

# Kinder Morgan Texas Intrastate Pipeline Group

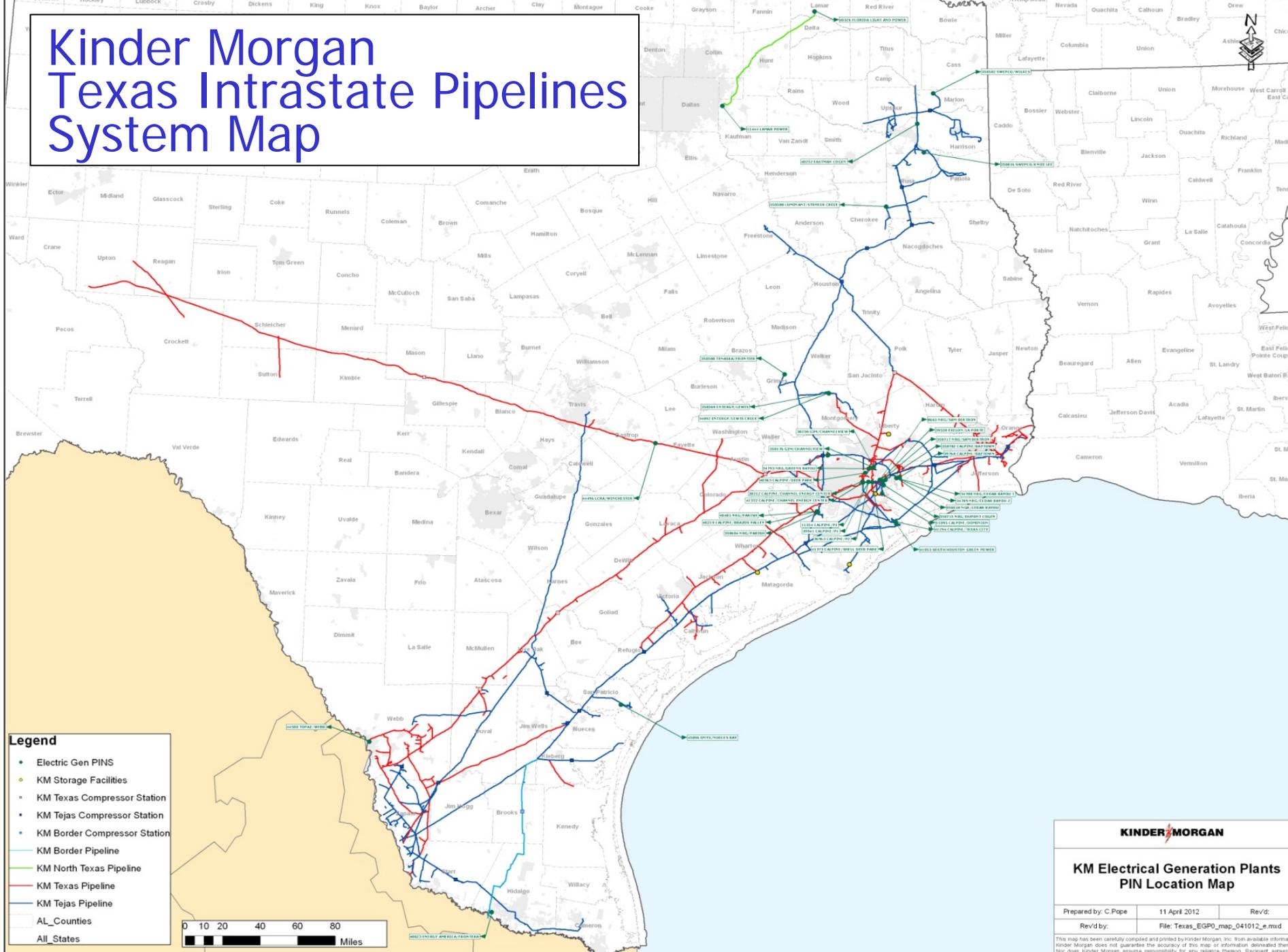
Public Utilities Commission of Texas  
Railroad Commission of Texas

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# Kinder Morgan Texas Intrastate Pipelines System Map



**Legend**

- Electric Gen PINS
- KM Storage Facilities
- KM Texas Compressor Station
- KM Tejas Compressor Station
- KM Border Compressor Station
- KM Border Pipeline
- KM North Texas Pipeline
- KM Texas Pipeline
- KM Tejas Pipeline
- AL\_Counties
- All\_States



**KINDER MORGAN**

**KM Electrical Generation Plants PIN Location Map**

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# Pipeline and Compressor Facilities

- Includes:
  - Kinder Morgan Texas Pipeline LLC
  - Kinder Morgan Tejas Pipeline LLC
  - Kinder Morgan Border Pipeline LLC
  - Kinder Morgan North Texas Pipeline LLC
- Approximately 6,100 miles of pipeline, ranging from 4" to 36" in diameter
- 25 mainline compressor stations, of which three are electric compression (North Dayton Storage, West Clear Lake Storage, and CenterPoint's Pierce Junction Storage)
- Four gas storage facilities with maximum total withdrawal capacity of approximately 2,950 MMcf/day, and total working gas capacity of approximately 136 Bcf; includes:
  - West Clear Lake in Harris County
  - North Dayton in Liberty County
  - Markham in Matagorda County
  - Stratton Ridge in Brazoria County

## Pipeline and Compressor Facilities (continued)

- Interconnects with approximately 60 other intrastate and interstate pipelines
- Provides firm and interruptible gas purchase, sales, gathering, transportation, and storage services, and treating and processing services through owned facilities and third-party contracts
- Receives gas (purchases and transports) from producing fields in South Texas, East Texas, the Gulf Coast, the Gulf of Mexico, the Permian Basin, and from PEMEX at the U.S./Mexico Border
- Delivers gas (sales and transports) in Austin, Houston, Corpus Christi, the Rio Grande Valley, Beaumont/Port Arthur, and to PEMEX at the U.S./Mexico Border and in Monterrey, Mexico
- Average pipeline throughput is approximately 4 Bcf/day, with a peak of approximately 5.5 Bcf/day; delivery loads (sales and transportation) as a percentage of the total load include:
  - Electric generating power plants (average 28%)
  - Industrial End-Users (average 40%)
  - Local Distribution Companies and Municipalities (average 6%)
  - Other pipelines (average 21%)
  - Storage (average 5%)

# SCADA Systems

- Centralized, server based SCADA System
- Houston Gas Control Center w/backup in Missouri City, Texas and Lakewood, Colorado
- All server and infrastructure equipment located in data centers in Houston and Lakewood
- Network Operations Center located in Lakewood, Colorado
  - Network conditions monitored 24/7
  - System communications monitored for ongoing outages
  - Gas Control field callout communication
- Configured to provide redundant polling servers and redundant historical servers in each data center
- Automated local failover between server pairs, and manually initiated failover between the data centers for disaster recovery purposes
- KM's network environment provides a separate SCADA network (LAN and WAN) for all SCADA communications
  - Mix of licensed MAS radio, unlicensed spread spectrum radio, leased lines, satellite, dialup, and CDPD link
  - Multiple protocols on single communication channels
- Collects detailed measurement data (EFM) for approximately 4,000 meters
- Primary users include the Gas Control groups, Measurement, Scheduling, Operations, and the Network Operations Center

# Gas Contracts and Transportation Agreements

- 35 electric generating power plants
  - Locations:
    - ◆ 20 in Houston and vicinity
    - ◆ 5 in East Texas
    - ◆ 3 in the Hill Country
    - ◆ 3 in South Texas
    - ◆ 2 in Central Texas
    - ◆ 2 east and northeast of Dallas
  - Contractual Arrangements:
    - ◆ 11 with firm transport with deferred account
    - ◆ 11 with firm transport with deferred account and firm sales
    - ◆ 1 with firm transport and firm sales
    - ◆ 5 with firm sales
    - ◆ 2 with firm transportation
    - ◆ 1 with firm transport with deferred account and interruptible sales
    - ◆ 1 with firm transport and interruptible sales
    - ◆ 1 with interruptible transport and interruptible sales
    - ◆ 2 with interruptible sales



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