RAYMOND JAMES

Energy
Industry Brief

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EQUITY RESEARCH

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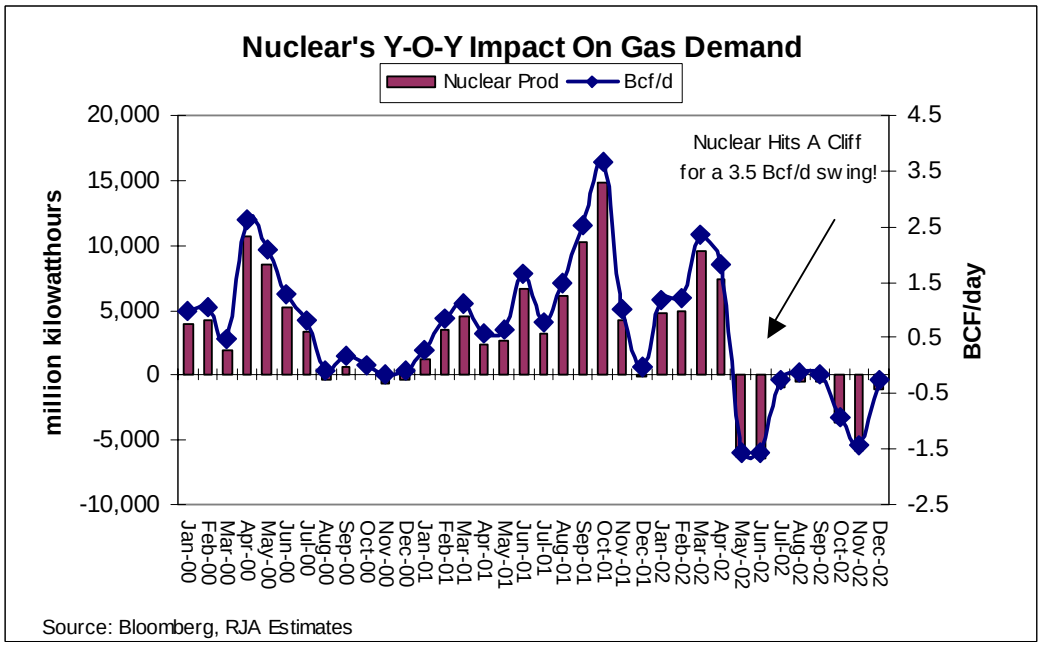
Raymond James Energy "Stat of the Week"

Nuclear Mystery Close To Being Solved

While investors have been searching wildly for either supply- or demand-related clues to explain the exceptionally high gas injection numbers during the past three months, we think we have uncovered compelling evidence related to nuclear power generation. For starters (and of lesser value), is the fact that increased nuclear power production, as a supply-driven reaction to high electric power prices, has increased dramatically over the past 18 months. As shown below, the year-over-year differentials related to nuclear power production have continued to ramp up and effectively offset the need for gas-fired electric generation. Relative to natural gas, nuclear power has reduced gas-fired electric demand by an estimated 1.5 to 2.5 bcf/d over the past six months and should peak at about 3.5 bcf/d late this fall. This, we think the market is beginning to understand. As we have been saying for months, even more aggressively lately, is that gas prices will probably bottom sometime this fall partly due to these "extra" Bcfs floating around in the system.

What the energy markets do not see (and of greater value) is the fact that **nuclear power production is about to reach a peak and then drop off dramatically through the course of 2002**. In our minds, the nuclear mystery has been solved and the death of the natural gas cycle could prove short-lived.



Source: Bloomberg, RJA Estimates

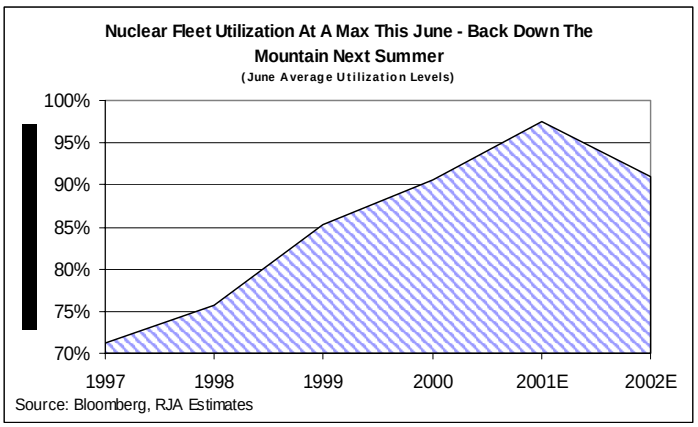
All Good Things, For Consumers, Must Come To An End

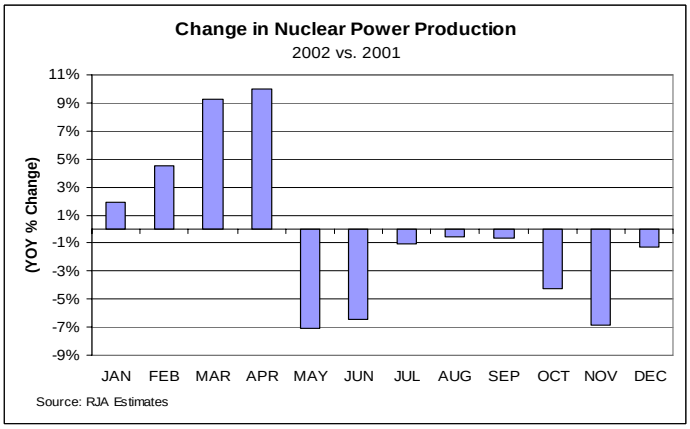
Why do we feel so confident? Because after plotting several thousand data points related to forecasting nuclear power production for the next 18 months, it became clear to us that the all-time record performance of the nuclear power fleet (97+ gigawatts) is about to end. Why? Because after running the fleet so hard the

past two years, a significant amount of generation is slated to come off-line in 2002 for repairs and refueling, which should add a meaningful boost to gas-fired electric demand. What about coal, any extra availability in the summer? Nope, the solution is not there. Suffice to say, coal-fired electric production is usually tapped out into the **summer months,** meaning natural gas will be the main beneficiary.

Conservative or Aggressive?

Clearly, one of the first questions related to our work would be are our forecasts conservative or aggressive? Without question, our forecast for nuclear fleet utilization is as conservative as humanly possible, with little to no implied assumptions of our own. What we have painstakingly done, which is repeatable to investors who wish to spend a full weekend crunching the data, is to take current fleet utilization and plot out all **scheduled** nuclear plant outages through year-end 2002 by month and day. By doing so, as depicted below on the left, nuclear fleet utilization next year is expected to drop to under 91% heading into summer 2002, down from a historic high of nearly 97% this past summer. Taking that analysis one step further, below on the right, we have been able to show the year-over-year percentage change for nuclear production. What should prove most interesting to natural gas mavens is that we expect 2002 nuclear production to be negative Y-O-Y from May through December! This (in and of itself) should provide a catalyst to gas consumption heading into next summer. In fact, we see almost a 17% month-over-month switch from April to May 2002, which is a meaningful transition based on the historic data we analyzed.





Why do we think this analysis is conservative? Because what we have not factored in is the occasional **unscheduled** nuclear plant outage or additional downtime associated with the fleet. More a question of "when" than "if," each additional unscheduled or forced outage [as is currently the situation with CMS Energy's (CMS/$25.19/Buy) Palisades plant] further adds to our gas rebound story, as gas-fired electric generation would be the logical band-aid to bridge the gap of lost electric capacity.

Conclusion

What does this mean to gas demand for the balance of 2002? Based on our work, we see the Y-O-Y return of between 1.0 to 1.5 bcf/day of natural gas demand when nuclear production hits the production cliff next spring. While we have generally been cautious short term on gas prices the past few months, we have begun to identify or fill in some portion of the gas demand quotient for next summer. Unlike this summer, next year is shaping up to be a far more bullish year for gas, based on the need for gas-fired electric production.

As for summing up the three most important aspects of our work:

1. Nuclear fleet utilization hits a peak this summer and then begins to fade into the summer of 2002, as many plants are scheduled to come off-line for repairs and refueling.
2. Increased nuclear production, which has recently offset gas demand of over 1.5-2.5 bcf/day, is expected to turn on a dime in May of 2002, and Y-O-Y create gas demand of between 1.0-1.5 bcf/day through the summer of 2002. **That is an astounding 3.5 bcf/day swing in gas demand**.
3. Our assumptions are conservative and if any additional or forced outages were to occur to the nuclear fleet, gas demand would actually stand to benefit to the tune of roughly 90 bcf/year of increased gas demand per every incremental loss of 1,000 megawatts (MW) of nuclear power capacity.

In summary, some environmentalists are actually going to get their collective wish, "no more nukes" (at least for next year anyway). For the gas guys, you also get something, a bullish picture for gas demand, which has been a puzzle the past few months. Hang tight, Christmas is right around the corner.

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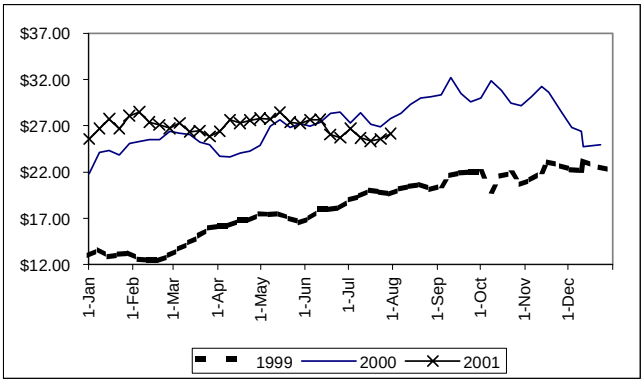
12 Month Oil Calendar Strip

West Texas Intermediate

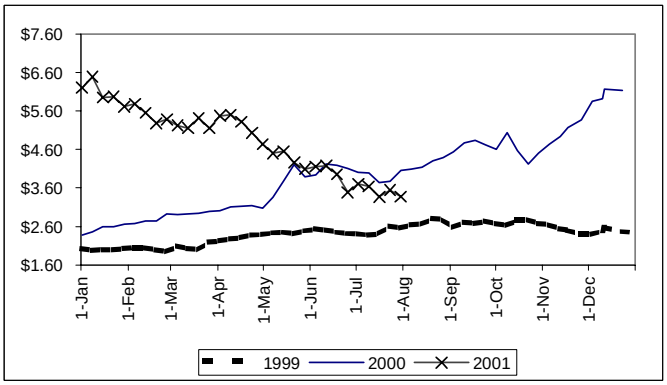


	This Week	Last Week	Beginning of Year	Last Year
Price	$26.14	$25.56	$25.27	$27.82
Percent Change		2.3%	3.5%	-6.0%

Source: Bloomberg

12 Month Gas Calendar Strip

Henry Hub



	This Week	Last Week	Beginning of Year	Last Year
Price	$3.37	$3.55	$5.77	$4.06
Percent Change		-5.0%	-41.6%	-17.0%

Source: Bloomberg

	3-Aug-01 This Week	27-Jul-01 Last Week	4-Aug-00 Last Year	Change From: Last Week	Change From: Last Year
1. U.S.Rig Activity					
U.S. Oil	218	214	208	1.9%	4.8%
U.S. Gas	1,047	1,050	772	-0.3%	35.6%
U.S. Miscellaneous	1	2	1		
U.S. Total	**1,266**	**1,266**	**981**	**0.0%**	**29.1%**
U.S. Horizontal	82	84	57	-2.4%	43.9%
U.S. Directional	310	303	243	2.3%	27.6%
U.S. Offshore	154	155	161	-0.6%	-4.3%
U.S. Offshore Gulf of Mexico					
Fleet Size	211	212	207	-0.5%	2.4%
# Contracted	168	176	176	-4.5%	0.0%
Utilization	79.6%	83.0%	85.0%	-4.1%	-2.4%
2. Canadian Activity					
Rig Count	269	287	335	-6.3%	-19.7%
Oil Well Completions (cum.)	2,236	2,189	2,515	2.1%	-11.1%
Gas Well Completions (cum.)	4,886	4,776	3,715	2.3%	31.5%
Total Well Completions (Incl. Dry)	9,030	8,858	6,631	1.9%	36.2%
3. Stock Prices (8/3/01)					
OSX (12mo.Low 80.7/Hi 144.0)	87.8	94.6	120.6	-7.2%	-27.2%
TSE Oil/Gas Service Index	2,945.4	2,990.8	3,197.7	-1.5%	-7.9%
XNG	214.2	217.7	192.9	-1.6%	11.0%
S&P 500	1,214.4	1,205.8	1,462.9	0.7%	-17.0%
DJIA	10,512.8	10,416.7	10,767.8	0.9%	-2.4%
4. Inventories					
U.S. Gas Storage (Bcf)	2,203	2,126	1,920	3.6%	14.7%
Canadian Gas Storage (Bcf)	349	339	328	2.9%	6.1%
U.S. Crude Oil Stocks ('000 bbls)	311,817	315,273	284,746	-1.1%	9.5%
5. Spot Prices (US$)					
Oil (W.T.I. Cushing)	$27.62	$27.02	$29.96	2.2%	-7.8%
Oil (Hardisty Med.)	$22.07	$19.61	$23.50	12.6%	-6.1%
Gas (Henry Hub)	$3.03	$3.06	$4.29	-1.0%	-29.4%
Residual Fuel Oil (New York)	$3.24	$3.08	$3.63	5.2%	-10.7%
Gas (AECO)	$2.48	$2.44	$3.22	1.6%	-23.0%

Sources: (Baker Hughes, Offshore Data Services, API, AGA, Oil Week, Bloomberg)