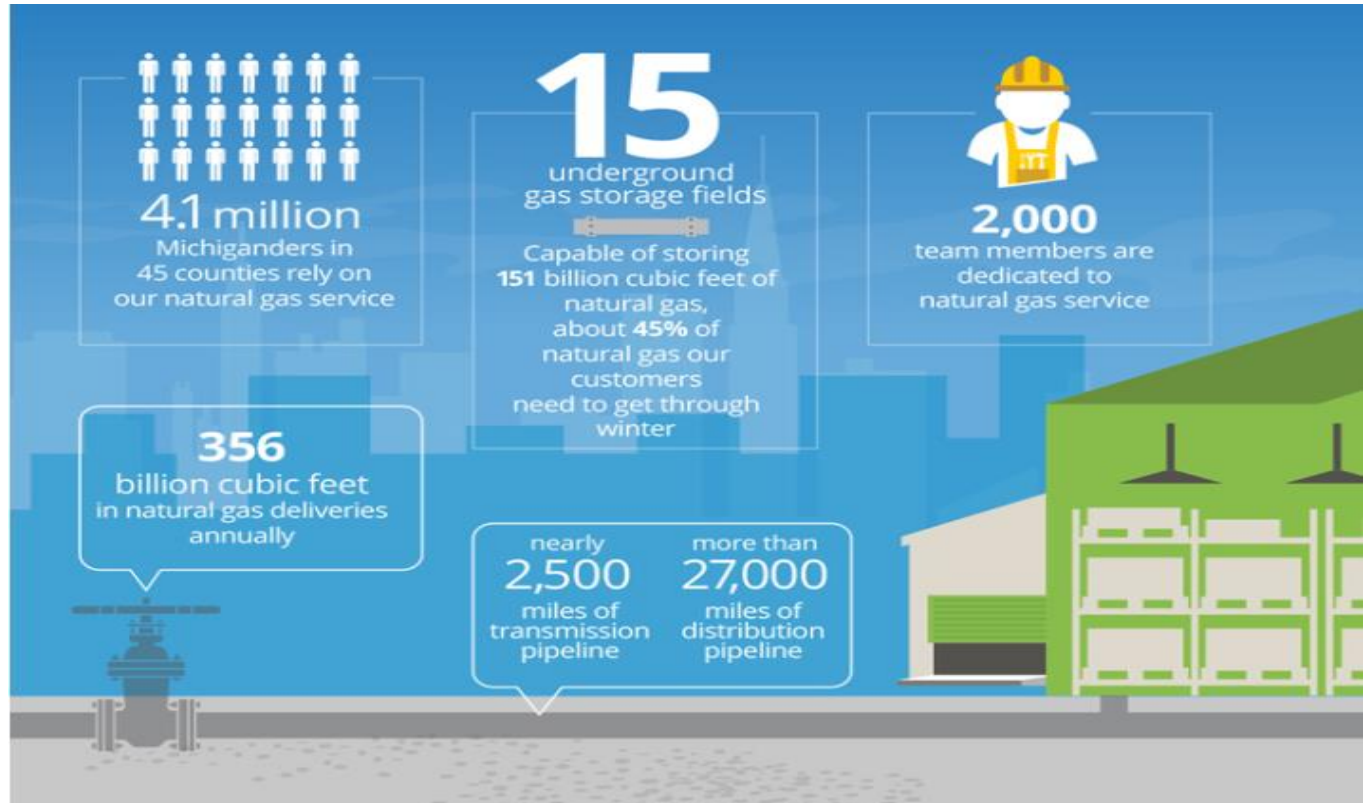
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# CE Gas System Overview

- 1.722 million gas customers
- 27,300 miles of distribution main
- 2,447 miles of transmission classified pipe
- 97 city gates
- 7 compressor stations
- 15 underground gas storage fields



# System Integrity

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- Work requiring non-pressurized line
  - Pipeline Remediation work
  - Pipe or Main Line Valve Replacement
- Historical Practices
  - Drawing line down (600 to 300 psig)
  - Blowing the line down
- Drawbacks
  - Cost of gas lost
  - Impact to local residents/businesses
  - Time required



# Temporary Compression





# Case for temporary compression

- Establish annual plan
  - Pipeline Outage Schedule established in advance
- Evaluate compression cost to gas lost
  - Assess volume and gas cost required to depressurize line segment
  - Share project parameters with vendor
  - Evaluate bids vs. cost of gas lost if blowdown option were used

# Case for temporary compression

- Schedule vendor to support projects:
  - Positive financial impact
  - Require more than one day
  - Reduce impact on neighboring property owners - equipment noise vs. emission issues
- Draw down internally is evaluated and may be selected as the primary option



# Consumers History with Temp comp

- Temporary compression used since 2006
  - 2010 –2016: Average 26 projects/year
  - 300 hp units in general
  - Brings line down to ~ 45 psig
    - Line is then blown down
    - Not flared
- Volume of avoided emissions 1538MMcf
- Volume of our work with the vendor has provided options for emergent response



# Questions

