

Challenges Ahead In Switch From Coal To Gas

Infrastructure delays could create headwinds in coal to gas power conversion.

BY **FRANK NIETO** | EDITOR, MIDSTREAM MONITOR, MIDSTREAMBUSINESS.COM

The coal era is coming to a close. This has been known for years as utilities have had a number of coal-fired power plants set to be retired in the second decade of this century. These facilities will largely be replaced by natural gas-fired plants.

This switch is happening at a considerably faster pace than originally anticipated as gas prices have been increasingly competitive with coal prices along with more government regulations on both the federal and state level against coal.

The primary regulations making it difficult for coal-fired plants going forward are the Mercury and Air Toxics Standards (MATS) and the Cross-State Air Pollution Rule (CSAPR). Further, the Environmental Protection Agency released a draft rule in March 2012 to limit CO₂ emissions from new power plants to 1,000 pounds per megawatt (MW) hour. According to The New York Times, should this rule go into effect it would close out the remaining “old fashioned coal-burning power generation [built before 1990].”

In addition to regulatory pressures, there are growing pressures from the public on utilities selecting gas over coal for power generation. “There is mounting public pressure not just from environmen-



Cloudy | Though the end is near for coal-fired power plants, the switch to gas-fired power plants isn't as easy as it may seem.

talists, but also in many cases investors and shareholders. All things being equal, and with natural gas prices at or below coal, utilities will increasingly seek to avoid the negative public reaction associated with burning coal,” Richard Martin, editorial director of Navigant Research, said during the company's recent webinar on coal-to-gas plant conversions.

He noted that unless coal plants implement advanced-compression technology or carbon

Continued on
Page 12

HIGHLIGHTS FROM TODAY'S EDITION



FRANK NIETO

Editor, *Midstream Monitor*
& *MidstreamBusiness.com*
fnieto@hartenergy.com

Solid Outlook for Propane

Despite another downturn, propane prices and margins should see improvements soon.

PAGE 3

LPG Export Capacity Growing

Enterprise announced it will build a second LPG terminal on the Gulf Coast.

PAGE 5



Turning the Corner

Linn Energy is hoping to put a rough start to 2013 behind it.

PAGE 11

Bakken 2.0?

Oil production out of the Eagle Ford is nearly at the same level as the Bakken.

PAGE 5

Chemical Hub Opens

LyondellBasell opened a new chemical research hub in Houston.

PAGE 6



Reel SIMPLE

When corrosion is not an option, choose

FIBERSPAR ®
THE LEADER IN SPOOLABLE PIPELINE SYSTEMS

Go to fiberspar.com for more information DELIVERING EXPERIENCESM



NOV Fiber Glass Systems

Email: fgspipe@nov.com

NGL PRICES & FRAC SPREAD | Week in Review

Future Propane Prices Look Bright

BY **FRANK NIETO** | EDITOR, MIDSTREAM MONITOR,
MIDSTREAMBUSINESS.COM

Natural gas liquids (NGL) prices were a mixed bag once again as demand drivers for multiple products have yet to kick in. The biggest downturn was for propane, which fell at both hubs according to data released last week from the Energy Information Administration (EIA), showing that propane inventory increased at a larger than expected rate.

According to EIA data, propane stocks for the week ending September 27 rose by 1.6 million barrels (bbl.), which was more than double what some forecasts anticipated. After an early run on propane in early September, farmers have cut back on securing supplies. While it is still expected to be a very active crop-drying season, farmers wanted to get ahead of the increase in demand early.

| CURRENT FRAC SPREAD (CENTS/GAL) | | | | |
|---------------------------------|--------|---------------------------|--------------|-----------|
| October 7, 2013 | Conway | Change from Start of Week | Mont Belvieu | Last Week |
| Ethane | 20.08 | | 24.71 | |
| Shrink | 23.14 | | 23.93 | |
| Margin | -3.06 | -11.64% | 0.78 | -11.94% |
| Propane | 102.32 | | 105.62 | |
| Shrink | 31.97 | | 33.07 | |
| Margin | 70.35 | -4.94% | 72.55 | -5.01% |
| Normal Butane | 135.46 | | 138.90 | |
| Shrink | 36.19 | | 37.44 | |
| Margin | 99.27 | 3.73% | 101.46 | 3.71% |
| Isobutane | 143.46 | | 141.14 | |
| Shrink | 34.76 | | 35.96 | |
| Margin | 108.70 | 6.63% | 105.18 | 4.41% |
| Pentane+ | 200.46 | | 207.92 | |
| Shrink | 38.70 | | 40.03 | |
| Margin | 161.76 | -2.29% | 167.89 | -3.44% |
| NGL \$/Bbl | 40.02 | -0.66% | 41.55 | -1.01% |
| Shrink | 12.75 | | 13.19 | |
| Margin | 27.27 | -1.36% | 28.36 | -1.97% |
| Gas (\$/mmBtu) | 3.49 | 0.87% | 3.61 | 1.12% |
| Gross Bbl Margin (in cents/gal) | 62.24 | -1.58% | 65.25 | -2.14% |
| Gross Bbl Margin (in cents/gal) | | | | |
| Ethane | 1.11 | -0.59% | 1.36 | 0.65% |
| Propane | 3.55 | -3.20% | 3.67 | -3.17% |
| Normal Butane | 1.46 | 2.95% | 1.50 | 3.00% |
| Isobutane | 0.89 | 5.18% | 0.88 | 3.55% |
| Pentane+ | 2.58 | -1.70% | 2.68 | -2.60% |
| Total Barrel Value in \$/mmbtu | 9.60 | -0.85% | 10.09 | -1.07% |
| Margin | 6.11 | -1.81% | 6.48 | -2.25% |

| NGL PRICES | | | | | | |
|------------------------|-------|--------|--------|--------|--------|---------|
| Mont Belvieu | Eth | Pro | Norm | Iso | Pen+ | NGL Bbl |
| Sept. 25 - Oct. 1, '13 | 24.71 | 105.62 | 138.90 | 141.14 | 207.92 | \$41.55 |
| Sept. 18 - 24, '13 | 24.55 | 109.08 | 134.86 | 136.30 | 213.46 | \$41.97 |
| Sept. 11 - 17, '13 | 24.85 | 112.46 | 133.64 | 135.04 | 223.50 | \$43.00 |
| Sept. 4 - 10, '13 | 25.15 | 113.02 | 133.38 | 134.46 | 223.72 | \$43.10 |
| September '13 | 24.91 | 110.95 | 135.38 | 136.84 | 218.42 | \$42.63 |
| August '13 | 25.01 | 105.63 | 134.40 | 136.61 | 219.58 | \$42.03 |
| 3rd Qtr '13 | 24.87 | 102.65 | 132.06 | 134.86 | 215.56 | \$41.21 |
| 2nd Qtr '13 | 27.12 | 91.38 | 124.01 | 127.46 | 204.12 | \$38.82 |
| 1st Qtr '13 | 25.68 | 86.42 | 157.72 | 166.41 | 222.63 | \$42.07 |
| 4th Qtr '12 | 26.59 | 88.74 | 162.76 | 181.71 | 215.67 | \$42.69 |
| Sept. 26 - Oct. 2, '12 | 30.32 | 91.38 | 144.20 | 171.84 | 198.10 | \$41.15 |
| Conway, Group 140 | Eth | Pro | Norm | Iso | Pen+ | NGL Bbl |
| Sept. 25 - Oct. 1, '13 | 20.08 | 102.32 | 135.46 | 143.46 | 200.46 | \$40.02 |
| Sept. 18 - 24, '13 | 20.20 | 105.70 | 131.58 | 136.40 | 203.92 | \$40.28 |
| Sept. 11 - 17, '13 | 20.33 | 110.40 | 131.12 | 135.08 | 215.16 | \$41.57 |
| Sept. 4 - 10, '13 | 21.37 | 110.64 | 131.04 | 135.42 | 215.04 | \$41.76 |
| September '13 | 20.59 | 108.24 | 132.50 | 137.44 | 209.98 | \$41.14 |
| August '13 | 21.29 | 102.79 | 132.20 | 139.92 | 212.37 | \$40.82 |
| 3rd Qtr '13 | 20.80 | 99.22 | 129.23 | 142.77 | 209.94 | \$40.07 |
| 2nd Qtr '13 | 20.71 | 85.37 | 116.50 | 123.91 | 204.86 | \$36.89 |
| 1st Qtr '13 | 23.94 | 81.81 | 153.43 | 160.39 | 222.63 | \$41.11 |
| 4th Qtr '12 | 18.45 | 79.24 | 164.46 | 174.39 | 209.16 | \$39.94 |
| Sept. 26 - Oct. 2, '12 | 18.12 | 77.70 | 130.90 | 167.50 | 195.20 | \$36.82 |

(Above) Data provided by Bloomberg. Individual product prices in cents per gallon. NGL barrel in \$/42 gallons | Source: Frank Nieto

(Left) Price, Shrink of 42-gal NGL barrel based on following: Ethane, 36.5%; Propane, 31.8%; Normal Butane, 11.2%; Isobutane, 6.2%; Pentane+, 14.3%, Fuel, frac, transport costs not included. Conway gas based on NGPL Midcontinent zone, Mont Belvieu based on Houston Ship Channel.

Shrink is defined as Btus that are removed from natural gas through the gathering and processing operation.

Prices fell 3% at both Conway and Mont Belvieu as they were down to their lowest levels in nearly two months. The Texas price of \$1.06 per gallon was the lowest at the hub since the week of August 7 when it was \$1.01 per gallon. The Kansas price of \$1.02 per gallon was that hub's lowest price since it was 98 cents per gallon the week of August 7.

Despite this increase, En*Vantage anticipates propane inventory levels to drop to their five-year average of 63 million bbl. by mid-October once liquefied petroleum gas (LPG) exports increase now that Targa Resource's terminal came online in September, and it is expected to reach full capacity in October.

NGL PRICES & FRAC SPREAD | Week in Review

The long-term outlook for ethane is also positive as more crackers are coming back online in the next few months, and there are no planned outages for the next six months. According to the EIA, ethane stocks dropped by nearly 2 million bbl. to 31.8 million bbl. in July, the same level reported the previous year for the same time period

Given that these decreases occurred while some major crackers were offline, it portends well for the market the rest of the year. However, don't expect these increases to result in a complete turnaround for the market as there is still a tremendous supply overhang to work off.

Although the Mont Belvieu price rose 1% to 25 cents per gallon, it experienced a 12% drop in margin that left it only theoretically positive. The Conway price tumbled 1% to 20 cents per gallon, which is about the same price it has been for the past three weeks. Its margin also dropped 12% and was negative once again, which it has been for the bulk of 2013.

Butane and isobutane were the lone NGLs to experience any upward movement this week as demand from refiners is high due to the switch to winter-grade gasoline. Butane prices rose 3% at both hubs, while isobutane prices improved even more as the Mont

Belvieu price rose 4% and the Conway price rose 5%.

While these prices continued to gain strength, C_{5+} prices fell at both hubs as West Texas Intermediate (WTI) prices have fallen, due to a decrease in gasoline demand and geopolitical issues that could impact supplies have lessened and pushed prices down to around \$100 per bbl. As a result, C_{5+} has been competing more with condensate as a diluent. This caused prices to drop 3% to \$2.08 per gallon at Mont Belvieu, their lowest price since the week of July 3, when

| KEY NORTH AMERICAN HUB PRICES | |
|-------------------------------|---------------|
| 2:30 PM CST / October 3, 2013 | |
| Gas Hub Name | Current Price |
| Carthage, TX | 3.53 |
| Katy Hub, TX | 3.56 |
| Waha Hub, TX | 3.49 |
| Henry Hub, LA | 3.58 |
| Perryville, LA | 3.54 |
| Houston Ship Channel | 3.57 |
| Agua Dulce, TX | 3.59 |
| Opal Hub, Wyo. | 3.53 |
| Blance Hub, NM | 3.48 |
| Cheyenne Hub, Wyo. | 3.55 |
| Chicago Hub | 3.66 |
| Ellisburg NE Hub | 3.45 |
| New York Hub | 3.54 |
| AECO, Alberta | 2.91 |

Source: Bloomberg

they were \$2.06 per gallon. The Conway price decreased 2% to \$2.01 per gallon, the lowest it has been since it was \$1.95 per gallon the week of June 26.

While crude prices have been dipping of late, natural gas prices increased throughout the month of September due to increased cooling demand and a drop in production as a result of flooding in

| RESIN PRICES – MARKET UPDATE –OCTOBER 4, 2013 | | | | | |
|---|-----------|-------|------|----------|-------|
| TOTAL OFFERS: 12,953,780 lbs | | SPOT | | CONTRACT | |
| Resin | Total lbs | Low | High | Bid | Offer |
| HDPE - Blow Mold | 4,261,004 | 0.72 | 0.78 | 0.69 | 0.73 |
| LLDPE - Film | 2,204,600 | 0.72 | 0.78 | 0.68 | 0.72 |
| PP Copolymer - Inj | 1,955,000 | 0.795 | 0.9 | 0.79 | 0.83 |
| LDPE - Film | 1,314,392 | 0.705 | 0.82 | 0.77 | 0.81 |
| LDPE - Inj | 1,058,208 | 0.73 | 0.78 | 0.73 | 0.77 |
| HDPE - Inj | 825,196 | 0.67 | 0.73 | 0.7 | 0.74 |
| HMWPE - Film | 396,828 | 0.77 | 0.77 | 0.75 | 0.79 |
| PP Homopolymer - Inj | 390,552 | 0.77 | 0.83 | 0.78 | 0.82 |
| GPPS | 190,000 | 0.91 | 0.91 | 0.86 | 0.91 |
| HIPS | 190,000 | 1.03 | 1.03 | 0.98 | 1.03 |
| LLDPE - Inj | 168,000 | 0.72 | 0.75 | 0.7 | 0.74 |

Source: Plastics Exchange – www.theplasticsexchange.com

Colorado and several facility outages in the Northeast. Gas prices rose 1% at both hubs with the Mont Belvieu price increasing to \$3.61 per million Btu (MMBtu) and the Conway price rising to \$3.49 per MMBtu.

By comparison, the theoretical NGL bbl. price fell 1% at both hubs with the Mont Belvieu price down to \$41.55 per bbl. with a 2% drop in margin to \$28.36 per bbl. The Conway price decreased to \$40.02 per bbl. with a 1% drop in margin to \$27.27 per bbl.

The most profitable NGL to make at both Conway and Mont Belvieu was C_{5+} at \$1.62 per gallon at the Kansas hub and \$1.68 per gallon at the Texas hub. This was followed, in order, by isobutane at \$1.09 per gallon at Conway and \$1.05 per gallon at Mont Belvieu; butane at 99 cents per gallon at Conway and \$1.02 per gallon at Mont Belvieu; propane at 70 cents per gallon at Conway and 73 cents per gallon at Mont Belvieu; and ethane at negative 3 cents per gallon at Conway and 1cents per gallon at Mont Belvieu.

Natural gas storage injections are approaching their normal winter month levels as the EIA reported that stock levels rose by 101 billion cubic feet to 3.487 trillion cubic feet (Tcf) the week of September 27 from 3.386 Tcf the previous week. This was 4% below the figure of 3.642 Tcf posted last year at the same time and 1% greater than the five-year average of 3.438 Tcf. The EIA is expected to release its next storage update on October 10, but should the government shutdown continue past October 11, its reports will cease until normal operations resume.

Cooling demand should remain above normal for early October next week according to the National Weather Service's forecast, which anticipates warmer-than-normal temperatures along the East Coast and into the Midwest and Gulf Coast. The Mountain region is expected to experience cooler-than-normal temperatures, which may result in some heating demand.

NEWS & TRENDS | Up To Date

Enterprise To Build Second LPG Export Facility

BUSINESS WIRE

Enterprise Products Partners LP announced the construction of a new liquefied petroleum gas (LPG) export terminal on the Gulf Coast. The facility will have the capability of handling up to VLGC (very large gas carriers) class ships. The initial loading rate for export grade propane or butane service is expected to be approximately 11,000 barrels (bbl.) per hour, which would equate to approximately 6 million to 6.5 million bbl. per month. Following the completion of the site evaluation at potential locations in Louisiana and Texas, this new LPG marine terminal is expected to be in service in the fourth quarter of 2015.



New Market | LPG exports have become a major focus for Enterprise Products Partners' growth strategy.

Upon completion of the new terminal, and the recently announced expansion of the partnership's existing terminal on the Houston Ship Channel, Enterprise will have aggregate capacity to load approximately 15 million to 16 million bbl. per month of low-ethane propane and/or butane at its LPG marine terminals.

This follows the company's recent announcement that it will further expand the LPG export terminal. By enhancing the refrigeration capacity of the LPG export facility, Enterprise will increase its loading capacity by an additional 1.5 million bbl., or three cargoes per month. This will increase total design capacity to approximately 9 million bbl. per month upon completion of the expansion project, which is expected to occur in the first quarter of 2015.

Enterprise completed an expansion of its LPG export terminal in March 2013 that increased its propane loading capacity to approximately 7.5 million bbl. per month from 4 million bbl. per month. Since startup, the facility has performed above expectations and currently is loading

more than 8 million bbl. per month of fully refrigerated, low-ethane propane. It is expected to continue to perform at this level as production of natural gas liquids from domestic shale plays increases and demand for propane as a feedstock for global ethylene crackers continues to grow.

Eagle Ford Oil Surprises, Delights

BY PEGGY WILLIAMS | HART ENERGY

Just a few years ago, the emerging Eagle Ford play in South Texas was thought of as a gas and condensate play. But that view is dated. Today, the Eagle Ford is firmly established as an oil play and is indeed so prolific that its production of crude is forecast to exceed 1 million barrels (bbl.) per day by next summer.

That was the remarkable revelation of Subash Chandra, managing director, Jefferies & Co. Chandra spoke at Hart Energy's 2013 DUG Eagle Ford Conference & Exhibition in San Antonio, Texas. "The rate of growth going forward will be some 250,000 bbl. per day per year," he said. "This is nearly the same oil production as from the Bakken."

Another observation Jefferies made after studying today's Eagle Ford results was that well quality varies widely by county. Overall, wells are getting better, but location definitely matters. Three counties stand tallest in the production of crude from the Eagle Ford—Gonzalez, Karnes and LaSalle. Combined, they account for half of total Eagle Ford oil production, which currently stands at some 800,000 bbl. per day. "I think what makes these wells work is a combination of strong reservoir pressures and high gas/oil ratios," said Chandra. "We don't see this changing, as the good keeps getting better."

Chandra noted that production statistics from Jefferies vary from those in the public database available through the Texas Railroad



Equal Footing | Oil is producing out of the Eagle Ford shale at similar levels to the Bakken, according to Jefferies & Co.'s Subash Chandra. (Courtesy: Hart Energy)

NEWS & TRENDS | Up To Date

Commission. That's because Jefferies is primarily interested in black oil, so it excludes condensate production from gas wells.

Not surprisingly, internal rates of return (IRR) also show strong variability. In the core area, economics of Eagle Ford wells are sterling. At assumed reserves per well of 705,000 boe (56% oil, 21% NGLs and 23% gas), and an \$8-million completed well cost, Jefferies figures break-even economics are \$60 per barrel at West Texas Intermediate prices. The IRR are about 60%, at a price deck of \$95 per bbl. of oil and \$4 per thousand cubic feet of gas. Certain operators, such as EOG Resources, tally even more robust returns.

But when moving outside the core to Tier 1 acreage, returns are cut in half. "About half of the Eagle Ford oil production is coming from Tier 1. So we need \$75 crude to get a wellhead return of 20%," said Chandra. For its part, Jefferies is comfortable that oil prices will not sink to those levels, and it expects rig count to hold steady at about 170 throughout 2014.

In Jefferies' view, Eagle Ford operators are going to produce a lot of oil going forward and get great prices for it. "And the wells are going to get better: the EURs [estimated ultimate recovery], the IPs (initial production) and the total returns," said Chandra.

[READ FULL ARTICLE ONLINE](#)

EIA: Less Energy Required To Move Freight On Class I Railroads

Diesel fuel consumption by Class I railroads represented 12% of all diesel fuel demand in the transportation sector in the U.S. in 2012, according to the U.S. Energy Information Administration (EIA). Diesel fuel consumption in 2012 was higher than the low of 3.2 billion gallons used during the 2009 economic recession, but still 14% below the 2006 peak of 4.2 billion gallons, and slightly below the 3.7 billion gallons consumed during 2011. Improvements in the energy efficiency of moving freight account for most of the reduction in railroad fuel use from 2006 to 2012.

Class I railroads account for about 90% of all railroad freight revenue. The amount of energy needed to move freight by Class I railroads has decreased significantly over time. In 2012, it took 2.1 gallons of diesel fuel to move 1,000 revenue ton-miles of freight, compared to 2.4 gallons in 2006, 2.5 gallons in 2000 and 4.3 gallons of diesel fuel in 1980. Revenue ton-miles are the product of the weight of paid tonnage times the total number of miles it has been transported.

Class I railroads traveled 1.7 billion revenue ton-miles in 2012, slightly less than in 2011 and 4% less than the peak 2008 ton-mileage. The decline is because of less tonnage moved, not less distance traveled. The average distance traveled by Class I railroads increased in 2012, but the increase was offset by decreases in tonnage.

Tonnage moved in 2012 was significantly lower than the 2006 peak, which can mainly be attributed to reduced coal shipments. Coal accounted for more than 40% of tonnage moved by Class I railroads, and shipments of coal by rail made up more than 70% of coal delivered to power plants. Because of these high rail shares of coal tonnage and shipments, declines in U.S. coal production affect rail car tonnage. Since 2008, the amount of coal moved by rail has declined, which has contributed to the decline in total tonnage moved by rail. While coal is the commodity with the largest decline, nearly all commodity groups, with the exception of petroleum products, have lower rail tonnages in 2012 than in 2006.

LyondellBasell Opens Chemical Research Hub In Houston

LyondellBasell opened a 70,000 square-foot Houston technology center to develop process technologies and chemical catalysts for its intermediates and derivatives business.

Research and development (R&D) activities at the facility will focus on improving catalyst and process technologies to reduce manufacturing costs, improve yields and lower capital costs of new construction for LyondellBasell's global chemicals division, according to a company announcement.

Proprietary technologies supported at the site will include acetyls, butanediol and derivatives, glycols and glycol ethers, olefins, propylene oxide and solvents.

Manufacturing plants supported by the new hub include a joint venture in Ningbo, China; a facility in Fos-sur-Mer, France; three Houston-area sites in Bayport, Channelview and La Porte, Texas, and plants in Botlek and Maasvlakte, Netherlands, according to the announcement.

The center is expected to employ around 80 people—22 of whom relocated from the company's former facility near Philadelphia, Pennsylvania, with the balance hired locally. The new facility is adjacent

NEWS & TRENDS | Up To Date

to LyondellBasell's largest U.S. production complex in Channelview, east of Houston.

"The Houston technology center will support research to improve our current processes and catalysts and provide the capability to develop further technology enhancements in support of LyondellBasell's intermediate and derivatives business," Massimo Covezzi, senior vice president of R&D for LyondellBasell, said in a press statement.

Patrick Quarles, senior vice president of the company's intermediates and derivatives business, added: "Having a research center for our intermediates business on the U.S. Gulf Coast in proximity to our manufacturing, commercial and engineering operations creates a critical mass that did not previously exist.

"We have leading technologies in propylene oxide and acetyls, and this action reaffirms our commitment to maintain our industry leadership in these areas," Quarles said.

LyondellBasell has more than 5,000 patents and patent applications worldwide covering catalysts, manufacturing processes and products, the announcement noted.

Other LyondellBasell R&D centers include Cincinnati, Ohio, which focuses on polyolefin-product application and development in North America; Frankfurt, Germany, which focuses on polyethylene and metallocene catalysts; and Ferrara, Italy, which emphasizes polypropylene and Ziegler-Natta catalysts.

The company also hopes to tap North America's burgeoning natural gas resources. Scientists at the facility will mix metals and other components in vacuum chambers, then test the materials in reactors to see if they can make operations more efficient and profitable, they said.

Executives wouldn't say how much LyondellBasell's new Houston Technology Center cost, but the site in Channelview was made possible because of the newly abundant supplies of natural gas and resources like ethane and propane in the U.S.

Nuevo Midstream Expands Processing, Treating Capacity

Nuevo Midstream LLC completed a major expansion of its amine treating capacity and has begun construction of the Phase III expansion of the company's natural gas processing system in the Delaware basin near Orla, Texas.



Up and Running | Nuevo's Ramsey processing plant is now online. Based on demand, the company is further expanding through the addition of the Ramsey III plant. (Courtesy of Nuevo Midstream)

Nuevo has also completed its interconnect to DCP's Sand Hills natural gas liquids (NGL) pipeline with NGL delivery into Mont Belvieu, Texas. With this liquids pipeline now in service, Nuevo is now able to offer producers access to NGL markets and NGL recoveries through 110 million cubic feet per day (MMcf) per day in current processing capacity.

Nuevo has begun construction of an additional 200 MMcf per day cryogenic processing plant known as the Ramsey III plant, which Nuevo expects to bring the online in April 2014, bringing its total cryogenic processing capacity to 300 MMcf per day.

Encana Debuts New Structure For Organization, Management

As part of its ongoing strategy development process, Encana debuted its new organizational structure and the members of its senior management team who will report directly to President and Chief Executive Officer Doug Suttles.

The new organizational structure and management appointments are expected to be effective by the end of 2013. Top executive appointments include:

NEWS & TRENDS | Up To Date

Mike McAllister, executive vice president and chief operating officer, focused on driving the company's operational performance; and David Hill, executive vice president, exploration and business development, focused on identifying and securing top-tier resources for Encana.

Sherri Brillon continues as executive vice president and chief financial officer, and her role will be focused on capital allocation and building financial strength and flexibility.

Renee Zemljak continues as executive vice president, Midstream, Marketing & Fundamentals ensuring the fundamentals function is strongly linked to the company's strategic direction.

Valero Hydrocracker Expansions Delayed To 2018

BY JACK PECKHAM | HART ENERGY

Valero chief executive Bill Klesse revealed at the Barclays Energy-Power Conference September 12 that permitting delays at its 310,000 barrels (bbl.) per-day Port Arthur, Texas, refinery and construction delays at its 270,000 bbl. per-day St. Charles, Louisiana, refinery, will push-back completion of two hydrocracker expansion projects to 2018, rather than 2015 as originally planned.

Each project would add another 15,000 bbl. per-day hydrocracking capacity (for a total of 30,000 bbl. per day). As a result, Valero—the world's biggest independent refiner—would expand its capacity to produce relatively high-value, ultra-low sulfur diesel (ULSD) fuel, Klesse explained.

Meanwhile, a new, 60,000 bbl. per-day hydrocracker at Valero's St. Charles refinery reached full rates in August 2013, while a new, 57,000 bbl. per-day hydrocracker at Port Arthur is "performing well," he said.

Each of those hydrocracker projects cost Valero about \$1.6 billion, for a total \$3.2-billion capital investment, Klesse said.

On a related front, Valero aims to expand hydrocracking capacity at its 135,000 bbl. per-day Meraux, Louisiana, refinery by 20,000 bbl. per day and increase distillate yield in "early 2015," he added.

The estimated cost-per-barrel of these hydrocracking expansion projects is "approximately 60% lower than the recent grassroots [hydrocracking] units," he said.

With global demand for middle distillate growing at twice the global rate of demand growth in gasoline, combined with Valero's strategic

U.S. Gulf Coast positioning for ULSD exports, "we're making more and more distillate every day in Valero operations," Klesse said.

Given declining demand for gasoline in the U.S. and Europe, and relatively feeble economic growth in the U.S. (which hobbles demand-growth for distillates), Valero sees profitable growth opportunities in fuel exports, principally middle distillate, he added.

Relatively cheap U.S. natural gas (compared to natural gas prices in Asia and Europe) also favors this Valero strategy, since relatively low-cost hydrogen obtained from cheaper U.S. natural-gas reforming feeds the refinery hydrocrackers and hydrotreaters that boost ULSD output. In the case of hydrocracking, the distillate-volume lift is around 20%, he explained.

In addition, today's relatively rapid expansion of U.S. Gulf Coast refining capacity—egged-on by relatively cheap, growing North American shale-oil, oil-sands and shale-gas supplies—is hampering proposed refinery expansion projects in Latin America, a key U.S. refiner target market. This in turn boosts the economic case for Valero's distillate exports.

"New [refining] capacity announcements from Brazil, Mexico and Colombia will likely be much smaller and much later than originally announced," he said.

"Other [refinery] projects are unlikely because of costs and other factors in Ecuador, Peru, Algeria [and] Egypt," he added.

Meanwhile, U.S. Gulf Coast middle distillate refining margins so far this year are double that of gasoline margins—more than \$16 per bbl. for diesel, versus just \$8 per bbl. for gasoline, he showed.

"Diesel, kero, jet-fuel margins are significantly higher than gasoline due to less spare distillates production capacity" and "distillates demand growth rate is much higher than gasoline," he explained. "Europe continues to be short diesel, but long marginal refining capacity and [Europe's refiners are] processing expensive crude oils and natural gas."

Meanwhile, Valero's refining-system middle-distillate yields are estimated to rise from 33% in 2010 to 39% in fourth-quarter 2013 and 43% in 2015, "yielding a gasoline/diesel ratio of nearly one-to-one," he explained.

While Valero and other U.S. refiners are investing in new capacity to process the relatively light shale-oil crudes flowing from major new fields, this trend doesn't automatically mean that middle distillate output will decline at the expense of gasoline yield increases, he said.

NEWS & TRENDS | Up To Date

“Be careful about generalizing crude oil properties and their impact on product yields,” he said. “Some light crudes are inherently diesel-rich or gasoline-rich despite having a similar API gravity.

“As we have shifted our [refinery] diet to higher-API domestic shale crudes such as Eagle Ford and Bakken, we have seen distillate yields stay about the same while gasoline yields have increased,” he said.

MarkWest Provides Marcellus Operational Update

MarkWest Energy Partners LP provided information regarding an August 2013 landslide that impacted a MarkWest natural gas liquids (NGLs) pipeline in a remote area of northern Wetzel County, West Virginia, causing a line break.

The landslide originated from significant erosion and run-off from heavy rainfall. MarkWest shut down the pipeline and immediately commenced repairs and remediation of the impacted portions of the pipeline. Repairs and remediation to the pipeline and rights of way in the landslide impacted areas are currently under way, and MarkWest said it is working to complete the remedial work and return the pipeline to service. The pipeline and the Mobley processing facilities will remain shut down until the pipeline remedial work is completed, which is expected to be by mid-October.

The Sherwood processing facility continues to operate at curtailed levels, and NGLs from that facility are being transported by truck for fractionation and sale. No other MarkWest facility has been impacted. MarkWest said it does not expect the shutdown of these facilities to have a material impact on its financial results.

Devon Midstream Partners Files IPO

BUSINESS WIRE

Devon Energy Corp. announced its wholly owned subsidiary, Devon Midstream Partners LP, filed a registration statement on Form S-1 with the U.S. Securities and Exchange Commission. This filing relates to an initial public offering of common units in Devon Midstream

representing limited partner interests. An application will be made to list the common units of Devon Midstream on the New York Stock Exchange under the symbol “DVNM.”

Enbridge To Connect JACOS Hangingstone Project To Its Regional System

Enbridge Inc. will construct facilities and provide transportation services to the Japan Canada Oil Sands Limited (JACOS) Hangingstone Oil Sands Project (the Hangingstone Project). JACOS and Nexen Energy ULC are partners in the project, which is operated by JACOS. Enbridge and JACOS have entered into a long-term agreement for transportation services from Cheecham to Edmonton on Enbridge’s regional infrastructure. Commercial terms have been agreed to but execution remains subject to finalization of the definitive agreements, according to Enbridge.

The newly constructed pipeline will have the capacity to transport 40,000 barrels per day (bbl.) of diluted bitumen produced at the Hangingstone Project to the Enbridge terminal in Cheecham, Alberta. First oil from the Hangingstone Project is expected in early 2016, with initial volumes of 18,000 bbl. per day.

Pending regulatory approvals, the execution of the definitive agreements and stakeholder consultation, Enbridge plans to construct and operate a 31-mile, 12-inch lateral pipeline to connect the Hangingstone Project to Enbridge’s regional system at Cheecham. The scope also includes an optional 8-inch diluent line to transport diluent to the Hangingstone Project. The initial term of the transportation agreement is 20 years, with JACOS and Nexen having the right to extend the agreement in successive five-year terms.

Pennant Midstream To Construct NGL Pipeline

Pennant Midstream LLC announced the construction of a 12-inch, 38-mile natural gas liquids (NGL) pipeline, an approximately \$60 million investment. The line will connect the Hickory Bend Cryogenic Processing plant in New Middletown, Ohio, to the UEO Kensington facility near Kensington, Columbiana County, Ohio,

NEWS & TRENDS | Up To Date

and will have the capacity to initially deliver approximately 90,000 barrels per day.

The pipeline is under construction and is expected to be completed by July 2014. The initial NGLs will be delivered to the UEO NGL pipeline originating in Columbiana County, and transported via the existing UEO NGL infrastructure to the fractionator at UEO Harrison hub in Harrison County, Ohio.

GTL Facility May Be Coming To Louisiana

Shell and Louisiana Governor Bobby Jindal announced the selection of Ascension Parish, Louisiana as the location for a potential natural gas-to-liquids (GTL) facility.

According to the terms of an incentive agreement with the state, the company at a minimum would spend \$12.5 billion and create 740 direct jobs, should the project be built. The expected average annual salary of the direct new jobs would be approximately \$100,000, plus benefits.

The State of Louisiana offered Shell a competitive incentive package that would include a performance-based grant of \$112 million to reimburse costs associated with necessary public road improvements, land acquisition and other infrastructure costs. Shell also would receive the services of LED FastStart, a state workforce training program. In addition, the company would qualify for Louisiana's new Competitive Projects Payroll Incentive (12% payroll rebate for each GTL job), as well as the Industrial Tax Exemption Program.

A final decision to build the proposed project would be made after site evaluation and preliminary engineering studies are completed. Construction would follow that decision.

"Selecting a site is an important step that allows us to conduct more detailed planning, technical analysis and begin the permitting process. Should we move forward with the project, we expect project costs to be well in excess of the minimum spend that was agreed upon with the State of Louisiana," said Jorge Santos Silva, executive vice president Upstream Americas for Shell in a Louisiana Economic Development release.

Shell's Gulf Coast GTL facility would be one of the first of its kind built to commercial scale in the U.S. Shell annually produces approximately 150 million barrels of oil in the Gulf of Mexico and also

operates extensive onshore facilities in Louisiana, including its Norco and Geismar plants, a major training center in Robert, and corporate offices in New Orleans.

Total Sees More Oil-Refinery Shutdowns Ahead In Europe

BLOOMBERG

Total SA is backing out of European oil processing and sales as domestic demand shrinks for the region's third-largest oil company and gains in faster-growing economies, according to a September 23 *Bloomberg* report.

"Growth is no longer in the OECD [Organization for Economic Co-operation and Development] in terms of oil products but definitely in emerging markets," Philippe Boisseau, head of marketing and services, told a presentation in London, referring to the developed-country grouping. Lubricants are a "booming high margin business" in emerging economies, he said, according to *Bloomberg*.

Total has vowed to boost profitability in the refining and petrochemicals businesses by reducing operations in Europe by a fifth through 2017 and expanding in Asia and the Middle East. The company this month unveiled a plan to shut a steam cracker unit at the Carling petrochemicals plant in eastern France, while it has acquired gas stations in Egypt and Pakistan, the report noted.

There are no plans to spin off marketing operations in the near term, according to Bloomberg, citing Total chief executive Christophe de Margerie. Reducing European refining and chemicals will be carried out "smoothly and smartly," without any big announcements.

Total plans to cut the proportion of investment in western and eastern European marketing and services over four years and raise it in Africa, Asia and the Middle East, according to the report. Total spending will decline.

Oil-product demand is expected to drop 5% in the OECD nations by 2020—from 2010—and rise 25% in other nations, Total said. Lubricant growth in non-OECD countries will jump 40%, versus a 5% expansion inside the grouping, *Bloomberg* reported. Total won't close a European refinery in the next two years even as capacity may be cut, chief financial officer Patrick de la Chevadiere said, according to Bloomberg.

[READ FULL ARTICLE ONLINE](#)

SNAPSHOT | Industry Insight

Linn Energy Hopes To Emerge From 'Dark Tunnel' Of 2013

BY SUSAN KLANN | HART ENERGY

Linn Energy LLC's one-on-one breakout session drew plenty of interest on day one of the IPAA OGIS meeting in San Francisco that began September 30. Investors and analysts honed in on the company's stymied deal to buy Berry Petroleum Inc. of Denver. A Securities and Exchange Commission's (SEC) inquiry has held up the process as it analyzes Linn's accounting practices.

Kolja Rockov, executive vice president and chief financial officer, said the company had filed an S-4 amended registration nearly two weeks previous. When it is declared effective, Linn can get its proxy process for the Berry transaction under way. "That's the No. 1 process," Rockov said. "It's all about getting the proxy done."

The SEC earlier this summer requested the preservation of documents and communications potentially relevant to, among other things, LinnCo's proposed merger with Berry Petroleum Co., and Linn and LinnCo's use of non-GAAP financial measures and hedging strategy. The Berry deal was originally announced in February.

While declining to comment on details of the process, Rockov said it had been a long one. "We're trying to be as responsive as we can. Hopefully this last filing is a good one." He said the typical time frame for a turnaround is two weeks, but up until now that has not been the case. "It's really hard to predict what the timing will be," he said.

"The way I would characterize it, is our goal moving forward with the proxy statement is somewhat independent of the SEC inquiry. ... The inquiry could go well into 2014. But if you have an effective proxy statement you can get the Berry deal closed, you can access the debt and equity markets, and you are able to run your business."

The inquiry focuses on premiums paid for derivatives, which Linn considered a capital expense. "It's an issue of do you deduct that from future EBITDA or do you not," Rockov said. "That seems to be the central issue. ... We changed how we do EBITDA in the last filing to deduct those costs."

Rockov said he has seen examples of companies handling the issue either way. He said that for investors, he thinks the important questions are whether Linn is executing operationally, and how it is generating enough cash through acquisitions or drilling to pay distributions.

Will Linn be able to close the Berry transaction, a deal that some observers have described as something Linn "has to" get done? An attendee at OGIS, Michael Peterson, managing director, energy research, at MLV, New York, thinks it is likely.



Hopeful | Linn Energy anticipates light at the end of the tunnel that has been a rough 2013 so far.

"Despite all the news flow, the Linn/Berry merger still has a solid chance of consummation," he says. "From the perspective of BRY shareholders, who supported the tax-efficient exchange of BRY shares for LNCO shares, the fundamental economics of the deal are largely unchanged: One share of BRY will still garner one share of LNCO, which will still deliver monthly dividends at the same level from the same asset base at comparable commodity price levels.

"In addition, S-4 filings detail Berry's active interest in selling itself dating back to mid-2011, evidencing management and the board's longstanding interest in locating a sale or merger agreement. This perspective is enhanced by the lack of alternative suitors to emerge and fill the gap created in the potential absence of Linn. It therefore does not appear to be unreasonable, in my view, to conclude a transaction with Linn may still be Berry's best option.

Organizational changes already under way also augur for a closing, Peterson says. "Walking away from the deal with Linn would require more effort than just voting no for Berry. While the band could surely be put back together, leaving the company, its operations or its stock price exposed in the absence of a deal is not something Berry's management or board is likely to take lightly."

Rockov described the first half of the year as tough—a "dark tunnel"—as the company was below its 1 coverage ratio and natural gas liquids (NGL) prices faltered. In its second quarter, Linn posted a distribution coverage ratio of .89x, meaning only 89% of its distribution could be paid via internally generated cash flow. But Rockov said NGL prices have risen somewhat in the past couple of months, and that the company's recent agreement to acquire Permian Basin properties for \$525 million is accretive. Linn anticipates the Permian acquisition will close during the fourth quarter of 2013, and will be financed primarily with proceeds from a committed term loan.

"Anytime you're hovering around 1 coverage people get pretty sensitive," he said. If the company can close the Berry deal, it will be "a good bit over" that metric.

[READ FULL ARTICLE ONLINE](#)

LEAD STORY | From The Front

Continued from **Page 1** capture and sequestration, they are unlikely to be able to compete with gas plants. “Once a plant has been slated for closure, the owner of the facility has a complicated series of decisions to make about the eventual disposition of the plant.”

Although it is often cheaper to build a new gas plant rather than convert a coal plant, more coal plant owners are doing just that due to the complexities involved in demolition, which requires full environmental mediation, repurposing of the site and mothballing of the facility.

Another advantage to converting a coal plant to operate on gas is that it is already located on the transmission grid. There is no need to find a building site or build new lines to the grid as they are already in place.

While there are incentives to move from coal to gas, coal power generation still retains a large portion of the market. According to Rick Smead, director at Navigant Research, coal represents 300,000 MW, or 27% of total power generation in the U.S. in the past 23 years, gas, solar and wind projects have accounted for 86% of the power-generation additions.

The push for more environmentally friendly forms of power generation has been a boon for natural gas even as more wind and solar projects come to fruition. Not only is gas cleaner than coal, it is also as predictable in being able to consistently meet demand. The intermittent nature of renewable energy means that a reliable energy source is necessary as a partner.

Not all is bright for gas-fired generation in the near-term as run times are still dictated by price until more coal plants are retired. “Gas-fired generation operates as an automatic governor for prices. If prices get too high, gas use drops off immediately. If they’re low, it picks up immediately,” Smead said.

This cycle was evident in 2012 because of a very mild winter that caused gas prices to fall through the floor. However, by April gas usage grew at such a rate that for the first time in history, gas- market share caught up to coal-market share. Once gas prices recovered, coal’s share of the market returned to its previous level.

Another potential headwind facing the gas power industry is that investments may not be made in the necessary infrastructure to grow the market. There is a real dichotomy between how the electric utility market operates and how the gas markets work.

“Utility managers are not used to having to adjust in-time generation fuel. If gas doesn’t show up when it’s supposed to, they don’t have any supply. They’re used to looking at a big pile of coal out the window and having that reassurance,” Smead said.

Markets such as in New England have interruptible pipeline capacity, which works fine when they are only used in different parts of the year. As these systems have begun to run full-time, the ability to get supplies when needed is proving troublesome.

New pipeline projects are coming to the market at a slower rate as midstream companies and investors require long-term capacity commitments, which is anathema to the utility industry. Consequently projects have been delayed, scraped or reduced in size even when further capacity will be needed.

“It’s really not the producer’s job to build pipeline, but the producing community has underwritten a lot of new pipeline capacity to get [volumes] out of the big shale plays to market. At that point it is up to the consuming market to pay for the needed pipeline expansions away from the hubs to where the consumer needs it,” Smead said.

States are trying to fill the gap in these gas-fired generation markets by providing incentives to build new capacity or creating penalties and sanctions if a project proves to be unreliable. Both industries are working to reconcile their differences, but until a framework is met that meets the needs and goals of both industries, the growth potential for gas will be hindered. More on this topic will be discussed in next week’s *Midstream Monitor*, specifically how Connecticut and New York City are going about creating incentives and subsidies for gas-fired generation projects.

Should these industries fail to reach an accord and new pipeline capacity isn’t built to meet electric demand once coal-fired power plants are retired, there could be a power gap in the U.S. similar to what has been seen in parts of Europe.

“We’re going to have to be careful to [avoid that scenario]. That’s what each of the reliability authorities are worried about in each region. They’re trying to figure out what size reserve margins they need to build if some of their generation sources are less certain,” Smead said.

Contact Information:

FRANK NIETO Editor
fnieto@hartenergy.com

Contributing Editors: Richard Mason, Mike Madere, Scott Weeden, Michelle Thompson, Nissa Darbonne, Leslie Haines, Peggy Williams, Susan Klann, Darren Barbee, Paul Hart, Emily Moser, Chris Sheehan, Steve Toon, Velda Addison, Kristie Sotolongo, Rhonda Duey, Caroline Evans, Nicole Johnson, Christina Alty

ORDER TODAY!

Call: 1-212-608-9078 | Fax: 1-212-608-9357

HART ENERGY

1616 S. Voss, Suite 1000 • Houston TX 77057-2627 • USA

Copyright 2013. All rights reserved. Reproduction of this newsletter, in whole or in part, without prior written consent of Hart Energy is prohibited. Federal copyright law prohibits unauthorized reproduction by any means and imposes fines up to \$100,000 for violations. Permission to photocopy for internal or personal use is granted by Hart Energy provided that the appropriate fee is paid directly to Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923. Phone: 978-750-8400; Fax 978-646-8600; E-mail: info@copyright.com.