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Building the Energy Markets of Tomorrow . . . Today

Winter 2005/06 Fuel Assessment

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Strategic & Business Planning



Winter 2005/06 Fuel Assessment

- ✓ NYISO and PJM commissioned Levitan to prepare assessment of fuel availability for the winter 2005/06.
- ✓ Hurricanes Katrina and Rita reduced capacity of natural gas and crude oil production, processing and transportation facilities from the Gulf of Mexico.
 - *Natural gas shut-ins from federal offshore facilities (MMS) remain at 3.3 Bcf/day (November 21), three weeks into the winter heating season.*
 - *Levitan study expects remaining idle capacity during the winter months of 1.5 Bcf/day from the Gulf of Mexico.*
- ✓ Substantial decrease in gas deliverability on both Transco and Tennessee interstate pipelines to the northeast:
 - *Transco: Initial loss of about 3.4 Bcf/d out of ~ 8.0 Bcf/d total deliverability. Emergency scheduling procedure invoked.*
 - *Tennessee: 800 MMcf/d initially shut-in and 395 MMcf/d remains shut-in.*



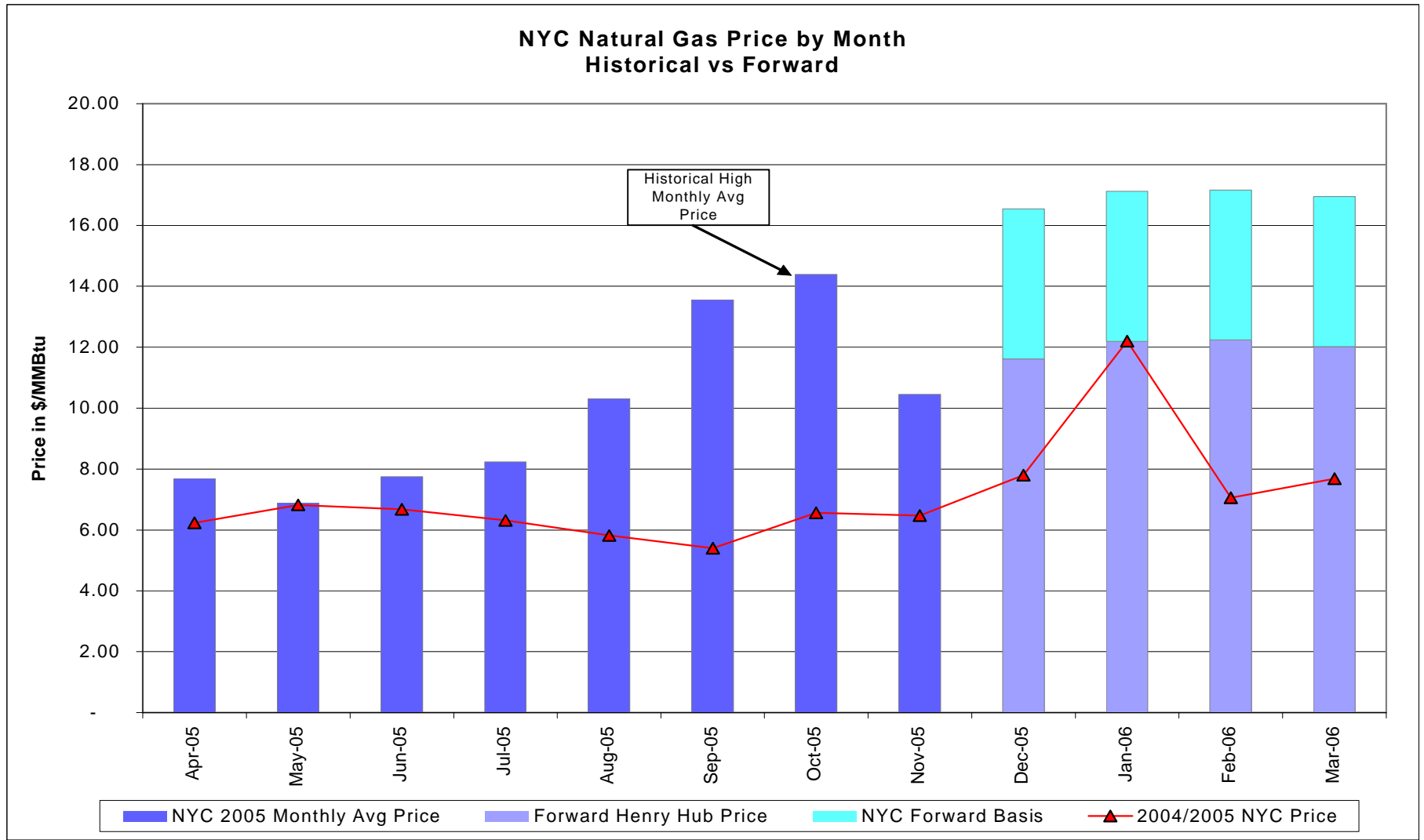
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- ✓ While fuel prices have declined from historical high prices following the hurricane damage to the Gulf of Mexico energy infrastructure, prices remain high relative to historical standards and are expected to remain volatile during the winter months.
 - *Monthly average natural gas spot prices for NYC reached \$14.40/MMBtu for October, a historical high monthly average price.*
 - *Prices have since retreated to \$10.84 on November 21st, a decrease of 31.5%, due in part to mild weather in the northeast.*
 - *However, forward prices for NYC during the winter months remain in the \$16 - \$17/MMBtu as increased heating load are expected to strain remaining supplies.*
- ✓ Oil prices have also decreased to pre-hurricane levels in part due to the hurricanes' destruction of facilities that consume oil, the release of crude oil inventories from both the Strategic Petroleum Reserve and European stockpiles, and increased oil imports.

Prices from Platts' GasDaily



Platts Gas Daily Natural Gas Prices



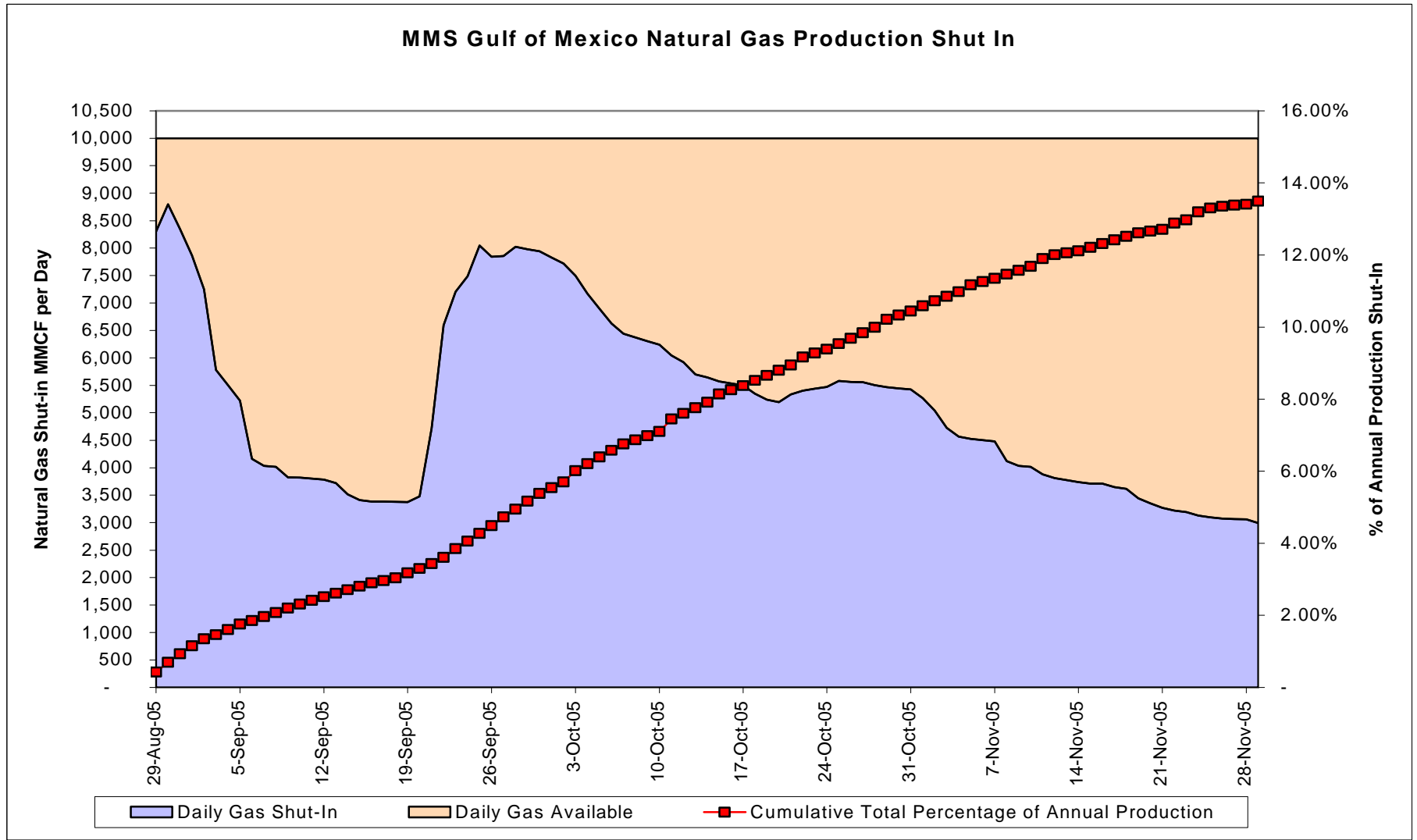


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- ✓ Total anticipated natural gas production losses for 2005 may exceed 600 Bcf (3% of total U.S. annual production).
- ✓ Levitan expects the remaining shut capacity to be reduced from 4.0 Bcf/day in early November to 1.5 Bcf/day (15% of Gulf production) through the winter period.
- ✓ Substantial lost offshore gas gathering capacity is likely to result in a continuing supply deficit through Q2 2006 on trunk lines serving the Atlantic seaboard -- in particular, Transco and Tennessee.
- ✓ Substantial loss of oil refinery capacity in the Gulf portends tight distillate supplies and high prices through this winter.
- ✓ Crude and fuel oil production losses can be mitigated by increased imports—at high incremental costs.



Minerals Management Service Gas Shut-in





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- ✓ NY gas utilities have acquired supplemental natural gas supplies to replace lost Gulf of Mexico production and cover “firm” customer needs.
 - *Any gas supply shortfall will disproportionately affect gas-fired generators as a result of the “non-firm” gas supply and transportation typically relied on by most New York merchant generators.*
- ✓ This winter NY is expected to experience increased use of oil-fired generation, particularly residual fuel oil.
 - *Residual fuel oil should be available (at high prices) by tanker or barge to generating plants with waterborne delivery access. All New York City and Long Island steam units have waterborne access.*
- ✓ Quick-start peaking units will require distillate fuel oil to ensure power production during cold snaps.
 - *Limited onsite oil storage capacity at many of these units forces them to rely on frequent truck deliveries. Truck deliveries could be impacted by extreme cold, snow or icy conditions.*



NYISO Initiatives

- ✓ NYISO has been working to minimize the impact of potential fuel shortages during the upcoming winter. NYISO efforts include:
 - *Developed protocol with ConEd to test dual fuel units within their gas service territory;*
 - *Receive and review critical notices from interstate pipelines serving New York;*
 - *Signed MOU with ISO-NE and PJM to coordinate gas-electric issues;*
 - *Met with downstate LDCs, generators and PSC to review fuel supplies and service to generators;*
 - *Participated in ISO-NE emergency drill table top exercise;*
 - *Developing an emergency communications protocol with downstate gas LDCs;*
 - *Developing an communications protocol for fuel oil limited units due to environmental regulations with PSC and DEC;*
 - *Developing database of generators with firm gas contracts in New York; and,*
 - *Annual posting of winter analysis of fuel interruptions and potential impacts on the electrical grid.*