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National Association of Regulatory Utility Commissioners

Framework for Natural Gas Storage

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June 2007

Regulatory Background

- Storage Operators licensed by the Federal Energy Regulatory Commission (FERC)
- FERC has jurisdiction over the vast majority of gas storage facilities in the U.S. due to the connection of these facilities to the interstate gas pipeline system
- NYS has a few storage facilities in the state - these are licensed and regulated by FERC
- Some intrastate storage facilities in other states
- Rates, terms, and conditions established by FERC
- New York State PSC intervenes in FERC cases

Licensing procedures and rules for access to storage facilities

- Storage operators must obtain a Certificate of Public Convenience and Necessity from FERC for a new storage facility
- Storage operators must show need for facility, rate impacts, environmental effects
  - Key issues involving rates – how to set initial rates – will the storage field capacity be fully subscribed
  - Key issue involving environmental – local involvement
- All potential customers have equal access to storage services provided by storage operators
- Names of users of storage services are posted on public websites
- Storage operators file tariffs for approval with FERC
- Rates set by FERC are non-discriminatory and are based on the cost of service

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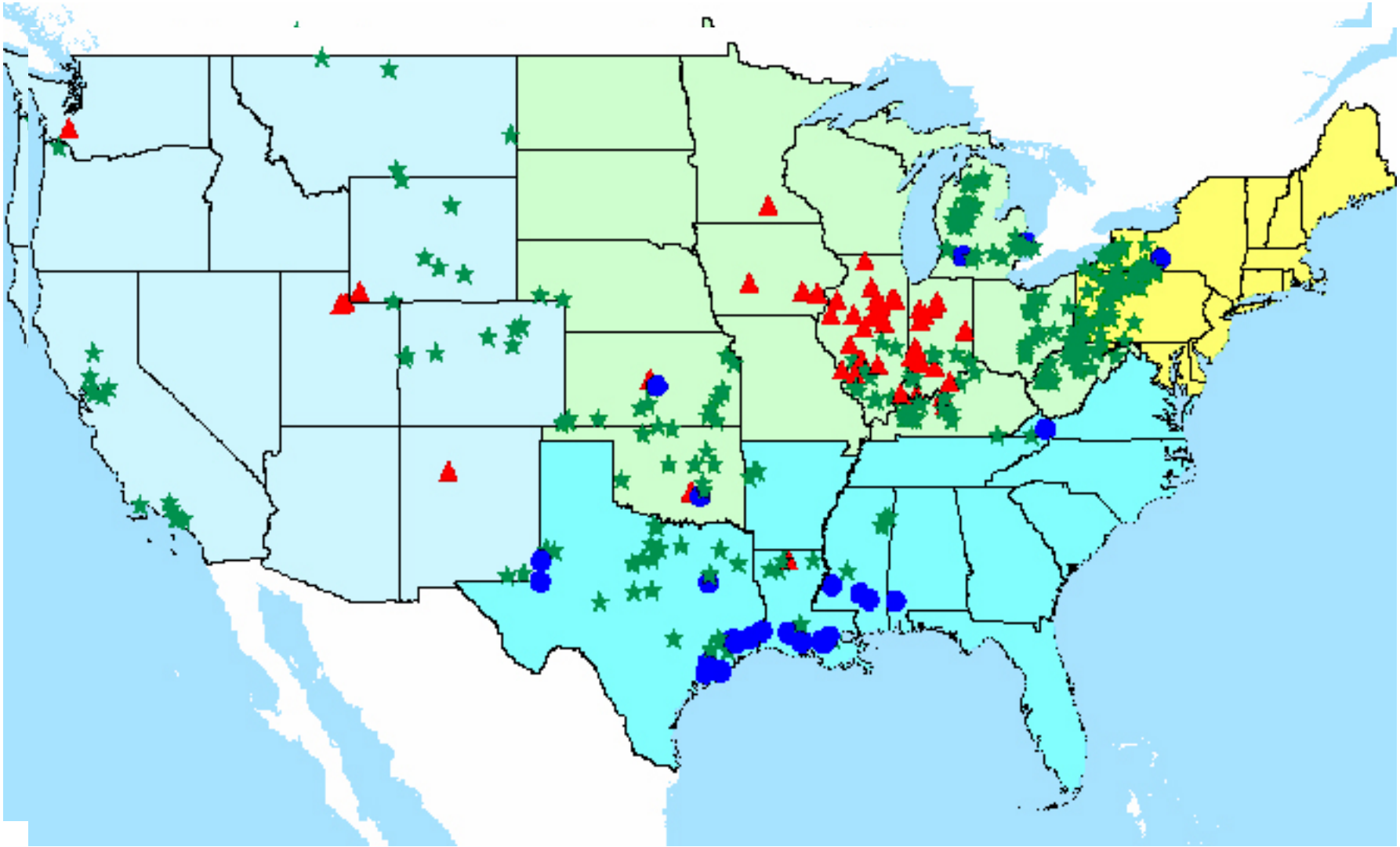

Storage Facilities

- Total Storage Capacity – 8.3 million bcf
- Depleted oil & gas fields – 87% of Storage Capacity in US
  - Naturally occurring
  - Working Gas requirement is generally 50% of total reservoir capacity
  - Gas is withdrawn in winter and injected in summer
  - Used for both system supply and peak day use
  - Injection Period – 200-250 days
  - Withdrawal Period – 100-150 days

Storage Facilities - continued

- Aquifer Storage fields – 10% of Storage Capacity in US
  - High base gas requirement – 50%-80%
  - Injection/withdrawal Period – same as depleted fields
- Salt Cavern Storage – 3% of Storage Capacity in US
  - Lowest base gas requirement 20-30%
  - Working gas can be recycled more than once/year
  - Injection Period – 20-40 days
  - Withdrawal Period – 10-20 days

Storage System Users

- Interstate Pipelines
- State regulated Gas utilities
- Unregulated energy service companies
- Gas marketers (traders)
- Large Customers (e.g. industrial customer)
- All users of storage services are identified publicly
- Type of service taken by users are identified publicly

Operational Aspects

- A storage service may be related to a particular field or group of individual storage fields
- Physical aspects of fields dictate the operational aspects of storage services
- Maximum daily deliverability of storage services are a function of the maximum capacity of the field
- Withdrawal capability from the field decreases as the inventory in storage decreases (lower pressure)
- Storage rachets and restrictions are imposed to reflect the operational conditions of the storage field and to protect the integrity of the fields
- Seasonal storages – withdrawals over several months – injections over several months (summer) to replenish – use depleted production fields and aquifers
- High deliverability fields – total volume can be withdrawn quickly (i.e. Over 10 days); significant injection capability; inventory can be cycled several times a year – salt caverns

Utilization of Storage Services by NY utilities

- Serves a critical function
- Used to meet incremental seasonal demand – storage in the market area may be more cost effective than incremental pipeline capacity back to the production regions
- Cost mitigation/price diversity/volatility minimization – summer gas prices generally less than winter prices – also provides a natural hedge against volatility
- Balancing – storage is used to match what is brought in vs. what is used by customers – if not enough gas is delivered, can rely on storage – if too much gas is delivered, can inject the excess into storage
- Contingency Protection – provides a source of supply independent of current production to displace supplies lost through temporary production disruptions such as hurricanes or well freeze offs