HARTENERGY

MIDSTREAM Monitor

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FEATURE

BP, ConocoPhillips Cancel Alaska's Denali Pipeline Project

Further doubt was cast on the future of a natural gas pipeline from the North Slope of Alaska to the Lower 48 states, as one of the two competing projects was cancelled this week.

BP Plc and ConocoPhillips withdrew their application with the Federal Energy Regulatory Commission (FERC) to build the $35-billion Denali – The Alaska Gas Pipeline due to low natural gas prices that make the project unfeasible.

"Denali is a market-driven company. As such, we cannot spend the billions of dollars necessary to advance the project unless we have binding agreements with shippers," Bud Fackrell, the president of the 50/50 joint venture, said in a statement.

"Although we have been in discussions with potential shippers for nearly a year and a half, we have been unable to secure the financial commitments necessary to advance the project."

Denali was seeking firm transportation agreements of at least 20 years' worth for more than $100 billion. The 1,500-mile, 4.5 billion cubic feet per day (Bcf/d) pipeline planned on bringing the line into service by 2020. *The Associated Press* reported that

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INSIDE LOOK AT PROCESSING

Chesapeake Energy Fined Nearly $1.1 Million By PA

Chesapeake Energy Corp. agreed to pay $1,088,000 in fines for allegedly committing violations to the Pennsylvania Oil and Gas Act with its drilling in the Marcellus shale. These fines include $900,000 assessed by the Pennsylvania Department of Environmental Protection (DEP) for contaminating private water wells with methane in Bradford County and $188,000 for a tank fire in Washington County that injured three workers.

The DEP alleged that the well contamination was due to improper well casing and cementing operations by Chesapeake Energy that allowed gas from non-shale formations to seep into private wells near company drilling sites that affected 16 families.

"The water well contamination fine is the largest single penalty DEP has ever assessed against an oil and gas operator," Mike Krancer, secretary for the DEP, said in a statement.

The $900,000 fine includes a $700,000 civil penalty and a $200,000 payment for the DEP's well-plugging fund. Chesapeake Energy also agreed to establish an escrow account to pay for water-treating equipment for water wells. The company also agreed to develop a plan approved by the DEP to take corrective action for the gas wells in question.

These plans include the company adding additional layers of steel and cement to its well casings and expanding its water quality testing to all known water sources within 2,500 feet of proposed drilling sites.

Despite agreeing to pay the fines, officials with Chesapeake Energy said that the review

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Barclays Capital: Gas Prices Need To Triple To Divert Production From Oil To Gas

The price differentials between oil and gas will not be narrowing any time soon. Producers will continue to favor liquids production over gas for the foreseeable future as gas prices are unlikely to rise substantially anytime soon unless producers were to direct enough rigs to oil wells that it undermines gas production to such a point that supplies fall below demand.

As it stands now, this is the most likely scenario for producers to favor increasing drilling activity related to gas wells at a rate anywhere near that for drilling oil wells. In a recent issue of Barclays Capital's *Natural Gas Weekly Kaleidoscope*, the company's researchers found that gas prices in shale plays would need to more than double current levels to provide the same expected return as unconventional oil wells.

The report noted that there are limited options for physical switching between oil and gas since facilities with the option to utilize natural gas over oil are already doing so. While demand may increase in the future, it is unlikely to do so for at least the next few years.

"These options are unlikely to be scaled quickly enough to result in any significant closing of the gas/oil price gap until then. Instead, oil prices could once again become relevant to the natural gas market through the supply side," according to the May 10 report.

A combination of depressed natural gas prices and the run-up in oil prices has caused producers to direct more rigs towards unconventional oil and natural gas liquids (NGL) plays.

Despite this increase in oil-focused drilling, activity in natural gas plays remains large enough that it is keeping natural gas supplies at levels beyond current demand.

"Additional rigs drilling for gas are simply not needed. However, should market fundamentals shift to the point where gas prices need to rise to attract more drilling, this price signal would need to be high enough not only for an attractive return but also competitive with what a producer could receive for drilling an oil target," the report noted.

The Barclays Capital researchers--James Crandell, Biliana Pehlivanova, Shiyang Wang, and Michael Zenker--studied the price threshold that would encourage producers to divert rigs from oil and liquids plays to gas plays.

For this study, Barclays Capital chose the Permian and Eagle Ford as representative of oil plays due to the amount of data to establish a proxy (conventional oil and gas wells were not included). For the dry gas plays in this study, the company decided on the Barnett, Haynesville and Eagle Ford as the analysts thought that they are representative of the wells that are among the better opportunities in the space.

"If [a] producer simply had these options, it would likely choose the one with the best return, assuming that the producer decided that today's oil and gas strip was a good proxy for expected commodity prices over the lives of the prospective wells," the researchers said.

Eagle Ford oil wells would represent the best investment for a producer in this case due to its higher oil yields, followed by Permian oil wells, Eagle Ford liquids-rich wells, Barnett dry gas wells, and Haynesville wells. These differences are due to different hydrocarbon mixes, production profiles for the wells, and the gap between oil and gas prices.

In this study, natural gas prices would need to increase to $15.16 per million Btu (/MMBtu) for the producer to direct its drilling from Eagle Ford oil wells to dry gas wells. This would represent a rise of approximately $9.63/MMBtu from the current strip price of $5.53/MMBtu.

The Barclays Capital report stated that when offering the producers a choice of drilling in the Permian for oil, the Barnett for gas and the Haynesville for gas, gas prices would need to increase to $11.67/MMBtu to encourage drilling in the Barnett.

"If we went basing by basin around North America, we would see similar results – gas prices would need to rise considerably to make the net present value (NPV) opportunity of gas wells equal to that of our proxy oil wells," the report said.

Despite the need for such large price increases, producers will continue to drill gas wells because, of course, there are only so many oil and liquid-rich plays as the Eagle Ford shale, Permian Basin, and Bakken shale. Many producers do not have such opportunities in their portfolios, so they will continue to drill their most profitable gas plays.

The researchers noted that other factors affect the economics of these plays, including the cost of acreage. "If an oil

KEY NORTH AMERICAN HUB PRICES	
2:17 PM CST / May 19, 2011	
Gas Hub Name	Current Price
Carthage,TX	3.99
Katy Hub, TX	4.04
Waha Hub, TX	4.00
Henry Hub, LA	4.10
Perryville, LA	4.03
Houston Ship Channel	4.05
Agua Dulce TX	4.20
Opal Hub, Wyo.	3.94
Blance Hub, NM	3.93
Cheyenne Hub, Wyo.	3.97
Chicago Hub	4.21
Ellisburg NE Hub	4.70
New York Hub	4.41
AECO, Alberta	3.99

Source: Bloomberg

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prospect is highly economic, and a gas prospect much less so, then the acreage price for the oil prospect will rise to equilibrate the two. Operators looking to get into those plays today would need to pay a premium for the acreage, diluting somewhat the strength of the oil economics."

Despite this, it is likely that the competition for rigs will increase due to the expected increase in unconventional oil opportunities. This will affect gas supplies and prices.

"The pace of oil development, coupled with the number of existing rigs and the newly built rigs heading to market, suggests that the diversion of rigs to oil service will not materially boost gas prices in 2011, and likely will still not be a catalyst to higher gas prices at the start of 2012. But if a sufficient number of currently gas-focused producers acquire oil targets during the next few quarters, the shift to oil could affect prices before demand catalysts are triggered in 2015 and beyond," the report said.

– Frank Nieto

BP... ***(continued from page 1)***

Denali spent more than $165 million on the project before the decision to pull the plug was made.

The cancellation leaves TransCanada Corp.'s Alaska Pipeline Project, which includes ExxonMobil Corp. as a minority partner, as the lone North Slope natural gas pipeline project.

TransCanada and ExxonMobil held an open season for the $26-billion, 1,700-mile project, which has a capacity of 4.5 Bcf/d, in the spring and summer of last year. The proposal offered prospective customers an option to ship natural gas to Alberta or to a proposed liquefied natural gas (LNG) plant in Valdez, Alaska, for export to Asia.

Previously officials told *Midstream Monitor* that only one project was able to exist, but many analysts have questioned this notion due to the large amount of natural gas supplies in the Lower 48 states through shale plays.

Both partnerships previously stated they would be willing to partner with other companies that could add value to the project and take on some of the risk. BP and ConocoPhillips are the second- and third-largest leaseholders in the region and it is safe to say that any successful pipeline project would include them as customers.

Tony Palmer, TransCanada's vice president of Alaskan development, told *The Calgary Herald* that the company was offering equity stakes in the project to encourage producers to join.

TransCanada had long stated that its project had more of an advantage due to having secured approval from the Alaska Gas Inducement Act (AGIA), which will provide the project with $500 million in funding from the state.

However, this project faces the same hurdle that caused the Denali project to collapse--the lack of commitments from producers unwilling to develop gas in the North Slope when there are better economic options in shale plays in North America. – Frank Nieto

Added Focus on Liquids-Rich Activity Pushes Growth For MarkWest Energy

MarkWest Energy Partners reported strong financial results in Q1 2011 and continued growth is expected throughout the year due to its $230 million acquisition of EQT's natural gas processing complex in Langley, Kentucky.

"The Langley acquisition was a very strategic transaction that further strengthens our franchise position in Kentucky and West Virginia. This infrastructure is critical in the support of EQT and other producers' ongoing development of multiple shale formations in this region," Frank Semple, the company's chairman and chief executive, said during a recent conference call to discuss quarterly earnings.

He added that the facility's integration into the company's system has gone well because of MarkWest's familiarity with the complex due to its long-term relationship with EQT and the proximity of its Boldman plant to the Langley complex. This is helping the company to quickly capitalize on growth and optimization opportunities at the facility.

"One of the key benefits of the acquisition is the associated growth capital that will further strengthen our competitive position. The first project is to complete the Ranger NGL pipeline, which will eliminate the trucking of Langley NGLs to our Siloam fractionator. We're ahead of our schedule and expect to complete the pipeline construction later this year," he said.

MarkWest is adding a 60 million cubic feet per day (MMcf/d) cryogenic processing facility at the Langley complex and Semple said further growth opportunities at the complex may allow the company to significantly increase the size of its planned processing expansion.

The company's Liberty system in the Marcellus is also set to expand its

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processing capacity to nearly 1 billion cubic feet per day (Bcf/d) by mid-2012. Most of this capacity is supported by long-term contracts.

These include two new cryogenic processing complexes in northern West Virginia. The Mobley plant will add 120 MMcf/d in capacity and will serve the liquids-rich gas that is transported by EQT's Equitrans pipeline. The company has not disclosed the name of the second facility, but said it will add 200 MMcf/d and will serve producer customers and is supported by long-term agreements.

"This is pretty spectacular growth when you consider that in mid-2008, we did not have any assets in the Marcellus. We're also pleased to report that for our producer customers, we are now ahead of the wet production curve and we believe that processing limitations are no longer a factor," Semple said.

MarkWest is considering adding a butane isomerization unit at its Houston complex in Pennsylvania in order to maximize the production of isobutane in the play, he added.

The company remains high on its proposed Mariner project that it is co-developing with Sunoco Logistics that will transport ethane from the Marcellus to other markets.

"The project has expanded to include two independent Mariner projects. Mariner East will transport 50,000 barrels per day (b/d) of Marcellus ethane to premium Gulf Coast markets via pipeline and marine vessels beginning in mid-2013. Mariner East has a significant advantage relative to the other announced ethane projects, including lower cost – the lowest capital cost and the unique ability to deliver ethane to multiple markets, including the premium Gulf Coast market, rapidly evolving international markets and potential ethane crackers in the Northeast.

"The second project is Mariner West, which would be able to transport up to 65,000 b/d of Marcellus ethane to Sarnia markets in the second half of 2012. To support Mariner West, we will construct a 45-mile pipeline in the Houston complex to an interconnection with an existing Sunoco pipeline at Vanport, Pennsylvania. The ethane will then be transported from Vanport to markets in Sarnia, utilizing existing Sunoco pipelines, which will be modified for ethane service," Semple said.

The company reported adjusted EBITDA (earnings before interest, taxes, deprecation and amortization) of $96 million that was supported by MarkWest's growing presence in liquids-rich plays that are booming.

Semple stated that the company experienced a 6% increase to 207 MMcf/d in its gathering volumes in Western Oklahoma, which includes the Foss Lake and Granite Wash systems. The Granite Wash alone averaged more than 130 MMcf/d.

"The liquids-rich volumes in the Granite Wash continue to expand rapidly and as a result, we have increased the size of our Arapaho processing expansion to 75 MMcf/d from the 60 MMcf/d we announced earlier this year. When that expansion comes online in the third quarter of this year, our total processing capacity will be 235 MMcf/d. The Granite Wash continues to be one of the most profitable and active plays in the U.S. and MarkWest is ideally positioned to further expand our presence in the Granite Wash and surrounding areas," he said.

Gathering volumes in Southeast Oklahoma remained flat at 500 MMcf/d in the quarter. In the prior quarter, Semple had stated the company anticipated these volumes to decrease due to soft gas prices, but producers continued to drill in the Woodford because of strong results in the play. The liquids-rich portion of the play is now expected to continue to generate growth for the company in Southeast Oklahoma.

– Frank Nieto

OTC 2011: Shale Gas Impacts Future Of LNG Globally

Is it shale and liquefied natural gas (LNG), or shale or LNG? That was the question at a panel during the Offshore Technology Conference earlier this month. According to Rafael McDonald, an associate director with research firm IHS-CERA, the answer depends almost entirely on location.

"The Japan crisis is increasing global demand for LNG," McDonald said. "In North America, LNG demand is down because of shale gas."

According to McDonald's presentation, four factors determine the level of competition between LNG and shale gas consumption, such as scale (how much is there? can it meet all of the demand?); price and cost (how much will it cost?); policy (are policies supportive? what role for security of supply?); and timing (how long will it take?).

McDonald said that as the recession eases, a multispeed recovery will take place worldwide. The global recession

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barely hit the economies of some countries, such as Brazil, India, and China. Gas supply and demand was barely affected there. However, other countries, like South Korea, were hit hard economically by the recession and have currently bounced back stronger than before the recession. Australia may soon surpass Qatar as the world's largest LNG exporter if it continues its plans to increase its liquefaction and LNG export capacity, according to McDonald's presentation.

The presentation also highlighted outside factors that have affected natural gas demand globally. Consecutive cold winters have increased Europe's demand for LNG, while Japan's earthquake and tsunami in March increased the country's demand for LNG to help fuel power plants that were taken out during the disasters. Political unrest in the Middle East has also affected supply and demand worldwide as exports and production fluctuated.

Since North America's LNG demand is down because of the 'shale gale,' Cheniere Energy Inc. is going through with their plans to export LNG from the U.S. David Thames, president of marketing at Cheniere Energy Inc., said during his presentation that the company is proposing to convert U.S. natural gas into LNG for export at its LNG terminal, located on 853 acres of land on the Sabine Pass River on the border between Texas and Louisiana, in Cameron Parish, Louisiana.

– Rebecca Torrellas

Chesapeake Energy... *(continued from page 1)*

of the contamination cases was "inconclusive," but that it was right thing to do to take prompt steps to enhance its casing and cementing practices and procedures.

The company contends that methane seepage into aquifers isn't directly related to well casing and cement issues, so much as natural fracturing in the play which causes gas in shallow deposits to escape when they are drilled through on the way to deeper basins.

– Frank Nieto

Boardwalk Pipeline Partners Experiences 8% Drop In Q1 Net Income

Despite having a substantial portion of its pipeline capacity under contract via firm commitments and experiencing one of the coldest winters in the past decade, Boardwalk Pipeline Partners reported an 8% decrease in net income to $83 million in Q1 2011 compared to the previous year.

Resin Prices					
Market Update – May 20, 2011					
TOTAL OFFERS: 16,620,536 lbs		SPOT		CONTRACT	
Resin	Total lbs	Low	High	Bid	Offer
PP Copolymer - Inj	4,753,748	0.94	0.98	0.94	0.98
LLDPE - Film	3,703,036	0.92	0.96	0.92	0.96
HDPE - Blow Mold	2,495,748	0.88	0.92	0.88	0.92
LDPE - Film	2,343,864	0.71	0.75	0.71	0.75
HDPE - Inj	1,500,668	0.74	0.78	0.74	0.78
HMWPE - Film	719,104	0.70	0.74	0.70	0.74
PP Homopolymer - Inj	380,000	0.87	0.92	0.87	0.92
LDPE - Inj	380,000	0.95	1.00	0.95	1.00
GPPS	176,368	0.73	0.77	0.73	0.77
HIPS	84,000	0.76	0.80	0.76	0.80
LLDPE - Inj	84,000	0.83	0.87	0.83	0.87

Source: Plastics Exchange – www.theplasticsexchange.com

This reduction was due to a 65% drop in revenue from its parking and lending services due to declining price spreads during the year. "Should weak market fundamentals continue, our interruptible services, including parking and lending services and possibly firm contract renewals, could be negatively impacted for the remainder of the year," Rolf Gafvert, the company's chief executive in the quarter, said during a recent conference call to discuss quarterly earnings.

Earlier this month, the company announced that Gafvert was retiring as chief executive to assume a position as an advisor to Boardwalk with president Stanley C. Horton taking the helm as CEO.

Gafvert added that the company did experience a 50% improvement in net transportation revenues from power generators during the quarter. Although this is a small portion of its overall business, he stated that also represented an area ripe for continued growth.

"We are pursuing opportunities to add additional power generation facilities to our system, as operators review options for replacing older coal-fired power generation facilities."

Jamie Buskill, Boardwalk's chief financial officer, said that in its Northeast area of operations, there are around 90 turbines attached to coal-fired plants that are more than 40 years old and may need to be replaced.

"We've been in discussions with power producers as they decide what to do with these facilities. It's something that takes a lot of time because they spend a lot of time and effort in coming to their final decision. We're hopeful that some of those will switch over to natural

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gas and that we will benefit from that… We have over 40 power plants currently connected to our systems and that's really what benefitted us in the first quarter of this year," Buskill said.

In addition to attempting to grow this segment, the company is also adding compression to the mix in order to create more flexibility to meet growing demand.

"We're trying to install [compression] now and be ahead of that as we look for more of that load to come onto our system," Buskill added.

These additional sources of revenue helped increase the company's operating revenue by 3% to $311 million in the quarter with the primary driver being attributed to its pipeline expansion projects.

– Frank Nieto

NEWS & TRENDS

Avista Capital Opens Wallet For Appalachian Midstream

Appalachian Midstream Partners LLC, a natural gas gathering and transportation services company operating in the Marcellus shale, has entered an agreement with Avista Capital Partners, a leading private-equity firm, to provide for an equity commitment of up to $176 million.

The company will use this equity commitment to develop and expand AMP's initial system, Bear Print, which will serve gas production areas in north central Pennsylvania. AMP's gathering system currently consists of approximately 56 miles of gathering pipeline spanning Clinton, Cameron and McKean counties, provides access to the Tennessee Gas Pipeline in northern Pennsylvania and has the ability to provide future access to the pipelines of Columbia Gas, Dominion, National Fuel and Transco at the Leidy storage field.

AMP recently signed a gas gathering agreement with Pennsylvania General Energy Company LLC as an anchor customer on its Bear Print system. Pipeline construction was completed in April 2011 and AMP began providing gas transportation services for PGE in May.

Michael Calderone, chief executive of AMP, says, "We are excited about our partnership with Avista, which has a proven track record of sponsoring exploration and production and midstream development companies in unconventional resource plays. This equity commitment from Avista allows AMP to support PGE's Marcellus shale development program and positions the company to provide gathering and transportation services to other producers in the region."

Steven Webster, co-managing partner of Avista, adds, "We are excited to partner with such an experienced midstream management team in a region that continues to experience significant development activity as a result of its superior well economics and proximity to high-value end markets. We believe the Marcellus shale will continue to be an area of focus for exploration and production companies and this investment represents an attractive opportunity for us to meet the growing need for additional infrastructure in the region.

"Further, AMP's existing system allows them to be a first-mover in the north central part of the state and the agreement with PGE fortifies the company's relationship with a leading producer in the region."

Appalachian Midstream Partners' primary asset is a 56-mile pipeline and right-of-way that provides access to the Leidy Storage field and multiple major interstate pipelines in north central Pennsylvania located in the Marcellus shale fairway.

Atmos Energy To Sell Gas Distribution Assets

Atmos Energy Corp. (NYSE: ATO) announced that it has executed a definitive agreement to sell all of its natural gas distribution assets located in Missouri, Illinois and Iowa to Liberty Energy (Midstates) Corp., an affiliate of Algonquin Power & Utilities Corp. for an all cash price of approximately $124 million, with the agreement containing usual terms and conditions customary for transactions of this type, including typical adjustments to the purchase price, if applicable.

"We are pleased to be able to consummate this sale to a company of Algonquin's excellent reputation and know that they will continue our focus on safety, reliability, a strong culture and providing excellent customer service," said Kim R. Cocklin, president and chief executive of Atmos Energy Corp.

The transaction will include the transfer of approximately 84,000 meters and is expected to close in fiscal 2012, after the receipt of all necessary regulatory approvals. These predominantly residential and commercial meters represent

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less than three percent of Atmos Energy's three million natural gas customers. The proceeds from this transaction will be re-deployed to fund growth opportunities in other jurisdictions we serve. Upon closing this transaction, Atmos Energy will reduce the number of states in which it operates from twelve to nine, with approximately 80 percent of its utility operations in the three states of Texas, Louisiana and Mississippi.

Petronas To Build $20B Oil, Gas, Petrochemical Hub

Petronas, in a move to expand its petrochemicals business and further spur the growth of Malaysia's oil and gas downstream sector, plans to embark on a new integrated refinery and petrochemicals complex in Southern Johor.

The new development, to be known as RAPID (Refinery and Petrochemicals Integrated Development), was announced today by Prime Minister Dato' Sri Mohd Najib Tun Abdul Razak at the Petronas Twin Towers.

Still at the detailed feasibility study stage, RAPID is estimated to cost about US$20 billion and will comprise a crude oil refinery with a 300,000 barrels per day capacity, a naphtha cracker that will produce about three million tonnes of ethylene, propylene, C4 and C5 olefins per year, and a petrochemicals and polymer complex that will produce differentiated and highly-specialised chemicals.

Greater in scale and scope than that of Petronas' Melaka, Kertih and Gebeng complexes combined, the proposed development is expected to turn Southern Johor into another major petroleum and petrochemical centre in the region. The area has been identified because of its strategic location, being near deepwater port facilities, international shipping lanes and regional demand centres. The project is expected to be commissioned by the end of 2016.

Petronas' president and chief executive Dato' Shamsul Azhar Abbas said: "Looking ahead, RAPID is expected to attract significant investments from international companies within and further down the business value chain, underscoring our long-standing practice of forming mutually beneficial partnerships."

"We are proud to be involved in this new phase of nation-building to put Malaysia into a new frontier of technology and economic development," he added.

The international companies' participation and their corresponding technological expertise and presence in dynamic global markets are expected to help create an excellent training ground for locals. This would not only benefit the new generation of oil and petrochemical professionals, but also the new breed of product scientists, engineers and businessmen who would further drive the growth of the sector, in line with the Government's aspiration to turn Malaysia into a leading petroleum industry centre in the region.

To support the development of RAPID, Petronas is also looking at the possibility of building a new liquefied natural gas receiving and re-gasification terminal in the area. The facility will not only support the energy needs of the complex but will also contribute to the efforts to diversify the sources of gas supply to meet existing and future gas demand in Peninsular Malaysia.

Waterborne Releases First Post-Tsunami Hard LNG Statistics For Japan

Waterborne, Houston, has reported in its May 13, 2011 edition of *The Asian Waterborne Report* that April imports of LNG to Asia increased 20.4% over the same month last year.

Based on preliminary figures for the full month of April for each Asian country, and final March figures for Japan, South Korea and China, Waterborne also reported that this is the nineteenth consecutive month with a year-over-year increase in Asian LNG imports.

According to *Steve Johnson*, president of Waterborne, "The most recent spike in imports to Asia was due in part by economic recovery and growth, but driven primarily by the shutdown of a significant amount of Japan's nuclear generating capacity following the devastating earthquake and tsunami in March."

Waterborne reported that Japan imported 6.650 million metric tons of LNG in April, a staggering increase of 1,247 million metric tons of LNG or 23.1 percent. Most of Japan's incremental volumes were supplied through spot purchases from Qatar and Russia – whose LNG exports to Japan were up 571,000 and 272,000 metric tons, respectively – and time swaps with Korea Gas.

Based on recent announcements from the Japanese government to shut down a number of nuclear plants that could be at risk for a major earthquake or tsunami, Waterborne projects that LNG imports to Japan are likely to continue to rise in 2011.

Further details are available in the May 13, 2011 edition of *The Asian Waterborne LNG Report*.

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PIPELINES & TECHNOLOGY

Plains All American, Chesapeake Ink Midstream Expansion Deal

Plains All American Pipeline LP, Houston, has entered into a commitment to construct a new 130-mile crude oil and condensate pipeline, a marine terminal facility and 1.5 million barrels of storage capacity to service growing Eagle Ford production in south Texas.

The project is expected to cost approximately $330 million and to be in service in the fourth quarter of 2012. To underpin the project, PAA has secured a long-term throughput agreement with Chesapeake Energy Marketing Inc., a subsidiary of Chesapeake Energy Corporation (NYSE: CHK). The project is designed to provide approximately 300,000 barrels per day of take-away capacity from the western region of the Eagle Ford play to Corpus Christi, TX and other Gulf Coast markets.

PAA has agreed to provide Chesapeake Midstream Development LP the opportunity to acquire up to a 25% joint ownership interest in the project. Additionally, PAA and Flint Hills Resources have executed a Memorandum of Understanding regarding Flint Hills' potential joint ownership in this project. Flint Hills Resources operates a 300,000 BO/d refinery in Corpus Christi.

PAA owns and operates a network of approximately 16,000 miles of liquids pipelines, approximately 90 million barrels of liquids storage capacity and handles over 3 million barrels of physical product on a daily basis.

NGL PRICES

Ethane Prices Down As Cracking Margins Drop

Ethane prices fell at both Mont Belvieu and Conway the week of May 11 as ethylene producers have been shifting from ethane cracking due to strong co-product prices for butadiene and propylene prices.

However, it isn't expected that there will be a widespread shift from ethane to gas oil and butane because of the lack of supplies to crack as compared with ethane. En*Vantage did report this week that should crude prices fall below $95 per barrel that this could change with crackers switching to naphtha and displacing 100,000 barrels per day of ethane.

The Mont Belvieu price was down 8% from the previous week to 74¢, the lowest price at the hub since it was 73¢ the week of April 13. The Conway price fell at a slightly slower rate, as it was down 6% to 52¢. This was also the lowest price at the hub since the week of April 13, when it was 50¢.

The recent drop in crude oil prices has caused C_{5+} prices to fall at both hubs, with the Conway price suffering the biggest drop the week of May 11. The price was down 6% to $2.33, the lowest price since the week of February 24 when it was $2.25. The Mont Belvieu price maintained greater strength as it fell 3% to $2.52, its lowest price since it was $2.51 the week of April 13.

Butane prices were down slightly at both hubs as the price fell 2% to $1.87 at Mont Belvieu and 1% to $1.75 at Conway. The ability of butane to maintain relative strength was due to increased usage by crackers. This trend is expected to help the natural gas liquid

NGL PRICES

Mont Belvieu	Eth	Pro	Norm	Iso	Pen+	NGL Bbl
May 11 - 17, '11	74.21	151.30	186.96	204.88	251.77	$61.80
May 4 - 10, '11	82.08	153.44	191.03	208.00	260.80	$64.18
April 27 - May 3, '11	83.46	158.38	199.94	210.30	268.58	$66.04
April 20 - 26, '11	81.55	148.10	193.73	205.30	259.75	$63.46
April '11	75.74	144.44	189.72	203.15	256.33	$61.63
March '11	68.59	139.76	181.80	192.01	243.97	$58.42
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
2nd Qtr '10	50.97	108.43	145.01	157.23	178.04	$44.64
May 12 - 18, '10	54.58	110.64	141.54	159.24	186.00	$45.88
Conway, Group 140	**Eth**	**Pro**	**Norm**	**Iso**	**Pen+**	**NGL Bbl**
May 11 - 17, '11	52.18	141.38	174.90	200.00	233.00	$55.72
May 4 - 10, '11	57.08	143.34	176.33	199.00	249.25	$57.91
April 27 - May 3, '11	56.23	146.30	183.33	199.00	258.13	$59.09
April 20 - 26, '11	55.50	137.48	177.90	199.98	251.53	$57.21
April '11	54.31	134.59	175.54	199.58	246.21	$56.18
March '11	50.44	129.33	169.43	190.30	244.91	$54.26
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
2nd Qtr '10	31.56	103.03	130.96	145.20	172.55	$39.90
May 12 - 18, '10	32.13	105.13	127.40	139.75	174.53	$40.04

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

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(NGL) maintain its strength compared to WTI crude.

The NGL that had the strongest performance the week of May 11 was Conway isobutane, which was up slightly to $2.00 from $1.99 the prior week. This was the highest price at the hub since it was $2.01 the week of April 6. The Mont Belvieu price fell 1% to $2.05, its lowest price since it was $2.02 the week of April 13.

Propane prices were down 1% at both hubs, as the price fell to $1.51 at Mont Belvieu and $1.41 at Conway. Both prices were the lowest in a month at their respective hubs. Despite falling at both hubs, propane is expected to maintain strength during a traditional down period for its prices due to storage levels continuing to hit their five-year lows.

NGL prices are likely to continue to be supported due to an increase in global liquefied natural gas (LNG) prices. The jump in prices was due to a 23% increase in Japanese imports in April due to the effects from the earthquake and tsunami earlier this spring. Analysts anticipate Japan will continue to absorb the surplus LNG globally throughout the remainder of 2011 and into 2012.

Although this won't directly influence the North American NGL market, it will limit the amount of surplus LNG coming into the market that has, at times, helped to drive NGL prices down.

– Frank Nieto

FRAC SPREAD

NGL Margins Down Due To Price Decreases

Natural gas liquid (NGL) frac spread margins fell in all but one case during the week of May 11 due to NGL price drops. Although natural gas feedstock prices were down at both Mont Belvieu and Conway, they fell at a slower pace than NGL prices.

Natural gas prices fell 1% at both hubs as they were down to $4.03 per million Btu (/MMBtu) at Conway and $4.11/MMBtu at Mont Belvieu. These small drops combined to help push down ethane frac spread margins 16% at Conway and 14% at Mont Belvieu since ethane prices experienced the largest drops during the week of May 11.

Although ethylene spot prices have experienced some increases due to the flooding Mississippi River, multiple sources told *Midstream Monitor* this flooding is unlikely to have a significant impact on the NGL or petrochemical industries in the long-term.

Pentanes-plus (C_{5+}) had the second-largest drop in margin, as it was down 8% at Conway and 4% at Mont Belvieu. The large decreases in margin for both ethane and C_{5+} the week of May 11 were due to the sizeable price drops at both hubs as other margin decreases were much smaller.

The lone NGL to experience an increase in margin was Conway isobutane, which improved by 1%. This increase was due to the slight improvement in its price at the hub.

The theoretical NGL barrel price fell 4% at both Conway and Mont Belvieu with the Conway price down to $55.72 per barrel (/bbl) with a margin drop of 5% to $41.00/bbl. The Mont Belvieu theoretical barrel was down to $61.80/bbl, also with a 5% drop in margin to $46.79/bbl.

Current Frac Spread (Cents/Gal)

May 20, 2011	Conway	Change from Start of Month	Mont Belvieu	Start of Month
Ethane	52.18		74.21	
Shrink	26.72		27.25	
Margin	25.46	-15.77%	46.96	-14.04%
Propane	141.38		151.30	
Shrink	36.91		37.65	
Margin	104.47	-1.67%	113.65	-1.61%
Normal Butane	174.90		186.96	
Shrink	41.79		42.62	
Margin	133.11	-0.91%	144.34	-2.54%
Iso-Butane	200.00		204.88	
Shrink	40.14		40.94	
Margin	159.86	0.76%	163.94	-1.69%
Pentane+	233.00		251.77	
Shrink	44.69		45.58	
Margin	188.31	-7.84%	206.19	-4.05%
NGL $/Bbl	55.72	-3.78%	61.80	-3.70%
Shrink	14.72		15.01	
Margin	41.00	-4.91%	46.79	-4.62%
Gas ($/mmBtu)	4.03	-0.49%	4.11	-0.72%
Gross Bbl Margin (in cents/gal)	94.26	-4.71%	109.10	-4.58%
NGL Value in $/mmBtu				
Ethane	2.87	-8.58%	4.09	-9.59%
Propane	4.91	-1.37%	5.25	-1.39%
Normal Butane	1.89	-0.81%	2.02	-2.13%
Iso-Butane	1.24	0.50%	1.28	-1.50%
Pentane+	3.00	-6.52%	3.25	-3.46%
Total Barrel Value in $/mmbtu	13.92	-3.84%	15.88	-4.15%
Margin	9.89	-5.15%	11.77	-5.29%

Source: 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.

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The most profitable NGL to make at both hubs was again C5+ at $1.88 per gallon (/gal) at Conway and $2.06/gal at Mont Belvieu. This was followed, in order, by isobutane at $1.60/gal at Conway and $1.64/gal at Mont Belvieu; butane at $1.33/gal at Conway and $1.44/gal at Mont Belvieu; propane at $1.05/gal at Conway and $1.14/gal at Mont Belvieu; and ethane at 26¢/gal at Conway and 47¢/gal at Mont Belvieu.

Natural gas in storage for the week of May 13, the most recent data available from the Energy Information Administration, increased by 92 billion cubic feet to 1.919 trillion cubic feet (Tcf) from 1.827 Tcf the previous week. This was 11% below the 2.154 Tcf level posted last year at the same time and 2% below the five-year average of 1.955 Tcf.

Cooling demand should be up this coming week according to the forecast from the National Weather Service, which is calling for warmer than normal weather for this time of year along the East Coast and into the Gulf Coast. Colder than normal weather is expected in the Midwest and Rockies with the rest of the country experiencing normal late spring temperatures.

– Frank Nieto

SNAPSHOT

Ozark Gas Transmission Active In Fayetteville, Woodford Shales

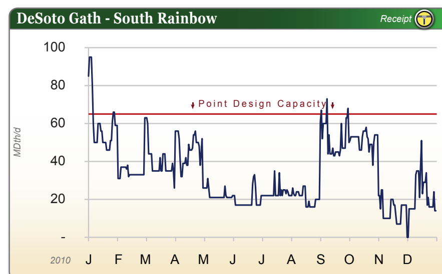
Ozark Gas Transmission (OGT), owned by Spectra Energy Partners, LP, is located in Oklahoma, Arkansas and Missouri. Operated by Spectra Energy Transmission, it has four compressor stations and a system capacity of 500 million cubic feet per day (MMcf/d), according to Hart Energy Mapping and Data Services.

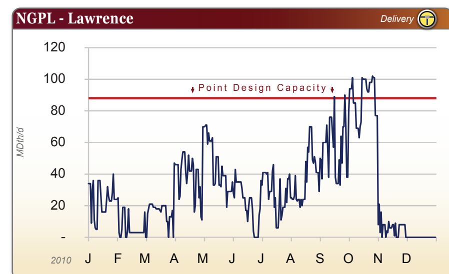
Operated by Spectra Energy Transmission, it has 565 miles in length and interconnects with Spectra Energy Corp's Texas Eastern Transmission system, Mississippi River Transmission (Centerpoint), Texas Gas (Boardwalk) and NGPL (Operated by Kinder Morgan), according to Spectra Energy's website. OGT accesses the Fayetteville Shale and Arkoma Basin.

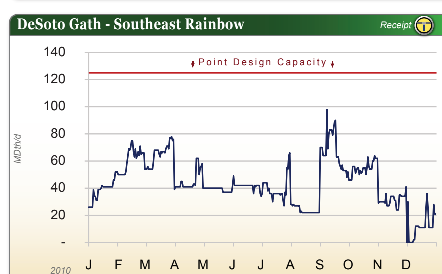
Spectra Energy Partners acquired OGT in the second quarter of 2009 from Atlas Pipeline Partners, LP, for US $300 million, according to the company. The deal also included the 365-mile Ozark Gas Gathering system, which feeds into the OGT system.

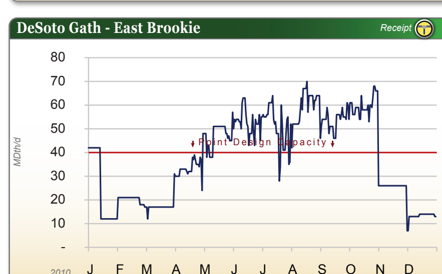
Southwestern Energy Services Co. is its highest transport customer with 230,000 dekatherms per day (Dth/d) of capacity; followed by Arkansas Western Gas Co. with 67,000 Dth/d. The rest of the top 10 are BP Energy Co. with 62,000 Dth/d; Chesapeake Energy Marketing Inc. with 59,000 Dth/d; Antero Resources Corp. with 20,000 Dth/d; EDF Trading

Ozark Gas Transmission - Major Receipt & Delivery Points









Source: Hart Energy Mapping and Data Services

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North America, LLC, with 15,000 Dth/d; Laclede Energy Resources Inc. with 10,000 Dth/d; City Water & Light of Jonesboro, Arkansas with 6,000 Dth/d; Central Crude Inc. with 5,000 Dth/d; and Atmos Energy Marketing, LLC, with 3,000 Dth/d.

Its top receipt point is at Miller Tap Crp followed by Southeast Rainbow and Shirley 114. Its top delivery point is Tetco White, following by NGPL White and MRT White, according to Hart Energy Mapping and Data Services.

– Rebecca Torrellas

Ozark Gas Transmission - Pipeline Statistics

General Information (FERC Code: 167)

Owner:	Spectra Energy Partners, LP	System Capacity:	0.5 Bcf/d
Operator:	Spectra Energy Transmission	Seasonal Storage:	None
Miles of Pipeline:	565	Compressor Stations:	4

Top 10 Transport Customers (Capacity (MDth/d))

Rate	Customer Name	Capacity
FTS	Southwestern Energy Services Company	230
FTS	Arkansas Western Gas Company	67
FTS	BP Energy Company	62
FTS	Chesapeake Energy Marketing, Inc.	59
FTS	Antero Resources Corporation	20

Rate	Customer Name	Capacity
FTS	EDF Trading North America, Llc	15
FTS	Laclede Energy Resources, Inc	10
FTS	City Water & Light Of Jonesboro, Arkansas	6
FTS	Central Crude, Inc.	5
FTS	Atmos Energy Marketing, Llc	3

Source: Hart Energy Mapping and Data Services

Ozark Gas Transmission

Source: Hart Energy Mapping and Data Services

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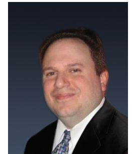

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