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Presented by Jim Crews, Manager, Gas Control, NiSource, at the West Virginia Energy Infrastructure Workshop on December 11, 2003 at Stonewall Resort, Roanoke, WV. This meeting was a part of the Energy Roadmap Workshop Series commissioned by West Virginia Governor Bob Wise.

Energy Roadmap-Infrastructure

December 11, 2003



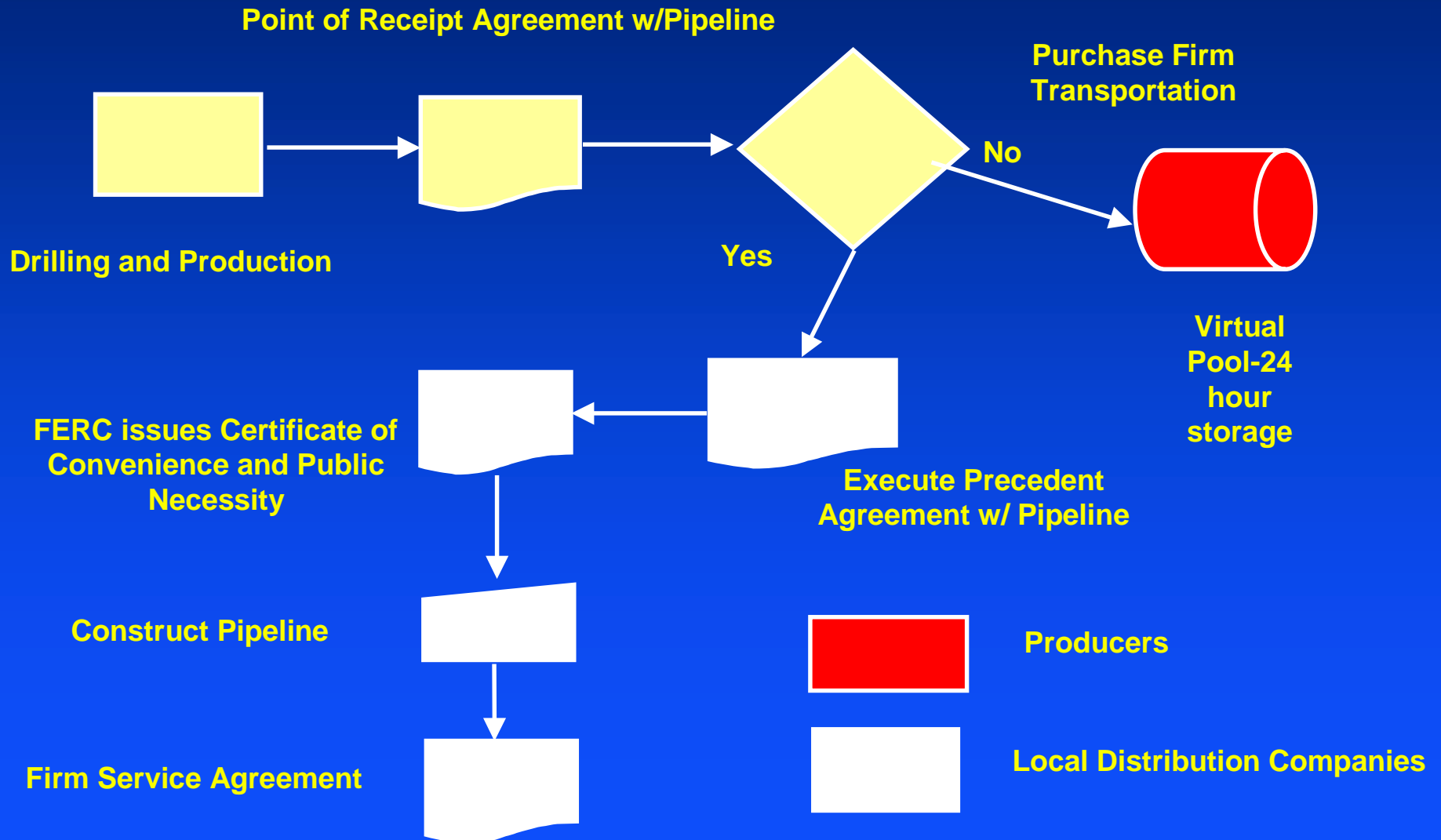
Columbia Gas Transmission
Columbia Gulf Transmission
Crossroads Pipeline
Granite State Gas Transmission

NiSource Companies

Outline

- **Producers Market Path vs. LDC Market Path**
- **Natural Gas Price Drivers**
- **Competition for non-firm receipt capacity**
 - **Market Factors-Increasing Appalachian Production**
 - **Electric Generation**
 - **LNG**
- **Gas Quality Requirements**
- **Columbia's Southern Appalachian Expansion**
- **Summary**

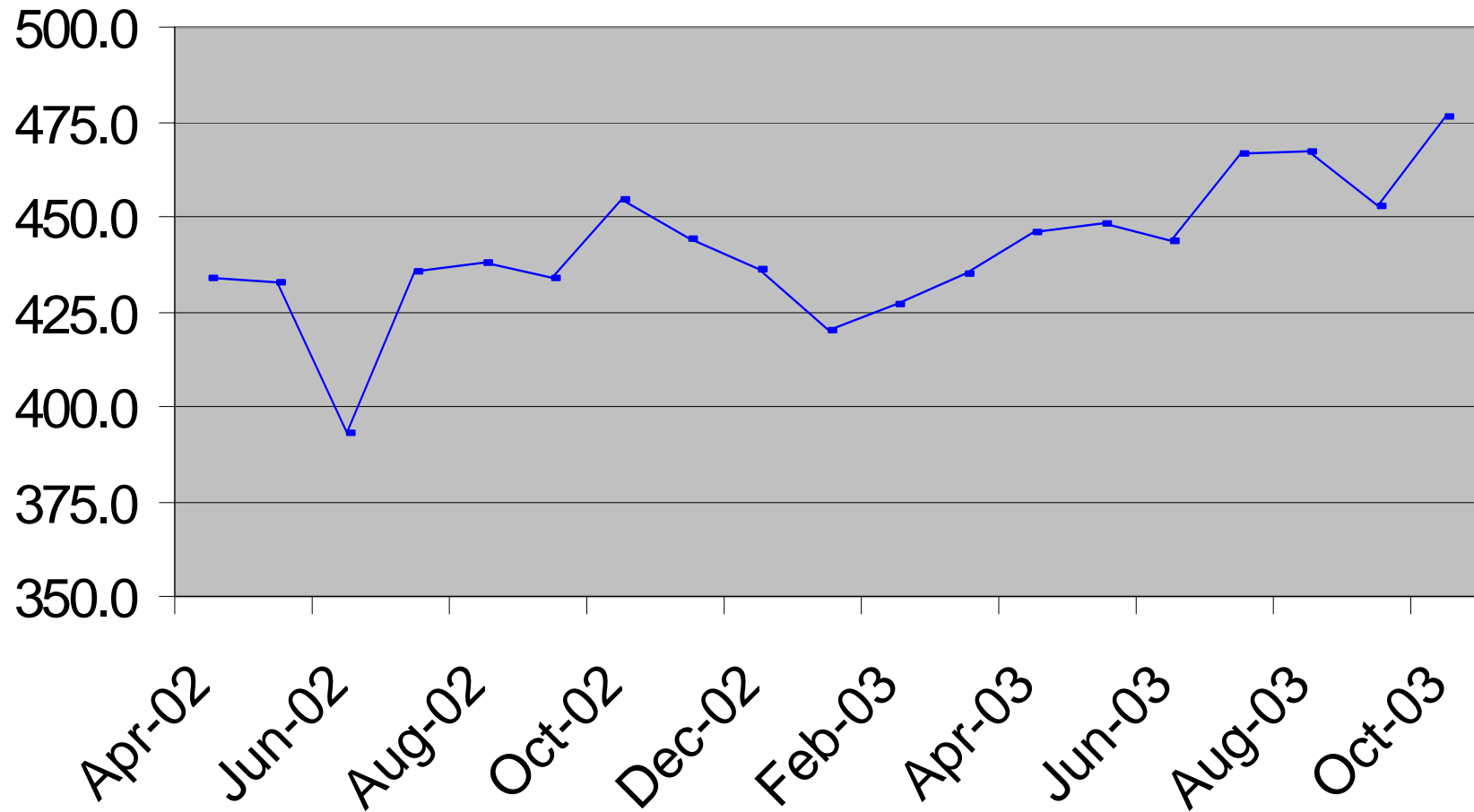
Current Process



Natural Gas Price Drivers

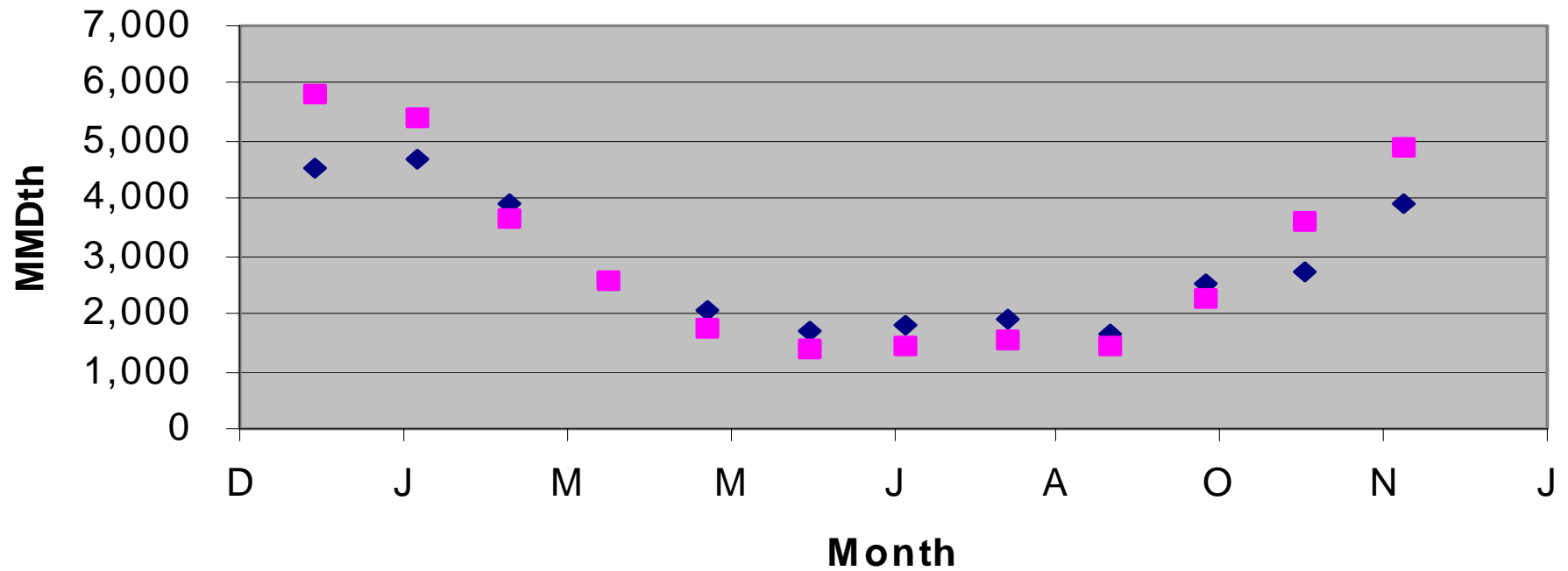
	EIA Storage Injection Report	EIA Storage Withdrawal Report	Summer NOAA Weather Forecast-ODDs	Winter NOAA Weather Forecast +DDs	Effect on Non-Firm Receipt Capacity
Increasing Prices	Actuals < Forecast	Actuals > Forecast	Forecast > Current	Forecast > Current	Increasing
Decreasing Prices	Actuals > Forecast	Actuals < Forecast	Forecast < Current	Forecast < Current	Decreasing

Increasing Appalachian Production- MDth/day



Market- The Producers Friend!

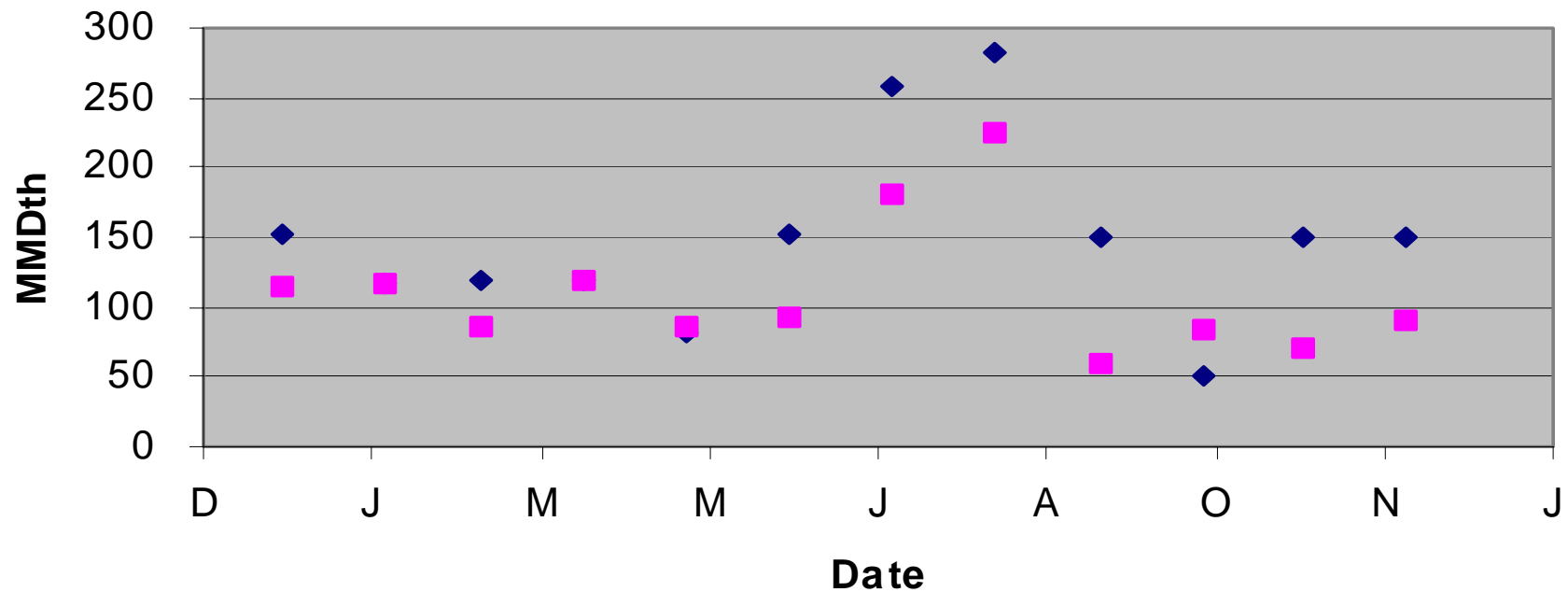
Total Market



◆ 01/02 Deliveries ■ 02/03 Deliveries

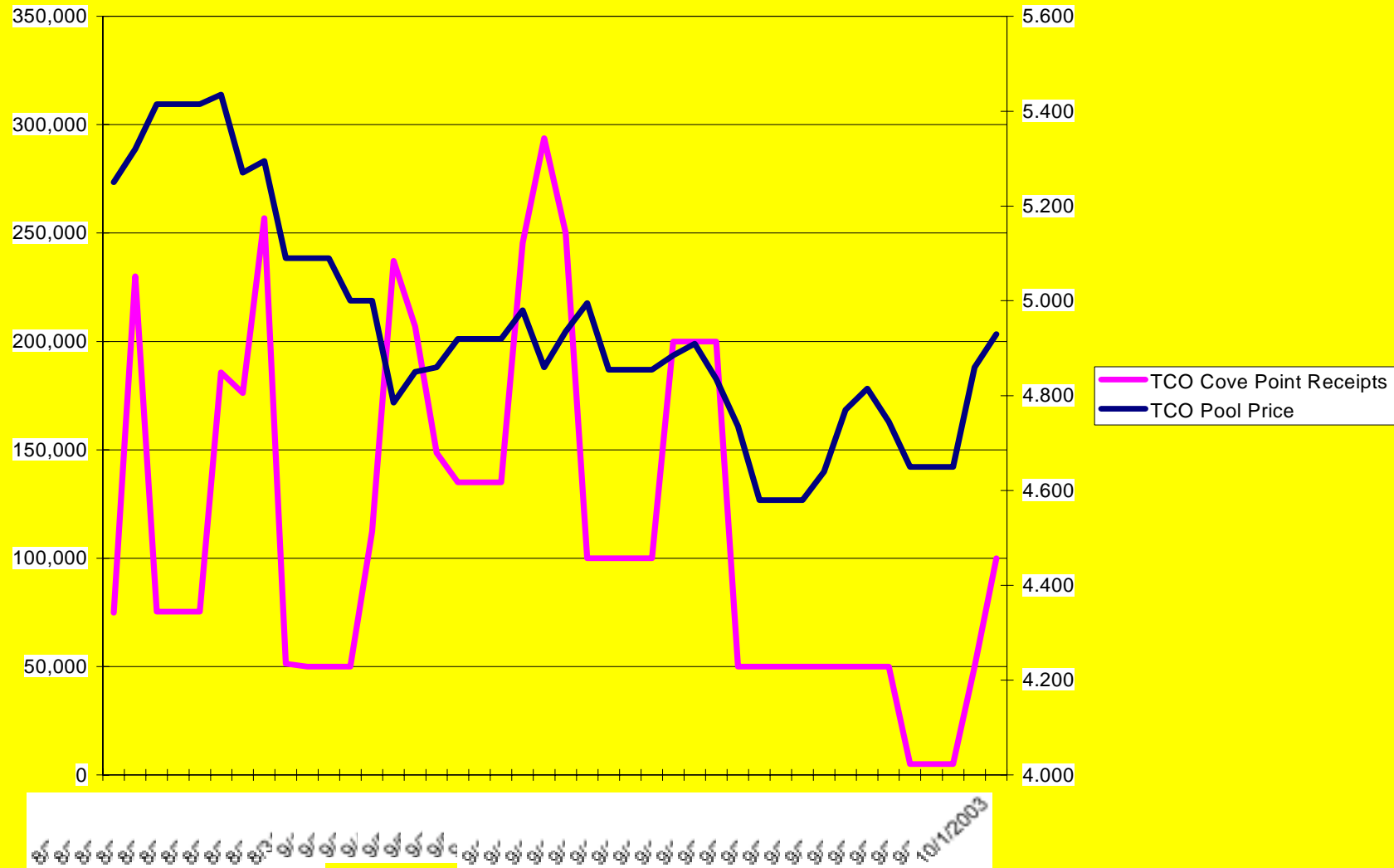
Power Generation-The Producers Friend!

Power Generation



◆ Power01/02 ■ Power 02/03

LNG-Competition for Receipt Capacity and Value



Gas Quality-Aggressiveness

Relative Corrosion Aggressiveness of Various Environments on Steel

- Salt water - very mild
- Salt water + O₂ - moderate
- Salt water + CO₂ - moderately severe
- Salt water + CO₂ + O₂ - severe
- Salt water + H₂S - very severe
- Salt water + H₂S + CO₂ - very, very severe
- Salt water + H₂S + CO₂ + O₂ - extremely severe

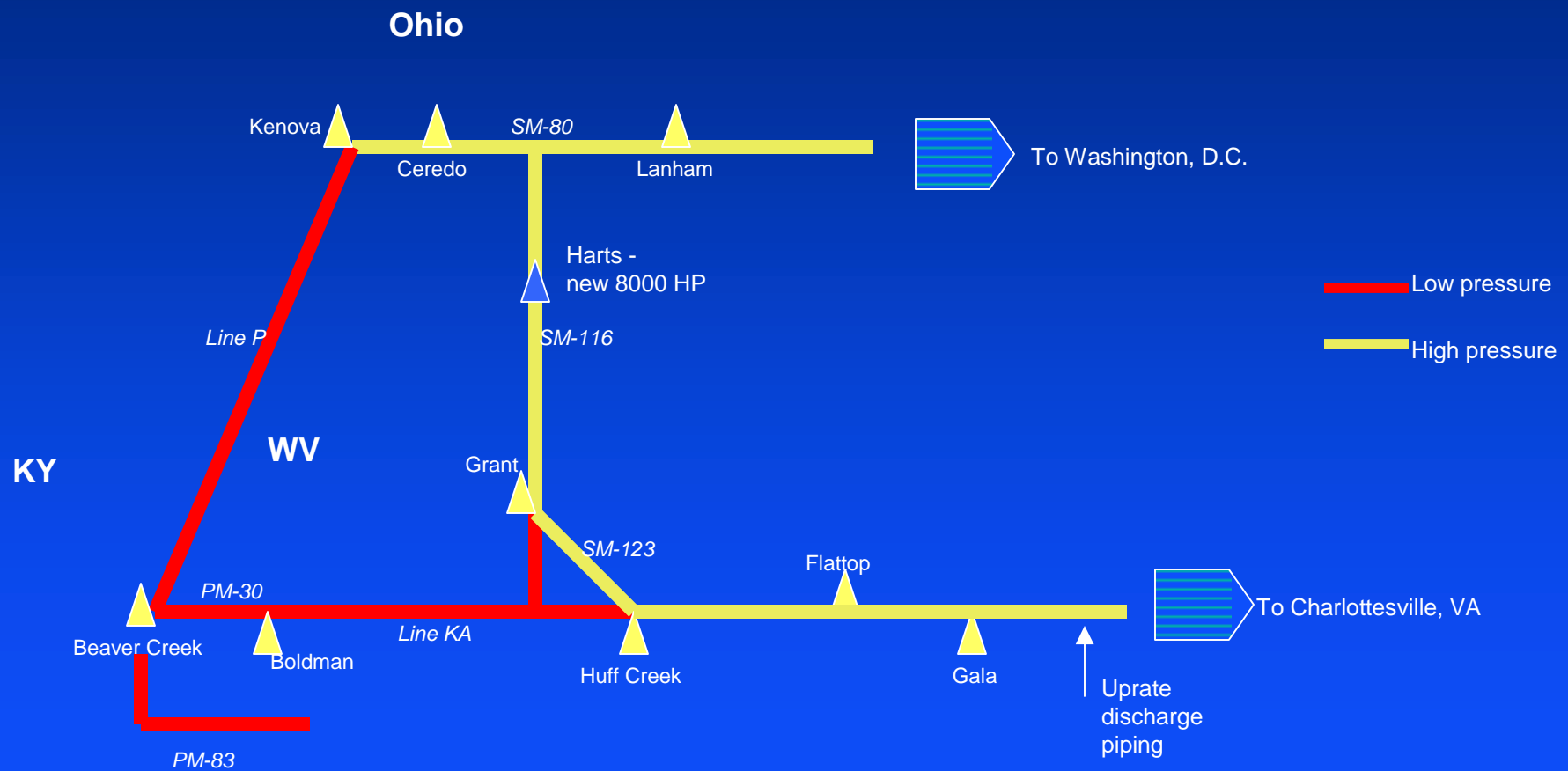
Gas Quality Requirements

	Columbia	Dominion Transmission	Equitrans
BTU/SCF- Dry/Wet	>967	967- 1100/1100	967-1127
H2S- grains/100cf	1/4	1/4	1/4
N2/CO2/Not to exceed-%	1.25/4/4	3/3/5	NA/2.5/4
O2-%	0.02	0.2	0.2
Water- lbs/mmscf	7	7	7

Current Summer Design Day Capacity



Southern Appalachian Expansion



Southern Appalachian Expansion- Preliminary Rates-To TCO Pool, Only

Incremental Capacity Dth/day	Daily Demand Rate-\$/Dth	Fuel Retainage \$/Dth	Commodity Charge \$/Dth	Total Daily Rate-\$/Dth	Term Years	In Service Date
25000	0.103	\$0.11	0.0201	0.238	10	11/1/2005
95000	0.135	\$0.11	0.0201	0.270	10	11/1/2005

**Total Daily Rate @100% Load Factor-POR on High Pressure
System**

Summary

- Historically, producers have been averse to paying demand/reservation fees.
- Historically, Pipelines have been built on demand/reservation fees paid by local distribution companies for terms of 10-15 years.
- Appalachian Production is increasing by 0.7%/month, currently
- Appalachian producers are competing with LNG for pipeline non-firm receipt capacity.
- Project Timeline_ 2 to 3 years