

NG Market » notes

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Lessons from the Natural Gas Market

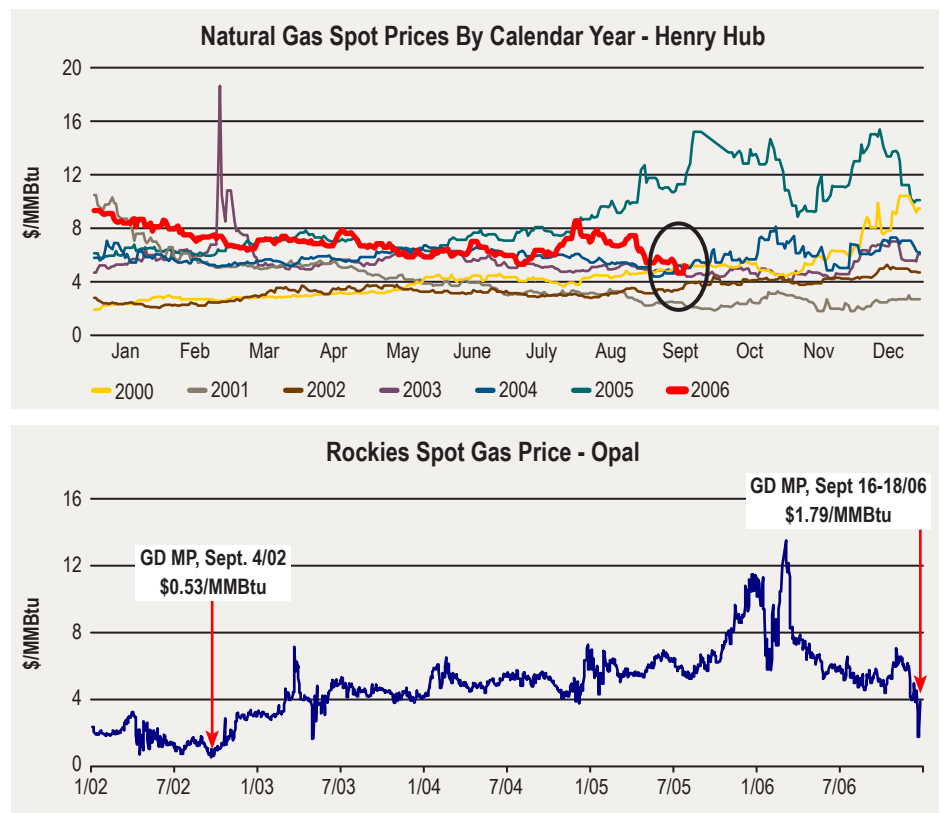
As we move into the final quarter of another year, the natural gas market is again presenting significant challenges to buyers, sellers, and other stakeholders in the market.

Spot market prices have trended downward for most of the year, with one significant exception during the heat wave that gripped the nation in late July and early August. Current price levels are in a range now equal to those in 2003 and 2004 and below prices in 2000 (Chart 1). Since the turn of the century, late September prices lower than this year's occurred only in 2001 and 2002 resulting from overreaction to the Western energy crisis. With the September 2005 price spike serving as an anomaly, gas prices now are at levels not seen in three years.

Natural gas spot prices at Henry Hub for deliveries on September 27 closed at \$4.36 per MMBtu, down nearly \$2.05 per MMBtu since August 31. Indeed natural gas prices are now only 46% of the January 1 price of \$9.52 per MMBtu at Henry Hub! Prices in the Rockies dropped to a remarkably low \$1.79 per MMBtu for deliveries over the weekend of September 16-18 (Chart 2).

The futures market has also declined recently with the October contract expiring at \$4.20 per MMBtu on September 27, down a full \$2.62 per MMBtu from last month's expiration price of the September contract.

The current short run gas market represents a commodity being beaten down by the fundamentals, particularly owing to the normally low 'shoulder season' demand and to record high storage inventory levels that are



expected to break 'all time' records when the winter season starts in November. While the common consensus for the maximum effective U.S. storage capacity has been regarded as 3,294 Bcf according to the American Gas Association (AGA) and others, a federal government report¹ published in September suggests the maximum U.S. storage capacity may be 3,609 Bcf, based upon a survey of 'non-coincidental peak' volumes for all currently active storage fields during a recent period (2000-2004). The EIA's weekly storage report indicated that gas inventory levels stood at 3,177 Bcf as of the week ending September 15, with six weeks to go before the end of the normal injection season. Injections during the week ending September 15 were a healthy 93 Bcf. The U.S. storage level currently stands 283 Bcf or almost 10% greater than last year's inventory level at this time and 427 Bcf or 15% above the last 10 year average (1996-2005) inventory. To reach the AGA's 'full' level will require that injections average a relatively modest 20 Bcf per week over the remaining injection period. To reach the newly estimated storage maximum 'full' level by the EIA of 3,609 Bcf, will require an additional 432 Bcf be injected or an average of 72 Bcf per week over the remaining six week period. The average injection level for these six weeks over the last 10 year period has been 368 Bcf or 61 Bcf per week, so an all time record storage level is not out of the question.

Whether storage will be 'full' at the start of winter should not really be an issue this year or any other year for that matter. Motivated by contractual commitments made by many public capacity holders to have storage capacity 'full' going into the winter and for other market reasons, current inventory levels essentially provide an opportunity to reach record high 'full' gas inventory levels going into the winter season. Whether

storage actually achieves a new all time level is the only real question at this point. Faced with recent prices in the spot market and a winter price strip in the \$7.50 per MMBtu range, the plus \$3.00 per MMBtu incentive to inject may be too much for the market to ignore and to squeeze out of the system. At this point, anything other than 'full' and perhaps record 'full' inventory levels would mean that this October has made a complete about face from the average temperatures being forecast by the NOAA. The primary impact of approaching or achieving 'record inventory' will be the continued softening of already weak short term gas prices.

Market activity is not only about storage either. The current spot gas market has been affected by other key fundamental factors including high temperatures that have persisted in the country for the balance of the year. For the January to August period, 2006 has been the warmest eight-month period on record for the continental U.S. It broke the previous record going back to 1934. This warm weather had an early impact on the gas market by alleviating latent shortages and pipeline curtailments resonating from last year's hurricanes Katrina and Rita. The extremely warm temperatures in January (the warmest since 1895 according to the NOAA) almost assured that inventory levels going into the summer storage injection season would be the highest ever, which they were at 1,695 Bcf surpassing the previous record set in 2002. This strong storage inventory at the outset of summer more than allowed the market to get through extreme periods of above average temperatures that were experienced in July and August, when more than 50 all-time high temperature records were broken across the country. Although storage withdrawals during the prolonged heat wave threatened to completely eliminate the record storage surpluses, the hurricane season was a non-event and the peak heat subsided. These factors allowed storage injections to continue, adding to the inventory surpluses to reach the currently high levels.

1. 'Estimates of Maximum Underground Working Gas Storage Capacity in the United States', Energy Information Administration, September 2006.

Besides remarkable weather and storage levels this year, other fundamentals continue to frame the current natural gas market. Oil prices have softened from a high of \$77 per barrel in mid-July to prices that threatened \$60 per barrel for the NYMEX October futures contract. This oil sell-off seems to result from a number of its own fundamentals as well as common macro economic factors affecting both the gas and oil complex. Recent information out of the U.S. Federal Government and others suggests that the U.S. economy may be slowing as we enter the final quarter of 2006. This is even as geopolitical tensions with Iran over its nuclear program may have lessened. Other strictly oil fundamentals include the recent ultra deep Gulf of Mexico oil discovery by Chevron, Devon Energy and Statoil announced early in September. While many issues exist regarding getting this oil to market, the fact that oil was found at these depths has clearly impacted the oil market. The timing of this discovery helped tip the scales against increased speculation that oil supply shortages in the face of growing demand were about to cause prices to hit \$100 per barrel or more. Other opportunities for deep water oil prospects have also now surfaced in places like Brazil, Nigeria, Angola, the South China Sea and off the coasts of India, Pakistan, Mauritania, Egypt, Malaysia and Mexico. The prospects for additional oil at depths heretofore never before produced have reminded the market about the possibilities for additional supply given the right prices.

The fact that 1) these reserves are still several years away from first production, 2) the world is still using more oil than it is currently finding, and 3) Asia and South America represent potentially massive new gas demand that is trying desperately to emerge from 3rd world status, have for the time being been overtaken by these recent supply announcements. Other factors affecting a bearish oil market also include current 'comfortable' U.S. and OECD crude

oil inventory levels at the end of the summer driving season and ahead of autumn maintenance period before the advent of winter heating demand.

These combinations of factors influence the short term natural gas market and the gas prices therein. In North America it is likely that for the next few months, possibly through the winter (or until an unpredictable event occurs, such as a hurricane or an early Nor'easter storm hits), gas prices will be in a price range lower than what they were earlier this year and more like prices of two and three years ago.

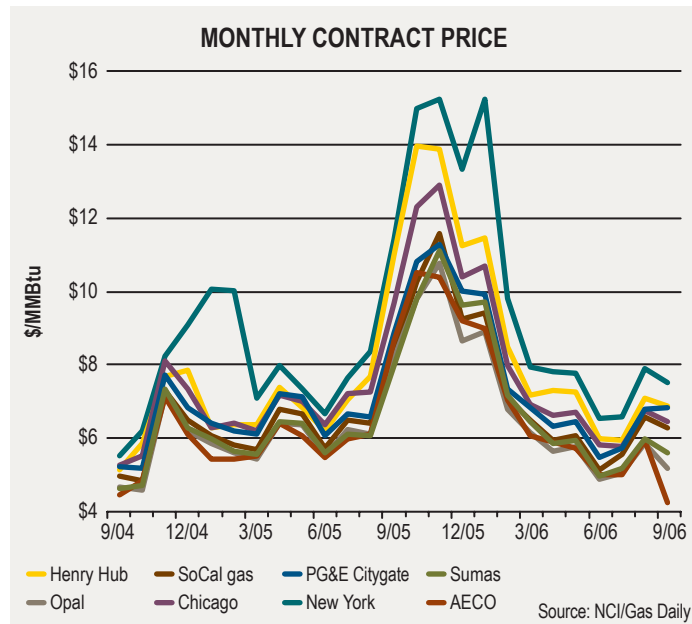
The longer term fundamentals of the market indicate a tight supply market will continue. As we have indicated previously, the gas market is to be as it has been over the last several years, characterized by high price volatility and prices in a range around \$5.00 – 8.00 per MMBtu. This is well above prices seen for short glimpses recently and previously in the 1990s. Short term prices are apt to fall out of this range. Our impression dictated by this range in future prices, is that current prices may have over-reacted and may be at a point where more upside than downside exists in the market, making this a good time to buy. Time will tell.

NCI is in the midst of preparing its new long term gas price forecast that will reflect some of the impacts of the current market in our forecast of future prices. The forecast will be available next week and includes prices at numerous points across the continent. It will show key regional developments that impact basis relationships and regional prices that at times can vary greatly from the broader gas market at Henry Hub. It is likely also that the forecast will heavily discount some of the recent 'noise' in the current market leaving such to speculators, day-traders and apparently to some now infamous *hedge funds!*

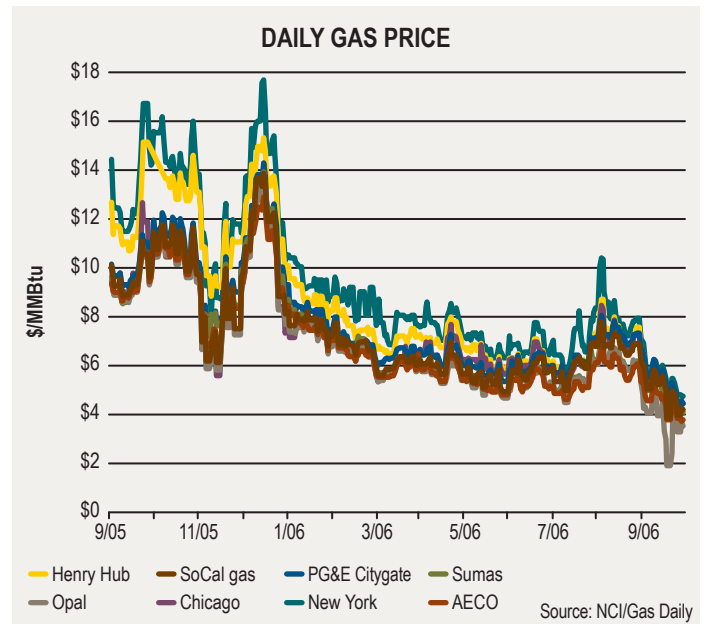
~ Gordon Pickering

NCI Natural Gas Market Fundamental Analysis

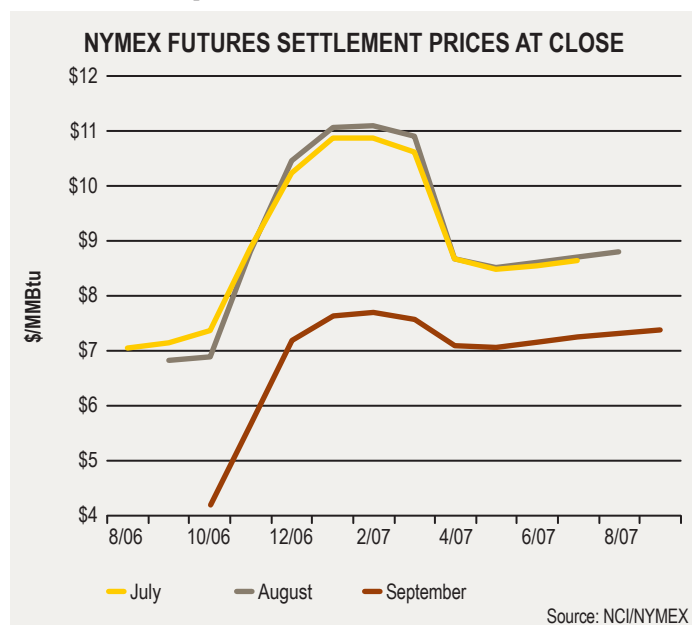
October Monthly Index Spot Gas Prices are Down an Average of \$0.50 per MMBtu, Month over Month For Representative Points' on Weak Fundamentals



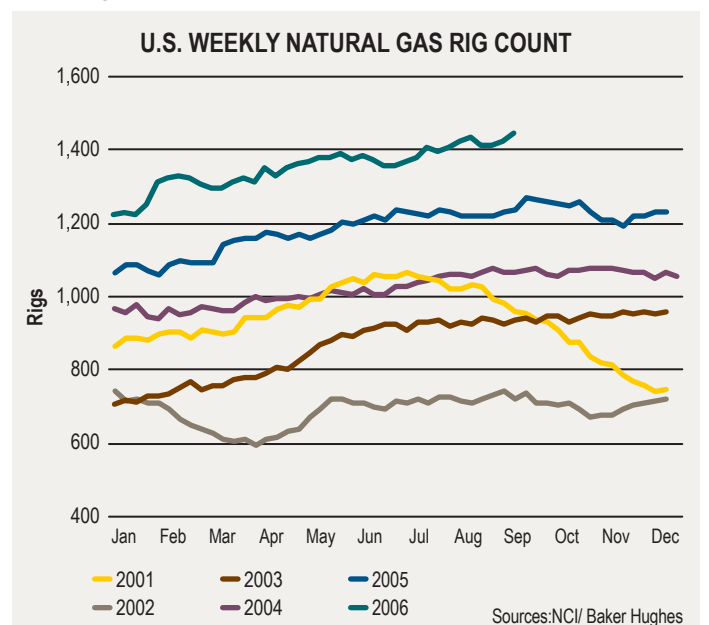
Henry Hub Spot Prices Decline to Monthly Lows In Low \$4.30's as September Winds Down



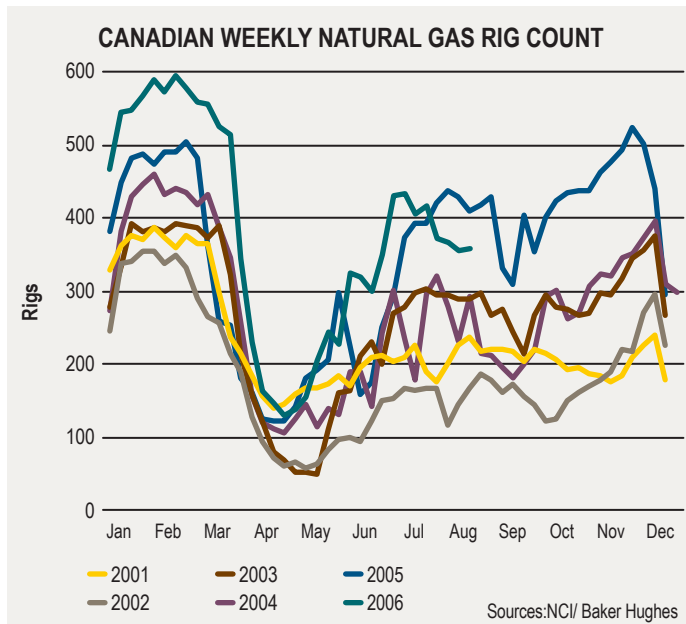
Futures Prices Decline Across Strip - More in Front Months - to Strip Price Below \$7.00 per MMBtu



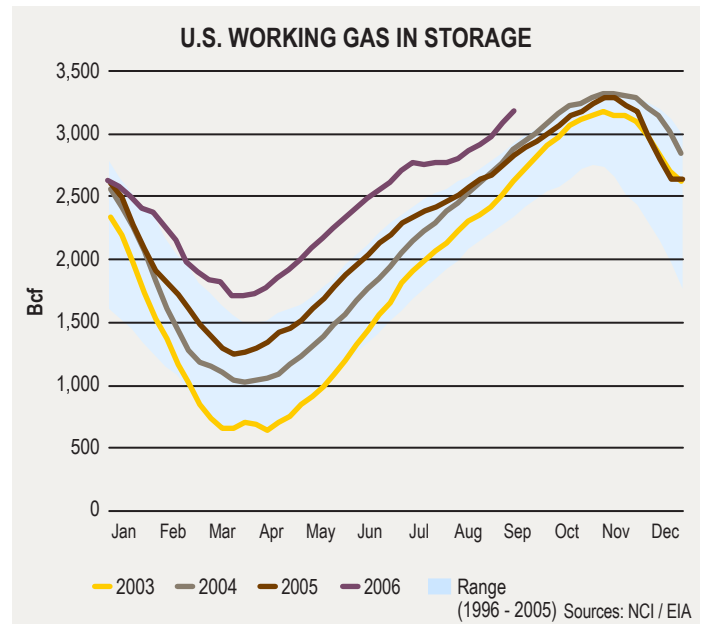
U.S. Gas Drilling Continues at Record Pace With 1,450 Rigs Working - 17% Higher Than 2005



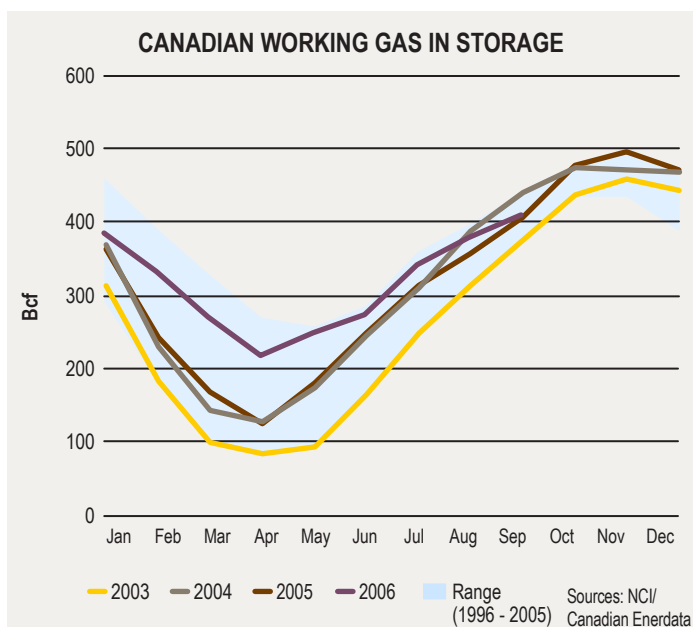
Canadian Gas Drilling at 359 Rigs Working - Historically High But 12% Below 2005



Storage at 3,177 Bcf and 96% of AGA 'Full Level' With Six Weeks to Go - New Record Appears Likely



Canadian Storage at 411 Bcf in Storage is Essentially at Normal Level For This Time of Year

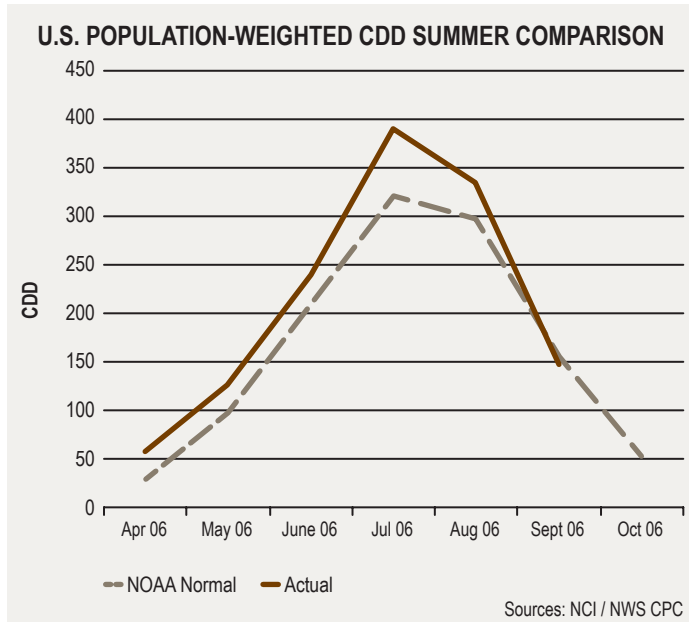


U.S. Storage Inventory is Above Average in All Regions

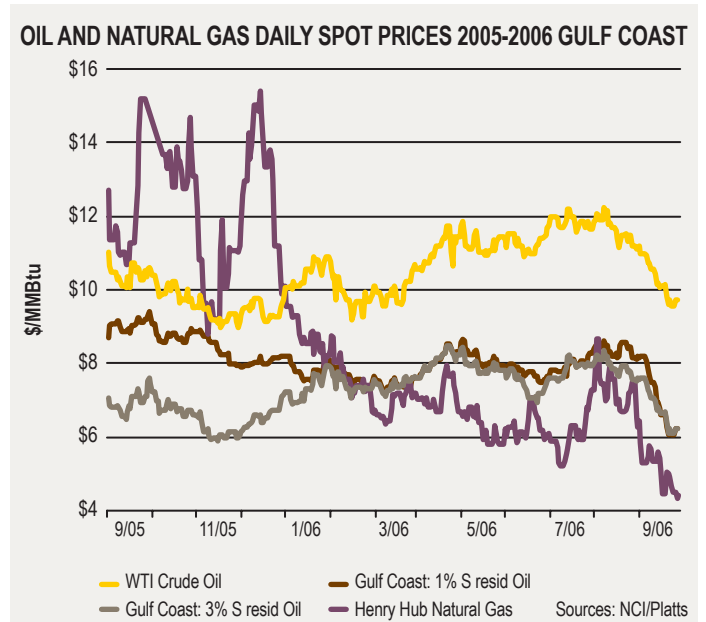
NATURAL GAS STORAGE				
For Week Ending: September 15, 2006				
All Volumes in Bcf				
	Current Stocks	Current Stocks % of Normal	Current Stocks % of Year Ago	Current Stocks % of Full
East	1,835	111%	107%	100%
West	427	120%	106%	84%
Prod Rdg	915	125%	117%	96%
Total Lower 48	3,177	116%	110%	96%

Source: NCI/EIA

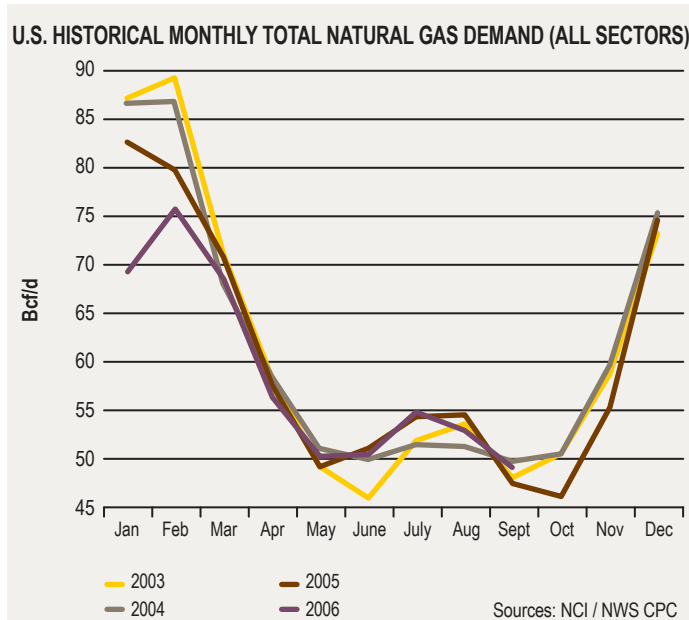
September Temperatures Retreat to Below Normal Measured by U.S. Population Weighted Degree Days - Summer Period 14% Warmer than Normal



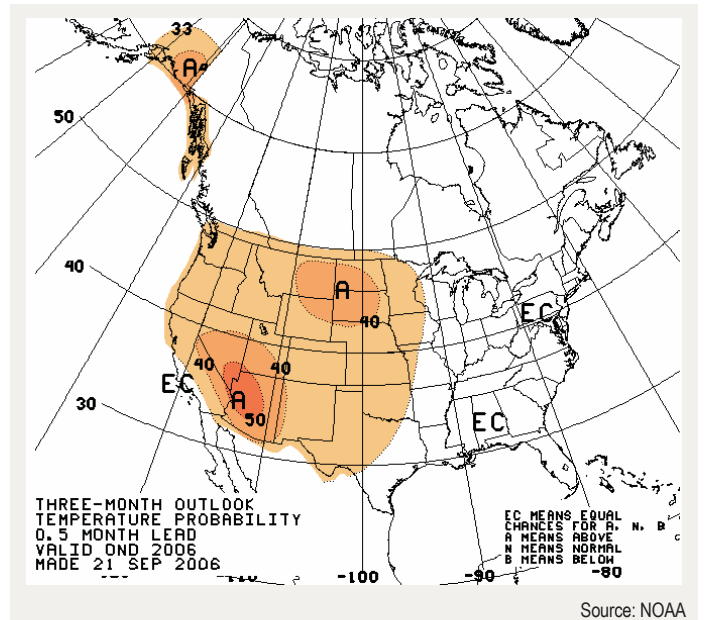
Gulf Coast Gas a Heat Equivalent Bargain Against Crude and Fuel Oil as Entire Oil/Complex Declines



U.S. Total Gas Demand Shows Seasonal Weakness, However at 48.83 Bcf/d Demand is 1.5 Bcf/d Higher Than Last Years Hurricane Impacted Demand Levels of 47.02 Bcf/d



The Temperature Outlook for Oct-Nov-Dec (OND) 2006 Calls for Warmer Than Normal Conditions Over Most of the Western Half of the U.S. and the Alaskan Panhandle and Southeastern Alaska. Elsewhere There Are Equal Chances of Warmer-Than... Cooler-Than... or Near- Normal Temperatures During OND



Key Legislative and Regulatory Highlights

USA

Federal Energy Regulatory Commission

New Commissioner: The three new FERC Commissioners, Jon Wellinghoff, Philip Moeller, and Marc Spitzer, joined Chairman Joseph Kelliher and Commissioner Suedeen Kelly in their first public Commission meeting on September 21.

FERC Infrastructure Rulemaking: In the Docket No. RM05-7 rulemaking proposing to expand the availability of expedited “blanket” authorization of certain pipeline facilities, party comments expressed widespread support. While some sectors advocated various ratepayer and environmental safeguards, support for some expansion of the blanket rules appears to be virtually unanimous.

FERC Rate of Return Policy: Pipeline industry and investment community concern continued over the pending FERC Administrative Law Judge’s initial decision in a Kern River Gas Transmission rate case. That initial decision recommended a return on equity of 9.34 percent, a substantial reduction from returns consistently allowed in FERC rate cases. In August, Navigant Consulting produced a white paper on the issue for the Interstate Natural Gas Association of America, the pipeline trade association. The paper, which has received widespread trade press attention, is available at www.INGAA.org.

Rockies Express Preliminary Determination: On September 21 in Docket No. CP06-354, the FERC issued a preliminary determination approving the next segment of the Rockies Express project, the large-volume Kinder-Morgan pipeline intended to move Rockies gas to the Eastern United States. The segment preliminarily approved on September 21 reaches over 700 miles from Colorado to various pipeline interconnections in Missouri.

Freeport LNG Expansion: On September 21 in Docket No. CP05-361, the FERC approved an expansion of Cheniere Energy’s Freeport, Texas LNG terminal from 1.5 Bcfd to 4.0 Bcfd. The original 1.5 Bcfd is scheduled to go into service in 2008, and the 2.5 Bcfd expansion would go into service in 2009.

Canada

National Energy Board (NEB)

Mackenzie Gas Project:

- » The NEB and Joint Review Panel (JRP) hearings that commenced in January and February of this year, respectively, are continuing.
- » The Dehghah Alliance Society (DAS) has requested the NEB and the JRP not to hold hearings on the same day and to allow sufficient preparation and travel time in the hearing schedules to allow interveners to participate in both hearings. The concern was mainly related to overlapping hearings that were scheduled for the first week of December. The NEB has responded by canceling cross-examination of witnesses in Inuvik during that week in order to allow the DAS to be in attendance at the JRP hearings in Yellowknife. Instead, that week the NEB will proceed with Imperial Oil’s General Panel presentations and statements in Tuktoyaktuk, Fort McPherson and Tsiigehtchic.
- » Imperial Oil Resources Ventures Ltd. and the other proponents of the pipeline are reviewing the cost of the project. It is widely believed that the cost may have doubled since the original assessment was undertaken in 2001.
- » The Premier of the Northwest Territories, Mr. Joe Handley, has called on the federal government to consider providing support for extending (and thereby completing) the Mackenzie Valley Highway from Wrigley north to

Tuktoyaktuk. With a road in place to transport materials south from port facilities at Tuktoyaktuk, pipe and other construction materials needed for the northern section of the pipeline could be brought in by ship and delivered to site by truck. It is believed that this would shorten the Mackenzie Valley Pipeline construction period considerably and thereby keep overall project costs from escalating as much as some observers have been suggesting.

TransCanada Pipelines Limited’s (TransCanada) Request to Change the Mainline Tariff:

The hearing into TransCanada’s application to change the tariff on its Mainline natural gas pipeline commenced in Toronto on September 18th. The proposed changes would allow the company to implement two new short notice services intended to meet the needs of gas-fired electricity generators: Firm Transportation – Short Notice (FT-SN) and Short Notice Balancing (SNB).

TransCanada’s Request to Transfer Facilities to Keystone Pipeline:

The hearing into TransCanada’s request to transfer certain Mainline natural gas pipeline facilities to the company’s Keystone pipeline is scheduled to commence in Calgary on October 23rd. The application calls for the rate base of the Mainline to be reduced by the net book value of the transferred facilities which consist of 860 kilometres of 864 mm pipeline between Burstall, Saskatchewan and Carman, Manitoba. The transferred facilities would be used for crude oil transmission, subject to approval of an application by Keystone to operate oil facilities and build connecting facilities.

Report on Short-term (2006-2008) Canadian

Natural Gas Deliverability: The NEB is scheduled to release a Market Assessment report on Canadian gas deliverability in October. The assessment will examine the factors affecting Canadian natural gas

production and present an outlook for deliverability to the end of 2008. (Canadian gas production comes mainly from the Western Canada Sedimentary Basin with some additional production coming from offshore Nova Scotia.)

Alberta

Nova Gas Transmission Ltd. (NGTL) Inter-Affiliate Code of Conduct Compliance Plan: In Decision 2006-093 dated September 12, 2006 the Alberta Energy and Utilities Board (EUB) approved and commented on the Compliance Plan filed by NGTL in July 2006 which is regarded by the Board as final.

The EUB notes that NGTL is operated as a business unit of TransCanada Pipelines Limited (TCPL) and therefore has no employees of its own. As a result, certain employees and other representatives of TCPL perform functions for, or undertake tasks on behalf of, NGTL. Further, all of the members of the NGTL Compliance Plan Committee are TCPL employees. In the EUB's view the lack of separate employees could lead to practical difficulties with regard to the performance of compliance obligations. It is not clear that any such difficulties will materialize. However, the Board has directed NGTL to review and monitor the situation and to comment on the findings of its review and monitoring activities in its annual review of the effectiveness of the Compliance Plan.

Ontario

Multi-year Incentive Rate Regulation for Natural Gas Utilities: Early in 2005 the Ontario Energy Board (OEB) indicated that it would develop a multi-year incentive regulation methodology (the "IR Plan") for setting natural gas utility rates. On September 11, 2006 the OEB described the consultation process that it intends to use in relation to the development of certain aspects of the IR Plan and invited interested participants to

participate in the consultation. In particular, the Board noted that the Plan must meet the following criteria: 1. Establish incentives for sustainable efficiency improvements that benefit customers and shareholders; 2. Ensure appropriate quality of customer service; and 3. Create an environment that is conducive to investment, to the benefit of customers and shareholders. Because the Plan is intended for application on a multi-year basis it must be sustainable over the term of the plan. It must also be able to be applied uniformly (in terms of principles and methodology, but not necessarily the specific adjustments).

The consultation will not deal with the following elements: 1. The form of incentive regulation: a price cap has already been determined as the appropriate form; 2. Earnings sharing: the OEB has determined that there will not be earnings sharing; 3. The approach to rebasing at plan termination: the Board has determined that a comprehensive cost-of-service review will be undertaken at termination; and 4. Matters in relation to the cost of capital. Elements of the Plan that have yet to be addressed and will definitely be included in the consultation include: 1. The annual adjustment mechanism; 2. The term of the Plan; 3. The need for off-ramps and Z-factors; 4. The reporting requirements that will apply; 5. The treatment of demand side management; and, 6. The need for other adjustments.

An OEB staff Discussion Paper on the IR Plan will be released by the end of November. Written comments and expert reports from interested parties will be due early in January 2007. The opportunity to make oral presentations and provide further written comments will be scheduled for February 2007.

Measuring and Reporting Regulatory Costs in Ontario: In its 2006-2009 Business Plan the OEB committed to publish an appropriate measure of regulatory cost beginning with

the results of its 2006-2007 fiscal year. To determine what the appropriate measure(s) should be the Board engaged Elenchus Research Associates (ERA) to survey regulatory agencies in Canada, the U.S., Australia and Europe to determine the methodologies that those agencies use to determine and monitor regulatory cost and to recommend appropriate measures to the Board.

ERA has recommended that the Board adopt three regulatory cost measures: 1. The three-year moving average percentage change in operating expenses; 2. The three-year moving average of operating expenses as a percentage of industry revenue; and 3. The three-year moving average of operating expenses per end-use customer. The OEB has accepted ERA's recommendations. Beginning with its 2006-2007 fiscal year results the Board will report the three measures in its annual report as per the OEB's ongoing commitment to continue to work more effectively and to use its resources more efficiently in the interests of stakeholders and the public. ERA's report is available on the OEB site.

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About Navigant Consulting

Navigant Consulting is a global professional services firm with over 1,900 consultants in offices worldwide. We are one of the largest management consulting firms in the US extensively focused on the energy and electric power industries. Our fundamental mission is to help clients navigate the changing business and regulatory environment through sound advice, accumulated experience and world-class expertise. Out of its Sacramento, Houston, and Washington, D.C. offices, the Natural Gas Practice

focuses on the North American market offering fuels services to utilities and public entities, financial services companies, independent power producers, natural gas producers, pipelines, LNG developers and large industrial end-users. Among other tasks performed for clients, the Natural Gas Practice has performed due diligence analyses and market analyses/price forecast studies, provided contract support (transportation, supply and storage), developed fuel plans, and provided litigation and regulatory support.



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