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**Distribution Construction Workshop –  
CenterPoint Energy New Construction -  
Plastic Materials**

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April, 2010

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# Company Overview



## CenterPoint Energy, Inc.

CenterPoint Energy, Inc., headquartered in Houston, Texas, is a domestic energy delivery company that includes electric transmission and distribution, natural gas distribution, competitive natural gas sales and services, interstate pipelines and field services operations. The company serves more than five million metered electric and natural gas customers in six states: Arkansas, Louisiana, Minnesota, Mississippi, Oklahoma and Texas.

# Company Overview



## Interstate Pipelines

Our two interstate natural gas pipelines, CenterPoint Energy Gas Transmission Company and CenterPoint Energy – Mississippi River Transmission Corporation, operate pipelines in Arkansas, Illinois, Louisiana, Missouri, Oklahoma and Texas.

Pipelines .....	7,900 miles
Storage fields.....	Six
Working gas capacity .....	59 billion cubic feet (Bcf)
Gas transported in 2006 .....	940 Bcf

# Company Overview - Pipelines and Gathering



## 2 Interstate Pipelines:

- 7,900 miles of pipe, 940 Bcf per year

## Field Services:

- 3,700 miles of gathering lines, 375 Bcf gas gathered

## Pipeline Services:

- Operations & maintenance
- Pipeline integrity

# Company Overview

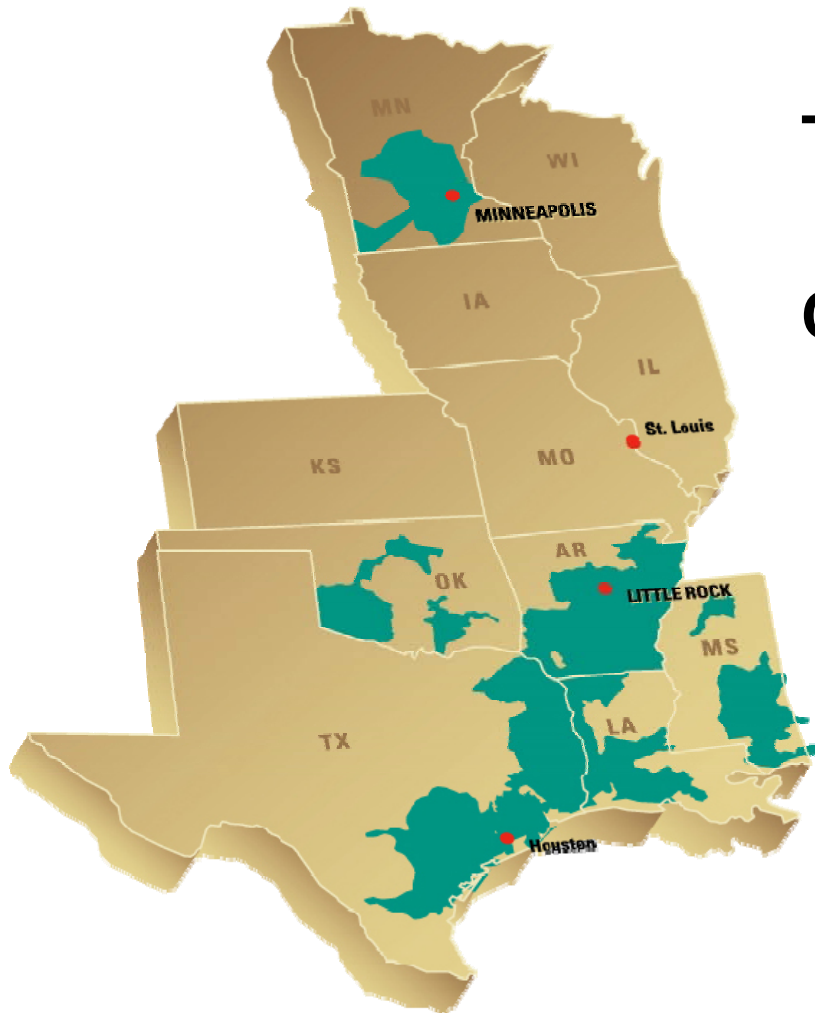


## Natural Gas Distribution

Our natural gas distribution business operates in Arkansas, Louisiana, Minnesota, Mississippi, Oklahoma and Texas. The major cities we serve are Houston; Minneapolis; Little Rock, Ark.; Biloxi/Gulfport, Miss.; Shreveport, La.; and Lawton, Okla.

Number of customers .....	3.2 million
Communities served .....	990
Main and service lines .....	111,472 miles
Total gas sold/delivered .....	376 Bcf

# Natural Gas Distribution



**Three LDCs serving more than 3 million customers in 6 states**

**Competitive gas services**

- **7,000 commercial/industrial customers**

# Plastic Distribution Lines



- **Pre-Installation**
- **Installation**
- **Post Installation**

# Installation of Plastic Pipe



# Pre-Installation of Plastic Pipe



# Pre-Installation of Plastic Pipe



- **Training/Qualifications**
  - **Company –**
    - **New Construction is Part of OQ Requirement**
    - **Plastic Fusion Qualifiers Annual Training/Qualification**
  - **Contract**
    - **New Construction is Part of OQ Requirement**
    - **Contract Employees are Qualified by Company Plastic Fusion Qualifiers**

# Pre-Installation of Plastic Pipe



- **Audit**
  - **Contractor OQ Program**
  - **Missing Elements are Identified and Required to be Resolved Before Contract is Issued**
  - **Random Office and Field Pre-Audits of OQ Program**

# Pre-Installation of Plastic Pipe



- **Procedures**
  - **All States Follow a Single O&M Manual and Construction Manual**
    - **Plastic Fusion Procedures**
  - **Contractors Must Follow Same Manual**
  - **Manual Revisions are Communicated to Company and Contract Personnel**

# Installation of Plastic Pipe



# Installation of Plastic Pipe

# Installation of Plastic Pipe



- **Crew-Leader/Inspector**
  - **Company – Crew-Leader**
    - **All Construction Crews Have a Leader on The Crew**
  - **Contract Crews – Company Inspector**
    - **All Contract Crews will be Assign to a Company Inspector**

# Installation of Plastic Pipe



- **Storage of Plastic Pipe**
  - **Stored in a Manner to Eliminate Crushing, Piercing or Cutting**
  - **First in, First out Inventory System, Minimize UV Exposure**
  - **Not Stored in Direct Sunlight for More Than 2 Years**
  - **Store With End Caps**

# Installation of Plastic Pipe



- **Direct Burial**
  - **Trench Bottoms Smooth, Continuous and Free of Rocks and Other Debris**
  - **Avoid Damage to the Pipe During Handling, Unloading and Stringing**
    - **Protect Against Damage When Dragging Over Rocky Terrain or Hard Pavement**
    - **Any 10% or Greater Scratches in the Pipe During Installation Must be Removed**

# Installation of Plastic Pipe



- **Direct Burial**
  - **Avoid Excessive Bending**
  - **All Pipe Laid True To Line and Grade**
    - **Provide for Slack in Pipe for Expansion and Contraction**
  - **Protective Sleeves for Service Branches and Transition Fittings**
  - **Tracer Wire**
  - **Backfilling and Compaction**



# Installation of Plastic Pipe



- **Boring**
  - **Locate all Utilities**
  - **Check Soil Conditions, Rocky Soil May Require Other Installation Methods**
  - **Pulling Head Must be 1-1/3 Times the PE Outside Diameter**

# Installation of Plastic Pipe



- **Boring**
  - **Assemble a Weak Link on The Pulling Head**
  - **Slow and Uniform Application of Force When Pulling PE**
  - **Allow PE to Relax Before Making Tie Ins**

# Installation of Plastic Pipe



# Post-Installation of Plastic Pipe

# Post Installation of Plastic Pipe



- **Discovery of Defects or Incidents**
  - **Defects Discovered Can Lead to Investigations for Company and Contract Personnel**
  - **Investigation Can Lead to Researching Past Installation Records**
    - **Past Installations By The Same Employee Will Be Investigated To Ensure Procedures Were Followed**

# Post Installation of Plastic Pipe



- **Discovery of Defects or Incidents**
  - **Contractors Will Bear The Financial Burden For Investigative Digs and Replacements.**
  - **Incidents Could Trigger Additional Audits for Contract Company**
  - **Company and Contract Employees Can Be Terminated for not Following Procedures**

# Installation of Plastic Pipe - Final Thoughts



**CenterPoint Energy has a vested interest to ensure our plastic mains and services are installed correctly**

- **Reduces maintenance and repair costs after installation**
- **Eliminates potential litigation costs from incidents**

# Installation of Plastic Pipe



QUESTIONS?