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FEATURE

Permian Pipeline Projects Expected To Relieve NGL Bottlenecks

The production of natural gas liquids (NGL) in the Permian Basin in West Texas and southeast New Mexico is likely to be constrained through 2012, but pipeline projects should help relieve some of the bottlenecks by 2013, according to Wells Fargo Securities' "NGL Snapshot" report that was released in July 2011.

During the past several months, plans for NGL pipeline expansion projects in the Permian Basin -- one of the largest and most prolific oil and natural gas producing regions in the United States -- have been announced. DCP Midstream's Sandhills Pipeline and ETP's and RGNC's Lone Star NGL Pipeline have a total proposed capacity of 240,000 barrels per day (MBbls/d).

Based on plans for new pipeline construction, the Wells Fargo report determined that Permian NGL production has the potential to increase to a range of 570-790 MBbls/d by 2016, from a current level of 450 MBbls/d.

"Assuming the proposed pipeline projects are completed, the Permian Basin is



likely to become largely debottlenecked by 2013 from an NGL standpoint," said Michael Blum, Wells Fargo senior analyst. However, Blum said, takeaway capacity could become constrained by late 2016, and even as soon as third-quarter 2014, under a high-growth scenario.

Other than the Sandhills and Lone Star projects, no additional pipelines are expected to be built in the near future to deliver NGLs out of the Permian Basin, Blum said, noting that the industry should be able to absorb such an impact.

"Incremental production could likely be addressed with more economic expansions

(continued on page 2)

INSIDE LOOK AT PROCESSING

Low U.S. Natural Gas Prices Support Petrochemical Production That Impacts Downstream Markets

After commodity resin prices dropped in June and July, August will either be a steady or up month for polyethylene, said Michael Greenberg, chief executive of The Plastics Exchange. June and July had the first back-to-back declines in the last 15 months.

"What's significant is that after a year of rising prices, the market remembered that it could go down," he explained. "However, the down-leg of this cycle seems to have already run its course. There is a 5¢ increase on the table for August and 6¢ for September. It's hard to say this early in the month if prices are certainly going up in August, but prices are not going down anymore."

Polyethylene contracts dropped about 7¢ per pound (/lb) between June and July. The decrease is attributed to lack of demand fueled by a change in market sentiment as producers continued to run their resin reactors hard, leading to a huge inventory build. Even though steam crackers were running near 100% capacity, "we didn't see the market become grossly oversupplied with ethylene monomer," Greenberg said.

In July, several crackers were down for both planned and unplanned maintenance, dropping capacity to about 95%, driving ethylene prices up from 56¢/lb to 65¢/lb.

(continued on page 7)

Natural Gas As A Power-Generation Fuel — Challenges Explained

The unconventional revolution has had a dramatic impact on the nation's natural-gas supply. End-users are now grappling with this sea change, adjusting their perceptions from that of periodic shortages and volatile prices to one of steady, low-cost and abundant supply. Gas producers and midstream firms are well aware of the qualities of this burgeoning resource, and they are striving to convince consumers of these attributes. And electric utilities are one class of consumer high interest.

"There are 1,500 trillion cubic feet of gas that is economically recoverable at \$5 per million Btu," said Scott Moore, vice president of marketing, Anadarko Petroleum Corp., and moderator of the "Capturing the Natural Gas Market of a Lifetime" panel at the Rocky Mountain Energy Epicenter 2011, put on this week by the Colorado Oil & Gas Association in Denver. The market recognizes that the cost of natural gas is low, and projections on future prices have continued to decline, he said.

What does that mean for power generators? i, vice president of fuels, Xcel Energy, spoke to the assembly about the burning question of the role of natural gas in fuel selection for utilities. Xcel al-

ready buys some 400 billion cubic feet of gas per year. On the generation units it owns, natural gas capacity is almost equivalent to coal. However, much of the natural-gas capacity is dedicated to peaking, so that capacity is not on line as much as the base-load coal units.

Xcel certainly recognizes the potential for longer-term, lower and more stable gas prices, said Arigoni. "As coal generation is reduced, natural gas generation will be growing," she said.

However, the outlook is not as rosy for natural gas producers as they might hope. For Xcel, natural gas represented 23% of its fuel use in 2010, and that slice of the pie will edge up just to 24% by 2020. Although this scenario incorporates overall growth, Xcel's future fuel supply is much more heavily weighted in renewables than in natural gas, she said. Across Xcel's system, natural gas use as a fuel is expected to increase at its Public Service of Colorado and Northern States Power subsidiaries, but should decrease for its Southwestern Public Service Co.

Why isn't natural gas more readily embraced? Key drivers for resource planning, from a utility perspective, are the cost of natural gas, the future carbon-reduction costs, capital costs and

resource needs. "Gas must compete with renewables to gain market share in Xcel generation," Arigoni said. In her view, gas is a swing fuel, a compliment to renewables, and it also helps with compliance to carbon emission regulations. However, a small change in natural gas prices translates to a huge change in electricity costs: a \$1 increase in natural-gas fuel price equals a \$7 increase in cost of a megawatt-hour.

As natural gas fights for market share in the electric-generation business, it is coming up against some remarkable new efficiencies in wind-generation costs. Also, utility executives are worried about potential regulations on hydraulic fracturing, the high decline rates of the unconventional plays and the ability of the gas producers to maintain steady activity levels. These concerns need to be addressed and allayed.

Finally, the traditional ways producers have sold gas to utilities will have to change. Predictability and stability are keys.

"Utilities need reliability and new thinking about long-term pricing," said Arigoni. — **Peggy Williams**

Permian... (continued from page 1)

of existing and proposed pipelines, in our view," he said. "Notably, both DCP's Sandhills and ETP/RGNC's Lone Star NGL pipelines can be readily expandable with pumps if there is sufficient interest from customers. Assuming capacity on both pipelines is increased by 50%, NGL take-away capacity out of the Permian Basin should be sufficient to handle growth in

supply during the next five years, even under our high-growth case scenario."

And the analyst anticipates significant processing-capacity expansion in the basin. Under Wells Fargo's base-case scenario, an additional 1.2 billion cubic feet per day (Bcf/d) of processing capacity will need to be constructed during the next five years. Alternatively, under a high-

case scenario, an additional 2.1 Bcf/d of processing capacity would be needed.

Other highlights of the NGL Snapshot include:

NGL Market Overview: The composite price for a barrel of natural gas liquids declined 2.6% in June to \$1.41 per gallon, down from \$1.45 per gallon in May. West Texas Intermediate decreased

4.9% in June to \$96.17 per barrel, down 4.9% from May's \$101.14 mark. As a result, the NGL-to-crude oil ratio increased to 62% in June, up from 60% in May.

The processing and keep-whole margin decreased 5.3% in June to \$1.02 per gallon, down from \$1.08 per gallon in May. The decrease is attributed to a combination of lower NGL prices and a 6% increase in the price of natural gas.

NGL Supply Rises, Production Levels Off: Total U.S. NGL supply averaged 3,098 MBbls/d in April 2011, according to the latest figures from the Energy Information Administration (EIA). That's a 5.5% increase from April 2010 levels. NGLs sourced through the processing of natural gas continued near record levels in April 2011, as producers concentrate drilling efforts in regions rich in NGLs.

Production from U.S. processing plants averaged 2,157 MBbls/d in April 2011, a figure that is essentially unchanged from

2,168 MBbls/d in March 2011. April's average production from NGL processing plants was up 8.9% from the 2010 average but down 0.5% from March 2010, the month that set an all-time record for domestic NGL production.

From August 2010 through April 2011, NGL production from processing plants has remained greater than 2,000 MBbls/d.

Higher Demand For Gasoline Blending: According to the EIA, NGL demand in the U.S. averaged 2,744 MBbls/d in April 2011, a 15.7% increase from April 2010. NGL demand from gasoline blending increased 44% to 655 MBbls/d in April 2011 vs. 455 MBbls/d in April 2010. In addition, petrochemical demand jumped 5.4% from April 2010 (1,245 MBbls/d) to April 2011 (1,312 MBbls/d).

Record Demand For Light Feeds: Petrochemical demand for light feeds (ethane, propane, butane) remains at

record levels, according to Wells Fargo. The ratio of light feedstock as a percentage of the overall cracker feed slate increased to 85.4% in June 2011, compared with 84.7% in May.

"A number of petrochemical companies have retooled facilities to accept additional NGL feedstock given the relative cost advantage," Blum said. "Anecdotally, we have heard that additional heavy- to light-feed capacity conversions and expansions could take place that could increase ethane demand by more than 200,000 barrels a day. In addition, several petrochemical companies, including Dow and ConocoPhillips, have noted the possibility of constructing a world-scale ethylene plant in the Gulf Coast."

– Mike Madere

EQT Infrastructure Acquires 70% Of Peregrine Midstream

EQT Infrastructure, Guernsey, has acquired 70% of Peregrine Midstream Partners LLC, Houston, from the management team and other existing investors. EQT Infrastructure's investment will allow Peregrine Midstream to fund the completion of Ryckman Creek, the company's first storage facility and one of several gas storage projects in Peregrine Midstream's portfolio.

Peregrine Midstream was co-founded in 2009 by John Hopper and Jeff Fouch, chief executive officer and chief commercial officer, respectively. They are joined on the senior management team by former management team members from Falcon Gas Storage Co., which they also co-founded. The management team is a leader in the midstream industry and has successfully completed and operated gas

storage projects in Texas while also initiating projects in Alabama and New York.

Peregrine Midstream's initial storage project, Ryckman Creek, is located in the state of Wyoming in an oil and gas producing region of the United States. The Ryckman Creek reservoir previously produced oil and gas for Amoco Production Co. from 1976 through 1993. The Federal Energy Regulatory Commission granted the Ryckman Creek facility approval on July 28, 2011, to be converted into a gas-storage facility. During the coming years, Peregrine Midstream will focus on building and expanding the storage facility at Ryckman Creek. When Ryckman Creek begins its storage operation in 2012, it will provide essential gas-storage services to markets in the Western and Mid-western United States.

KEY NORTH AMERICAN HUB PRICES	
2:30 PM CST / AUGUST 4, 2011	
Gas Hub Name	Current Price
Carthage, TX	4.12
Katy Hub, TX	4.16
Waha Hub, TX	4.19
Henry Hub, LA	4.20
Perryville, LA	4.16
Houston Ship Channel	4.16
Agua Dulce TX	4.67
Opal Hub, Wyo.	3.98
Blance Hub, NM	4.08
Cheyenne Hub, Wyo.	4.00
Chicago Hub	4.27
Ellisburg NE Hub	4.58
New York Hub	4.46
AECO, Alberta	3.72

Source: Bloomberg

The Ryckman Creek facility will initially offer approximately 18 billion cubic feet (BCF) of working gas capacity, all of which is currently under contract. At full capacity, Ryckman Creek will offer 35 BCF of high deliverability multicycle working gas storage. The storage facility will utilize existing compression infrastructure and interconnections with four pipelines: Kern River, Questar, Overthrust and Northwest. An interconnection with Ruby Pipeline is planned for 2013.

“Together with EQT Infrastructure and the strong network of Industrial Ad-

visors, we are excited to move forward with the Ryckman Creek project,” says Hopper. “Natural gas has continued to develop strong momentum as a key form of energy supply in the United States. Peregrine Midstream is well positioned to take advantage of this momentum by providing critical storage infrastructure and services to the natural gas market.”

“Peregrine’s strong management team and their proven approach to gas storage combines well with strong industry drivers and potential for value creation,” says Barry Pearl, who will become chair-

man of the Peregrine Midstream board of directors. “The team’s experience from developing other storage projects, together with the unique Ryckman Creek asset, provides the opportunity to evolve Peregrine Midstream into a major natural gas storage platform.”

The new board of directors will also include Geoffrey Roberts (board member of Midland Cogeneration Venture and chairman of RTI), Alan Englehart, Dean Jones, John Hopper and Glen Matsumoto.

Pembina Pipeline To Expand Its Cutbank Complex

Pembina Pipeline Corp., Calgary, Alberta, Canada, has reported plans to expand its Cutbank Complex shallow cut gas processing capability by 50 million cubic feet per day (mmcf/d) due to high plant utilization and strong customer demand arising from positive drilling results.

On completion of the Cutbank Expansion, the Cutbank Complex will have total raw gas processing capacity of 410 mmcf/d (355 mmcf/d net to Pembina), an increase to Pembina of 16 percent. The Cutbank Expansion will occur at the Musreau gas plant, one of the three plants that make up the Cutbank Complex, which is located in west central Alberta.

Pembina expects the Cutbank Expansion to cost approximately \$26 million and, subject to regulatory and environmental approval, is expected to be in-service by mid-2012. Pembina has entered into contracts with a minimum term of five years with area producers for the entire expansion capacity on a fee-for-service basis.

“Producers are benefitting from new technologies that are driving production costs down and recovery rates up,” said Stu Taylor, Pembina’s vice president, Gas Services. “This is increasing the need for gas-handling, processing and transportation capacity. The proximity of our in-

frastructure to this very active producing region, together with our integrated service offering, positions Pembina to efficiently and competitively meet the needs of new and existing customers.”

Pembina transports crude oil and natural gas liquids produced in Western Canada, owns and operates oil sands pipelines and has a growing presence in midstream and gas services. Pembina’s common shares (PPL) and convertible debentures (PPL.DB.C) are traded on the TSX.

NEWS & TRENDS

Regency Energy Partners Plans To List On The New York Stock Exchange

Regency Energy Partners LP, Dallas, has reported that it received authorization to list its common units representing limited partner interests on the New York Stock Exchange, according to Business Wire.

The company stated they anticipate trading to begin Aug. 9, 2011, under the “RGP” symbol, and will continue trading on the NASDAQ under the symbol “RGNC” until that time.

According to Business Wire, Mike Bradley, president and chief executive of Re-

gency, said, “In moving to the NYSE, we believe we will benefit from access to a trading specialist and decreased volatility.”

Bradley continued, “We look forward to joining many of our midstream industry peers, and our general partner, Energy Transfer Equity LP, which currently trade on the NYSE.”

“We look forward to Regency Energy Partners joining the NYSE community,” Scott Cutler, executive vice president and head of listings, Americas, NYSE

Euronext, told Business Wire. “As a regional leader in natural gas, Regency has a track record of delivering value to unitholders. The NYSE provides the market quality and services that will benefit Regency and its stakeholders, and we welcome the opportunity to begin and build our partnership.”

FERC Approves Peregrine's Wyoming Project 7(c) Certificate

The Federal Energy Regulatory Commission (FERC) has issued, and Ryckman Creek Resources LLC has accepted, a Certificate of Public Convenience and Necessity under Section 7 of the Natural Gas Act, authorizing the wholly owned subsidiary of Peregrine Midstream Partners LLC to develop and operate a new interstate natural gas storage facility in Uinta County, Wyoming. Ryckman filed the 7(c) Certificate application with the FERC in November 2010, and intends to file its implementation plan on August 2, 2011, with construction starting on the facility when the FERC accepts the implementation plan and Ryckman receives final approval from the Bureau of Land Management.

The high-deliverability, multicycle (HDMC) natural gas storage project, which is located near the Opal Hub in the Western Rockies, involves converting the partially depleted Ryckman Creek Nugget Unit into a gas-storage field with an initial working gas capacity of 18 Bcf when the first phase is completed in

2012. Ryckman plans to expand working gas capacity to approximately 35 Bcf by spring 2014, increasing to a total capacity of around 50 Bcf when the Phase 2 expansion is finished. Maximum injection capability will be 350 MMcfd with a maximum withdrawal capability of 480 MMcfd.

"We appreciate the FERC's efficient processing of Ryckman's application and recognition of the facility's importance as the largest independently owned gas-storage project serving this part of the Rockies," said Peregrine Managing Director Jeff Foutch. "Ryckman's open season in October 2010 was oversubscribed by 35 Bcf, reflecting strong demand for the services we can provide to local markets as well as elsewhere in the Midwest and Western U.S."

The FERC order authorizes Ryckman Creek to construct and operate a natural gas storage facility consisting of:

- Up to six injection/withdrawal wells;
- Two re-entry observation wells and two re-entry/recompletion saltwater disposal wells;

- A central gas/liquids separation and processing facility;
- 4.8 miles of new eight-inch diameter storage field flow lines connecting injection/withdrawal wells to the processing facility;
- Approximately 4 miles of 16-inch diameter header pipeline connecting the processing facility to the Canyon Creek compressor station;
- Canyon Creek facilities with four existing retrofit compressors and up to eight new compressors;
- Bi-directional meter stations added to the existing Kern River, Questar and Overthrust pipeline interconnects.

Ryckman Creek will offer firm, enhanced and interruptible storage, balancing, wheeling and parking services at market-based rates.

Rosetta Resources Restores Full Production In Eagle Ford

Rosetta Resources Inc., Houston, has reported that full production has been restored from its Gates Ranch assets in the Eagle Ford shale in South Texas after an operational upset disrupted services

at a gathering and processing facility owned by a midstream service provider. Volumes of approximately 75 million cubic feet of net equivalent daily production were curtailed from July 20 to July

27 when production activity returned to normal. A second midstream service provider continued to take the balance of field production during this period.

Monroe Gas Storage Announces A Non-Binding Open Season

Monroe Gas Storage Co. LLC has reported the start of a non-binding, 15-day open season to gauge market interest in available capacity in its 12.0 Bcf multicycle, interstate natural gas storage facility located in Monroe County, Miss. This strategically located facility provides access

to markets in the Midwest, Northeast and Southeast.

Through this non-binding open season, Monroe is soliciting market interest in subscribing to firm storage capacity in its FERC 7(c) Certificated facility and anticipates providing approximately

three-turn service. This open season is for up to 8.5 Bcf of firm storage capacity, with 2.9 Bcf available Oct. 1, 2011. The facility interconnects with Tennessee Gas Pipeline Line 500 and Texas Eastern's 30-inch M-1 Zone, and has the potential to interconnect with the

recently proposed Kennesaw Pipeline serving the Southeast.

“The continued growth of the shale development, the anticipated retirement/conversion of coal-fired generation in

the Southeast, combined with the large amount of pipeline infrastructure completed and proposed in this area, further strengthens our belief that the Monroe facility will play an important and strate-

gic role in the natural gas supply needs in this region of the U.S.,” said Jeff Ballew, president and chief executive of Cardinal Gas Storage Partners LLC.

Quanta Services Increases Credit Facility To \$700 Million

Quanta Services Inc., Houston, has reported that it has entered into an amended and restated senior secured revolving credit agreement with a syndicate of lenders led by Bank of America N.A. and Wells Fargo N.A. The amendment expands the company’s senior secured revolving credit facility from \$475 million to \$700 million and extends the maturity date to Aug. 2, 2016.

“We are pleased with the renewal, increase and extension of our credit facility and appreciate the support of the financial institutions involved,” said James H. Haddox, chief financial officer of Quanta Services Inc. “The amended credit facility increases our total liquidity, providing us with greater financial flexibility to pursue large projects, acquisitions and international opportuni-

ties. We believe our ability to secure this financing reflects our financial partners’ confidence in Quanta and our multi-year growth opportunities.”

In conjunction with the amended and restated credit agreement, Quanta Services will file a Form 8-K with the Securities and Exchange Commission.

PIPELINES & TECHNOLOGY

Enterprise, Energy Transfer Extend Open Commitment Period For Double E Pipeline

Enterprise Products Partners LP, Houston, and Energy Transfer Partners LP, Dallas, have reported that they have extended the deadline of the binding open-commitment period for capacity

on a proposed crude oil pipeline from Cushing, Okla., to Houston, according to Business Wire.

According to reports, the two-week extension will provide interested ship-

pers with extra time to finalize necessary binding capacity agreements. The Double E Pipeline is expected to begin service 4Q 2012.

Modular Preassembly Revolutionizing LNG Construction

In seven years, developers have shifted from custom onsite construction to preassembling much of a liquefaction plant or a receiving terminal in fabrication facilities and transporting huge modules onsite. A survey of liquefaction trains currently under construction found 13 of 19 using this practice, called “modularization.”

“Modularization is a quiet revolution in world-scale LNG,” said Bob Nimocks, president of Zeus Development Corp., an LNG analyst. “The trend has exploded in use. The first modular LNG export project, North West Shelf

Train 5, which was completed in 2008, used 75 modules, the largest of which weighed 1,835 tonnes. Pluto Train 1, which is being completed nearby, is using three times that many, the heaviest weighing more than 2,000 tonnes.”

Several innovations are allowing contractors to transition to this approach, where most of the plant is constructed by highly skilled manufacturing labor instead of newly trained labor onsite. Specialized heavy-lift vessels and hydraulic multi-axle trailers are among the innovations. Heavy-lift ships like the ones op-

RESIN PRICES – MARKET UPDATE – AUGUST 5, 2011					
TOTAL OFFERS: 12,757,848 lbs		SPOT		CONTRACT	
Resin	Total lbs	Low	High	Bid	Offer
HDPE - Blow Mold	2,275,956	0.64	0.69	0.64	0.68
LDPE - Film	1,587,312	0.73	0.81	0.75	0.79
PP Homopolymer - Inj	1,519,012	0.81	0.98	0.85	0.89
LLDPE - Film	1,504,392	0.69	0.77	0.66	0.70
HDPE - Inj	1,410,944	0.71	0.75	0.67	0.71
HMWPE - Film	1,085,472	0.72	0.76	0.66	0.70
PP Copolymer - Inj	1,023,288	0.89	0.96	0.87	0.91
GPPS	696,000	0.82	0.93	0.82	0.87
LLDPE - Inj	688,644	0.71	0.75	0.70	0.74
HIPS	570,000	0.96	0.98	0.91	0.96
LDPE - Inj	396,828	0.70	0.75	0.72	0.76

Source: Plastics Exchange – www.theplasticsexchange.com

erated by Netherlands-based Dockwise have been designed to transport modules as heavy as 15,000 tonnes from construction ports to distant shores. Once the domain of offshore platform construction, these ships increasingly are used in LNG. Chevron's Gorgon project on Barrow Island off Northwest Australia, for example, recently contracted Dockwise's Mighty Servant III to carry modules up to 7,000 tonnes.

Also, manufacturers, like Fagioli Group, are designing new self-propelled modular transporters (SPMTs) to transport modules up to 5,000 tonnes from dock to construction site for final implementation. A 5,400-tonne module was transported recently overland in the Arctic Circle to an upstream gas-compression facility on Alaska's North Slope, allowing the contractor to set a new schedule record.

Aside from faster completions, modularization is enabling the LNG industry to consider new markets, such as monetizing smaller fields with downscaled plants that can be transported onsite as entire units, fueling transportation, and building floating liquefaction ships like the ones being built by Samsung and Technip for Shell.

Low U.S. Natural Gas Prices... *(continued from page 1)*

Polypropylene contracts during June and July dropped by 19¢/lb. However, both polyethylene and polypropylene prices are still above levels from January 2011.

The spot and contract prices in the polypropylene market came back together at the end of July, which points to a relatively small change in August contract prices compared with more extreme moves during the first part of 2011.

Polypropylene prices tend to follow monomers closely, which are generally settled early in the month and continue through the rest of the month. Early settlements tend to create a wild spot market, Greenberg explained, especially when monomer prices begin to reverse course.

While the polypropylene contract market is tied to feedstock costs, the spot market more closely reflects supply/demand and future pricing expectations. "What happened in May is a good indicator of how the market could respond.

"After propylene monomer contracts settled up 15¢/lb, spot monomer prices started to fall. Contract polypropylene prices reached a record - - above \$1.00/lb - - but the weaker spot monomer market pointed to lower resin contracts in June, so resin producers started to cut production and liquidate inventories by

selling resin cheaper in the spot market. The propylene market then started to weaken due to lack of demand.

"With cheaper resin readily available in the spot market, processors began to cancel contract orders, which exacerbated the situation," Greenberg said.

The decision was to either pay the peak price now or wait to buy it cheaper next month. The markets responded and caused a two-to-three month correction. For the past several years, the North American ethylene and propylene markets have been impacted by the low prices for natural gas and shale gas, Greenberg noted. North American steam crackers favor the cheaper light feedstocks, which primarily generate ethylene, and a small percentage of propylene as a byproduct. By moving away from the cracking of heavy feedstocks, a fundamental shortage of propylene developed.

In response, some new capacity was brought online to produce more propylene. Greenberg pointed to a dehydrogenation plant owned by PetroLogistics that was designed to produce on-purpose propylene. However, it has not produced enough monomer to meet propylene demand. The industry had high hopes the plant would satisfy the shortage, but it

has not consistently produced enough monomer on specifications to have a satisfying impact on the market.

"If it was truly successful, it might have encouraged others to build plants to produce more propylene, but it hasn't," he said.

However, new crackers are being built to take advantage of cheap natural gas and produce more ethylene.

Lower natural gas prices have pushed oil and gas producers to pursue plays that are rich in natural-gas liquids. That means more abundant monomer feedstocks for ethylene manufacturers.

Like all manufacturing markets, there is a long lead time for constructing new capacity. Changes in the markets will not occur for several years

"North America will eventually have an abundance of ethylene. What will they do with it? It is hard to export ethylene. They could potentially bring some of the mothballed polyethylene reactors back on and probably export pellets," Greenberg said. "We've got relatively cheap feedstock, and it seems that this will remain this way for some time."

The U.S. would then be competing even more with polyethylene producers in the Middle East. Middle Eastern producers

have had a similar situation with plenty of cheap feedstock. The best way to export it is in the form of polyethylene pellets. The region has built a tremendous amount of new capacity, with more still planned to come online during the next several years.

“One may think they would flood the market, but that hasn’t been the case. They are less aggressive in lowering prices

and grabbing market share than people might have expected. If they wanted to, they could drop prices, but they have been responsible,” Greenberg said.

The Middle East has been serving growing demand in Asia, especially China, and Europe.

While it is difficult to time new capacity to match growing demand, notwith-

standing a questionable economy, the world’s seemingly insatiable appetite for plastics could potentially swallow all the new pellets being produced.

– Scott Weeden

Momentive Specialty Chemicals’ Oilfield Technology Group Opens New Plant In Batesville, Ark.

The Oilfield Technology Group (OTG) of Momentive Specialty Chemicals Inc., Houston, has reported the startup of a new manufacturing plant in Batesville, Ark., to provide additional resin-coated proppants to fracturing service companies and operators in the oil and gas industry.

“We continue to add needed capacity to satisfy our customers’ demand for specialty proppants for the growing horizontal fracturing market. The addition of this facility to our current manufacturing grid will enable us to ensure an ongoing and secure supply of specialty proppants for the industry,” said Jerry Borges, vice president, OTG.

The Batesville plant is the second addition to the OTG manufacturing grid in 2011. The business expanded its plant in Cleburne, Texas, earlier this year and has incremental expansions in process at other facilities. It now operates a total of

six manufacturing plants with multiple production lines and 14 transload facilities serving the U.S. and Canadian markets.

The new Batesville facility will manufacture OTG’s newest addition to its product line, called Black Pro proppant, which offers next-generation resin-bonding technology.

“We continue to develop new products to address the shale exploration requirements in North America,” Borges said. “Black Pro proppant is another addition to our line of curable products that provides flowback control for our customers in the numerous frac treatments in the horizontal sections. The benefits of curable resin-coated proppants have helped our customers maintain clean wellbores when producing these prolific wells,” Borges said.

Black Pro proppant improves proppant pack integrity, even under the harshest cyclic stress conditions com-

mon in today’s shale wells. This proppant also provides enhanced proppant embedment resistance under cyclic stress, maintaining higher pack permeability and fracture width compared to traditional curable resin-coated proppants. Their quicker bond strength development allows for faster post-treatment flowback at higher drawdowns than other resin-coated proppants.

Resin-coated proppants are used in the hydraulic fracturing process to help optimize production from oil and gas wells by maximizing fracture flow capacity from the reservoir to the wellbore. Technological innovations and Momentive’s introduction of enhanced materials have expanded the use of resin-coated proppants into unconventional reservoirs that feature complex and challenging geological formations.

NGL PRICES

Increased Cracking Demand Elevates Ethane Prices

Mont Belvieu light NGL prices continued to experience gains the week of July 27, while heavy NGLs were a mixed bag at the hub. This contrasted with Conway prices, which were largely down across the board during the week.

The biggest gains at either hub were for Mont Belvieu ethane, propane and butane, which all improved 2% from the previous week. En*Vantage reported that while the indecisiveness in Washington for the past several weeks about

raising the nation’s debt ceiling caused dips in both the stock market and WTI crude oil prices, NGL prices held firm due to record cracking demand.

Indeed, the ethane price improved to 82¢ per gallon (/gal), which was the high-

est price at Mont Belvieu since it was 84¢/gal the week of April 27. However, the Conway price fell very slightly to 56¢/gal due to lower demand in the Mid-Continent.

“The newer cryogenic plants have a greater ability to extract ethane, as much as 90% to 95% out of the gas stream. Also, the rich shale plays are richer in the light NGLs than the heavy NGLs. Currently, the average NGL barrel has the following NGL content: 42% ethane, 28% propane, 16% butanes and 14% natural gasoline,” according to En*Vantage’s Weekly Energy Report for the week of Aug. 4.

While ethane prices continue to benefit from cracking demand, propane prices continue to benefit from high export demand. The Mont Belvieu price for the week of July 27 rose to \$1.56/gal, which was the highest it had been since the week of April 27 when it was \$1.58/gal. The Conway price improved slightly to \$1.44/gal, its highest level since it was \$1.48/gal the week of Sept. 17, 2008.

Like ethane and propane, butane continued to benefit from strong demand from the petrochemical industry as the Mont Belvieu price rose to its highest price since the spring. The \$1.93/gal price for the week of July 27 was the highest price in three months at the hub. The opposite was true at Conway and its limited access to the petrochemical market, which caused the price of butane to drop 1% to \$1.69/gal. This was the lowest price at the hub in a month, when it was \$1.61/gal.

Demand for isobutane remained flat during the week of July 27, which caused the price to fall at both hubs. The Mont Belvieu price was down slightly to \$2.10/gal while the Conway price dropped 2% to \$1.96/gal.

The NGL that was the least strong during the week was C5+ due to its close relationship with crude oil. The Mont Belvieu price was down 1% to \$2.46/gal, its lowest price in four weeks.

The Conway price fell even further, as it was down 2% to \$2.22/gal, which was its lowest price since the last week of June.

– Frank Nieto

NGL PRICES						
Mont Belvieu	Eth	Pro	Norm	Iso	Pen+	NGL Bbl
July 27 - Aug. 2 '11	82.33	155.66	193.08	210.25	245.92	\$63.64
July 20- 26 '11	80.33	152.83	189.37	210.53	248.62	\$62.99
July 13- 19 '11	79.60	152.58	187.92	204.20	247.20	\$62.51
July 6- 12 '11	78.84	153.16	185.02	200.34	244.14	\$62.00
July '11	79.50	152.47	187.05	203.97	246.50	\$62.38
June '11	74.07	151.89	181.94	198.54	235.24	\$60.30
2nd Qtr '11	75.14	149.59	186.75	202.07	248.23	\$61.42
1st Qtr '11	63.74	137.32	175.07	186.15	228.46	\$55.82
4th Qtr '10	59.07	126.07	162.01	168.24	198.89	\$50.59
3rd Qtr '10	44.99	106.98	138.23	143.25	171.45	\$42.37
July 28 - Aug. 3, '10	45.33	108.68	141.22	145.06	172.28	\$42.89
Conway, Group 140	Eth	Pro	Norm	Iso	Pen+	NGL Bbl
July 27 - Aug. 2 '11	55.52	143.92	168.84	196.00	222.23	\$55.41
July 20- 26 '11	55.70	143.33	169.80	199.64	226.52	\$55.81
July 13- 19 '11	55.22	143.78	172.60	193.30	228.26	\$55.88
July 6- 12 '11	56.20	143.04	170.36	186.50	229.94	\$55.77
July '11	55.57	143.17	169.35	193.79	227.52	\$55.66
June '11	51.43	141.46	164.86	183.38	223.52	\$53.99
2nd Qtr '11	52.63	139.38	170.76	192.47	236.00	\$55.34
1st Qtr '11	46.30	128.26	164.69	186.06	225.91	\$51.80
4th Qtr '10	47.01	120.80	157.16	161.69	193.86	\$47.80
3rd Qtr '10	31.16	101.46	132.39	141.93	163.91	\$39.04
July 28 - Aug. 3, '10	29.94	99.38	129.45	138.40	164.36	\$38.38

Data Provided by Intercontinental Exchange. Individual product prices in cents per gallon. NGL barrel in \$/42 gallons | Source: Frank Nieto

FRAC SPREAD

Heat Wave Causes Smaller Gas Storage Injection

Frac spread margins continued to largely improve at both hubs the week of July 27, with only C5+ and Conway isobutane experiencing decreases in margin due to lessened demand for both products.

The biggest gain in margin for the week was for Mont Belvieu ethane, which improved 6%. This was followed by propane and butane at the hub, which

each experienced 4% gains in margin from the prior week.

Ethane and propane had the strongest improvements in margin at Conway as they increased 2% from the previous week. These improvements in the Midcontinent occurred despite stagnant NGL prices, but were supported by a 2% drop in natural gas feedstock prices

to \$4.20 per million Btu (/MMBtu) at the hub. Similarly the Mont Belvieu margins were supported by both improved NGL prices as well as a 3% drop in natural gas feedstock prices to \$4.25/MMBtu.

The biggest drop in margin at either hub was for Conway isobutane and C5+, which were down 2% each the week of July 27. Mont Belvieu C5+ was

the lone NGL to drop in margin at the hub as it was down 1% from the previous week.

Overall, the theoretical NGL barrel price was stronger at Mont Belvieu as it rose 1% to \$63.64 per barrel (/bbl) with a 2% gain in margin to \$48.11/bbl. The Conway theoretical barrel price dropped 1% to \$55.41/bbl with a very slight drop in margin to \$40.07/bbl.

The most profitable NGL to make at both hubs remained C5+ at \$1.99 per gallon (/gal) at Mont Belvieu and \$1.76/gal at Conway. This was followed, in order, by isobutane at \$1.68/gal at Mont Belvieu and \$1.54/gal at Conway; butane at \$1.49/gal at Mont Belvieu and \$1.25/gal at Conway; propane at \$1.17/gal at Mont Belvieu and \$1.06/gal at Conway; and ethane at 54¢/gal at Mont Belvieu and 28¢/gal at Conway.

Natural gas in storage for the week of July 29, the most recent data

available from the Energy Information Administration, increased only 44 billion cubic feet due to the extreme heat wave experienced throughout most of the country. This storage injection increased the storage level to 2.758 trillion cubic feet (Tcf) from 2.714 Tcf the previous week. This was 6% below the storage level of 2.944 Tcf reported last year at the same time and 2% below the five-year average of 2.826 Tcf.

The natural gas injection level should increase in the coming weeks as the National Weather Service's forecast for the week of Aug. 9 anticipates the heat wave breaking in the Northeast. Indeed, the forecast is calling for cooler than normal temperatures throughout the Northeast and into the Upper Midwest. However, the heat is not expected to abate in the southern portion of the United States.

– Frank Nieto

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. Source: Frank Nieto

Current Frac Spread (Cents/Gal)				
August 5, 2011	Conway	Change from Start of Week	Mont Belvieu	Start of Week
Ethane	55.52		82.33	
Shrink	27.85		28.18	
Margin	27.67	1.78%	54.15	5.59%
Propane	143.92		155.66	
Shrink	38.47		38.93	
Margin	105.45	1.45%	116.73	3.56%
Normal Butane	168.84		193.08	
Shrink	43.55		44.07	
Margin	125.29	0.07%	149.01	3.51%
Iso-Butane	196.00		210.25	
Shrink	41.83		42.33	
Margin	154.17	-1.69%	167.92	0.61%
Pentane+	222.23		245.92	
Shrink	46.58		47.13	
Margin	175.65	-1.78%	198.79	-0.63%
NGL \$/Bbl	55.41	-0.71%	63.64	1.03%
Shrink	15.34		15.53	
Margin	40.07	-0.08%	48.11	2.39%
Gas (\$/mmBtu)	4.20	-2.33%	4.25	-2.97%
Gross Bbl Margin (in cents/gal)	92.34	0.05%	112.41	2.53%
NGL Value in \$/mmBtu				
Ethane	3.06	-0.32%	4.53	2.50%
Propane	5.00	0.41%	5.40	1.85%
Normal Butane	1.82	-0.56%	2.09	1.96%
Iso-Butane	1.22	-1.82%	1.31	-0.13%
Pentane+	2.87	-1.89%	3.17	-1.09%
Total Barrel Value in \$/mmbtu	13.96	-0.55%	16.50	1.30%
Margin	9.76	0.23%	12.25	2.87%

SNAPSHOT

Mississippi River Transmission Delivers Gas From Ark. Into La. And Midwest

The Mississippi River Transmission pipeline transports natural gas from Arkansas into Louisiana, and also into the Midwest. Owned by CenterPoint Energy and operated by CenterPoint Energy MRT, the pipeline has a system capacity of 1.6 billion cubic feet per day (Bcf/d), according to Hart Energy Mapping and Data Services.

The system, which runs 1,000 miles, has 13 compressor stations.

Laclede Gas Co. is the pipeline's highest transport customer with 815,000 dekatherms per day (Dth/d) of capacity; followed

by Centerpoint Energy Gas Transmission Co. with 637,000 Dth/d. The rest of the top 10 are Central Illinois Public Service Co. with 93,000 Dth/d; US Steel Corp. with 60,000 Dth/d; Laclede Energy Resources Inc. with 50,000 Dth/d; Centerpoint Energy Services Inc. with 46,000 Dth/d; Centerpoint Energy Resources Corp. with 40,000 Dth/d; WRD Refining, LLC, with 10,000 Dth/d; Mississippi Lime Co. with 5,000 Dth/d; and Olin Corp. with 4,000 Dth/d.

The Top Five storage customers on the Mississippi River Transmission are Laclede Gas Co. with 23.55 Bcf; Center-

point Energy Gas Transmission with 1.94 Bcf; Central Illinois Public Service Co. with 1.82 Bcf; US Steel Corp. with 1.71 Bcf; and Centerpoint Energy Resources Corp. with 1.08 Bcf.

The pipeline's top receipt point is at CEGT Glendale Rec, followed by Ozark Pipeline Co. Its top delivery point is Perryville - NGT, followed by Laclede Aggret Receipt, according to Hart Energy Mapping and Data Services.

–Rebecca Torrellas

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