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FEATURE

Chesapeake, M3 Midstream, EV Energy To Build \$900M Midstream Complex In Utica Shale

Chesapeake Midstream Development, a wholly owned subsidiary of Chesapeake Energy Corp. (NYSE: CHK), announced it is partnering with M3 Midstream LLC and EV Energy Partners LP (NASDAQ: EVEP) to build a \$900 million midstream service complex to serve producers in the Utica shale.

x Chesapeake Midstream Development will build and operate natural gas gathering and compression facilities, while M3 will build and operate a 600 million cubic feet per day cryogenic natural gas processing plant in Columbiana County, Ohio, along with NGL fractionation, loading and terminal facilities. NGLs from the processing plant will be delivered to an NGL hub in Harrison County, Ohio, that will have an initial storage



capacity of 870,000 barrels along with fractionation capacity of 90,000 barrels per day along with a rail-loading facility. It is anticipated that the processing and fractionation plants will be in-service by Q2 2013. Chesapeake officials declined to comment at this time on which pipeline systems would be connected to the complex.

The \$900 million will be invested over the course of the next five years with Chesapeake Midstream Development having a 59% stake in the complex, 33% by M3 and *(continued on page 6)*

NGL PRICES & FRAC SPREAD

NGL Prices, Margins Continue To Improve As Gas Prices Plunge

The gap between dry gas prices and natural gas liquids (NGL) prices continued to widen this week as NGL prices improved across the board at both Conway and Mont Belvieu, with one exception, while gas prices fell at both hubs.

Natural gas feedstock prices fell 14% at Conway to \$1.94 per million Btu (/MMBtu) and 5% to \$2.11/MMBtu at Mont Belvieu. By comparison, NGL prices hit their highest levels since the start of the year.

The lone exception to these price increases was for Mont Belvieu C₅₊, which dipped very slightly to \$2.48 per gallon (/gal). Even with the price decrease, its margin improved slightly. Conway C₅₊ improved 1% to \$2.46/gal, its highest price since it was

\$2.49/gal the week of May 4, 2011. Its margin improved 2%.

Pentanes-plus (C₅₊) prices were slightly hindered by flat crude prices, as the rhetoric out of Iran has cooled in the past week and it was reported that crude inventories were building at Cushing. In addition, Saudi Arabia announced it would cover any crude shipment shortages while embargoes remain in place against Iran.

Meanwhile, the other heavy NGLs, butane and isobutane, continued to improve this week on the back of the return of alkylation units last week. Mont Belvieu isobutane prices rose 1% to \$2.10/gal, its highest price since it was \$2.13/gal the week of Jan. 11. This resulted in a 2% increase in margin at

the hub. The Conway price experienced a larger increase as it rose 3% to \$1.97/gal, its largest price since it was \$2.18/gal the week of Dec. 28, 2011. The Conway margin improved 6% based off this price increase.

Butane prices rose 2% at both hubs with the Mont Belvieu increasing to \$1.95/gal and the Conway price improving to \$1.76/gal. The Texas margin improved 3% with the Kansas margin increasing 4%. The Mont Belvieu price was the highest at the hub since it was \$2.02/gal the week of Jan. 11, while the Conway price was the highest at the hub since it was \$1.85/gal the week of Jan. 4.

Ethane prices continued to improve at both hubs as the market continues to prepare for the scheduled maintenance of several fractionators this spring as well as the return to operation and additional capacity of some Gulf Coast crackers. The Mont Belvieu price rose 7% to 53¢/gal with a margin

Current Frac Spread (Cents/Gal)				
March 16, 2012	Conway	Change from Start of Week	Mont Belvieu	Start of Week
Ethane	33.20		53.39	
Shrink	12.88		14.01	
Margin	20.32	18.17%	39.38	11.34%
Propane	111.82		128.54	
Shrink	17.77		19.33	
Margin	94.05	8.93%	109.21	7.49%
Normal Butane	176.44		194.84	
Shrink	20.12		21.88	
Margin	156.32	4.34%	172.96	3.41%
Iso-Butane	196.86		209.92	
Shrink	19.32		21.02	
Margin	177.54	5.51%	188.90	1.81%
Pentane+	245.70		247.63	
Shrink	21.77		23.67	
Margin	223.93	2.25%	223.96	0.30%
NGL \$/Bbl	49.95	2.36%	56.15	2.84%
Shrink	7.10		7.73	
Margin	42.84	5.74%	48.43	4.20%
Gas (\$/mmBtu)	1.94	-14.16%	2.11	-4.95%
Gross Bbl Margin (in cents/gal)	97.86	6.07%	112.21	4.49%
NGL Value in \$/mmBtu				
Ethane	1.83	3.11%	2.93	6.55%
Propane	3.88	4.47%	4.46	5.41%
Normal Butane	1.91	1.84%	2.10	2.40%
Iso-Butane	1.23	3.19%	1.31	1.09%
Pentane+	3.13	0.55%	3.16	-0.23%
Total Barrel Value in \$/mmBtu	11.97	2.66%	13.96	3.45%
Margin	10.03	6.71%	11.85	5.10%

NGL PRICES						
Mont Belvieu	Eth	Pro	Norm	Iso	Pen+	NGL Bbl
March 7 - 13, '12	53.39	128.54	194.84	209.92	247.63	\$56.15
Feb. 29 - March 6, '12	50.11	121.94	190.28	207.65	248.20	\$54.60
Feb. 22 - 28, '12	49.80	122.74	186.58	195.06	245.63	\$53.95
Feb. 15 - 21, '12	45.63	117.95	183.33	189.77	239.15	\$51.98
February '12	46.97	122.28	186.50	192.29	239.97	\$52.99
January '12	64.67	129.56	197.46	212.13	232.57	\$57.18
4th Qtr '11	84.49	144.13	188.16	227.18	224.44	\$61.34
3rd Qtr '11	76.03	153.87	188.27	208.52	237.59	\$61.59
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
March 9 - 15, '11	65.11	134.36	175.62	191.04	240.83	\$56.68
Conway, Group 140	Eth	Pro	Norm	Iso	Pen+	NGL Bbl
March 7 - 13, '12	33.20	111.82	176.44	196.86	245.70	\$49.95
Feb. 29 - March 6, '12	32.20	107.04	173.26	190.77	244.36	\$48.79
Feb. 22 - 28, '12	29.80	105.14	166.66	173.40	238.46	\$46.96
Feb. 15 - 21, '12	22.83	98.40	162.20	175.45	229.88	\$44.26
February '12	22.65	100.24	160.71	173.94	227.79	\$44.18
January '12	28.59	102.17	171.36	182.59	210.31	\$44.99
4th Qtr '11	34.29	129.43	160.82	204.27	196.08	\$48.23
3rd Qtr '11	46.69	143.07	166.30	199.68	210.98	\$53.06
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
March 9 - 15, '11	47.36	125.60	162.70	182.50	242.70	\$52.60

(Above) Data Provided by Intercontinental Exchange. 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. Source: Frank Nieto

improvement of 11%. The Conway price rose 3% to 33¢/gal with an 18% gain in margin.

Although heating demand never really showed up this season, prices continue to improve. This is partially due to the market balancing itself, but also attributed to European traders buying U.S. propane swaps as a hedge against higher European prices, according to En*Vantage.

The Mont Belvieu price rose 5% to \$1.29/gal, its highest price since the week of Jan. 25 when it was also \$1.29/gal. This resulted in an 8% gain in margin at the hub. The Conway price rose 4% to \$1.12/gal, the highest the price has been since it was \$1.15/gal the week of Dec. 28, 2011.

Combined, these prices and margins resulted in the theoretical NGL barrel price to improve 3% to \$56.15 per barrel (/bbl) at Mont Belvieu with a 4% increase in margin to \$48.43/bbl. The Conway barrel price rose 2% to \$49.95/bbl with a 6% gain in margin to \$42.84/bbl.

The most profitable NGL to make at both hubs remained C₅₊ at \$2.24/gal at both hubs. This was followed, in order, by isobutane at \$1.78/gal at Conway and \$1.89/gal at Mont Belvieu; butane at \$1.56/gal at Conway and \$1.73/gal at Mont Belvieu; propane at 94¢/gal at Con-

way and \$1.09/gal at Mont Belvieu; and ethane at 20¢/gal at Conway and 39¢/gal at Mont Belvieu.

According to the Energy Information Administration, natural gas in storage for the week of March 9 decreased 64 billion cubic feet to 2.369 trillion cubic feet (Tcf) from 2.433 Tcf the previous week. This was 45% greater than the 1.634 Tcf figure reported last year at the same time and 52% greater than the five-year average of 1.562 Tcf.

As we've been reporting the past few weeks, it appears that cooling demand is coming earlier than expected with

spring and even summer temperatures hitting parts of the country much earlier than usual. This trend will continue next week according to the National Weather Service. The forecast for next week calls for the East Coast, Midwest and Gulf Coast to experience warmer than normal temperatures for late March. Once again the West Coast is expected to experience cooler than normal weather.

— Frank Nieto

INSIDE LOOK AT PROCESSING

As Processors Seek More Information, AspenTech Can Offer Solutions

It's been said before, but it bears repeating: The midstream industry is booming with new construction projects springing up not just in North America, but around the globe. Thus far we have seen a number of large LNG projects in Australia, and Europe, South America and Asian countries are involved in unconventional E&P operations that will soon require midstream infrastructure build-out.

In the past few years there have been a number of international energy companies investing in North American shale production assets in order to learn how to translate unconventional development and technology in their own backyards. Arguably the biggest of these investors has been China, which acquired a 33% interest in Chesapeake Energy's South Eagle Ford leaseholds.

"China will be taking on a more prominent focus on their shale gas plays, which will drive significant infrastructure build-out," Ken Dooley, industry marketing manager at AspenTech, told *Midstream Monitor*.

China's build-out could occur relatively fast as the country will benefit

from working with an experienced shale gas producer in Chesapeake, as well as the fact that the country lacks many of the regulatory and political hurdles that other countries face in regard to hydraulic fracturing and water safety.

"I think China will very quickly accelerate their development because of their North American shale investments and the knowledge gained from working with proven technologies. I think in the next several years we're going to see some significant construction there because it's not bound," he said.

China's midstream infrastructure needs are very widespread since the country has historically favored oil production and because current facilities are fairly old. As the country expands its shale production, these production centers and hubs will be located in other regions than have been focused on the past. This will mean that the country will largely be starting from ground zero in terms of midstream operations with a need for processing and treating facilities, compressors and pipelines that are not in place today.



Sanjeev Mullick, Director, Industry Marketing at AspenTech (Courtesy: AspenTech)

In addition to its domestic resources China is also tied into many of the offshore LNG projects in Australia as the primary customer, which will require the construction of new receiving and regasification terminals.

"These investments are taking place on the coastal regions, but from there they will be investing in distribution networks to move this gas within the coun-

try to power plants and chemical plants. These networks could eventually be tied into their systems directed at their shale resource developments and lead to more investments in the country's interior region," Sanjeev Mullick, AspenTech's director of industry marketing, said.

AspenTech is one of the largest suppliers of process simulation software, including Aspen HYSYS. This modeling software is used in the design, optimization, planning, management and monitoring of oil and gas production, natural gas processing, and petroleum refining.

"Once volumes are flowing out of the well, our tools are designed to work with processing facilities, compressors, gathering systems, oil and gas separation facilities, gas-treating plants and dehydration units. Many of our tools are then used to help a customer monitor the operations of these facilities, troubleshoot them and help optimize the production and maximize the margins," Mullick said.

KEY NORTH AMERICAN HUB PRICES	
2:30 PM CST / March 15, 2012	
Gas Hub Name	Current Price
Carthage, TX	1.95
Katy Hub, TX	1.96
Waha Hub, TX	1.97
Henry Hub, LA	2.07
Perryville, LA	1.97
Houston Ship Channel	1.98
Agua Dulce, TX	2.64
Opal Hub, Wyo.	1.93
Blance Hub, NM	1.91
Cheyenne Hub, Wyo.	1.87
Chicago Hub	2.03
Ellisburg NE Hub	2.07
New York Hub	2.14
AECO, Alberta	1.83

Source: Bloomberg

Being used so extensively in the industry, especially in construction and operations, the company is able to provide a pretty strong outlook for not just new builds, but where the processing industry is headed.

"We offer the technical solutions to help companies design and manage plants in a very efficient way by maximizing engineering and production activity. This is why E&C companies such as KBR, Jacobs, WorleyParsons, Foster Wheeler and Technip have standardized on our portfolio. Our products help them design these facilities in a very productive and efficient fashion, including optimizing the designs for performance and in terms of capital and operating costs," Mullick said.

Between 50% and 60% of the company's business comes from outside North America, and both Mullick and Dooley noted that customers were beginning to increase their use of the company's simulations to monitor carbon emissions. Mullick added, "We've seen this trend grow over the last four to five years, especially in Canada, Australia and Europe, which all have tight regulations for a variety of emissions."

Many of the company's customers in these countries are using software they developed on top of HYSYS to keep track of their emissions and make reports to regulatory agencies on a daily basis. This enables them to predict where emissions are going in any given month and make adjustments to stay within their allotted emission level.

Such usage has become so popular that AspenTech's latest versions of HYSYS and Aspen Plus, which are used by petrochemical manufacturers, track carbon emission potential on every stream and piece of equipment. "Whenever you do a simulation, even during design, you will

know the carbon emission potential of each design. It can even calculate the potential carbon tax if there is one in place in that country," he added.

Although it doesn't appear that federal cap-and-trade legislation on carbon emissions will be getting passed anytime soon in the United States, domestic producers and midstream monitors can benefit from having the capability to track emissions should state or federal emission reduction legislation eventually pass.

In addition to China and South America, there is also a lot of oil and gas construction activity in India, the Middle East and Russia. "From a long-term trend, we are seeing a lot of demands for our products in these regions because of new construction. It's related to both new production as well as increased demand for plastics and other petrochemicals from growing populations," Mullick said.

While the rest of the world is just beginning to eye midstream growth because of the advent of shale plays, the U.S. remains the largest shale gas player in the world. This is, of course, leading to not just an incredible increase in natural gas and oil production from unconventional plays, but to new infrastructure to transport these volumes since the regions this production is coming from hasn't been a focal point for the energy industry in recent memory.

This has seen quite an uptick in midstream construction projects in the "hot" shale plays such as the Marcellus, Bakken and Eagle Ford, along with more mature shales such as the Barnett and Haynesville.

In the case of the Marcellus, there is uncertainty as to whether there will be much more processing growth outside of the MarkWest Liberty system, but there is still a great need for additional trans-

portation capacity out of the play to regions with spare capacity.

The same holds true for petrochemical plants, where companies such as Shell, Dow and ChevronPhillips have expressed interest in building ethane crackers in the Gulf Coast or Northeast. Even if an ethane cracker isn't built in the Northeast, there will still be a need for a pipeline to transport ethane from the Marcellus to crackers in the Gulf Coast and/or Sarnia, Canada.

"The prevalence of shale gas and liquids has flipped the economics to the point where the U.S. is one of the most economic regions for petrochemical production. We now find that a lot of customers are looking at projects to enhance or build new petrochemical plants in the U.S. At \$2.50-\$3.00 per million Btu, shale gas and associated NGLs are the cheapest source for energy and raw materials," Mullick said.

Although the Northeast is one of the regions of the U.S. that will be experiencing the most new midstream construction, it is unlikely to become a major hub because of political and regulatory issues, according to Dooley.

"There are two issues in the Northeast: one is the actual building out of the infrastructure and the other is the roadblocks from local, regional or state groups that will accompany these build-outs. Creating a Northeast hub certainly makes sense from a logistical and technical standpoint. However, I think the barriers will make it difficult," he said.

The same holds true for the bottlenecks that the industry is experiencing in the Midcontinent at Cushing and Conway. "These bottlenecks are non-technical, which makes it very difficult to predict when they'll actually be lifted. There are political and regulatory issues and in some cases there's uncertainty,

which is probably the worst thing for businesses," Dooley said. "Right now, things are almost at a standstill in the Midcontinent until the Keystone XL decision is finalized. I think there's a finality that if Canadian producers make the decision to steer the oil sands production to the West Coast for export, it will be very hard to reverse that decision and steer this production to the Gulf Coast."

The prolific nature of shale plays has helped to lower U.S. natural gas prices to the point where it is amongst the cheapest in the world and could provide producers with extremely attractive margins should it be exported to higher-priced regions such as Europe and Asia.

Already several U.S. LNG import terminals owners are seeking to reconfigure their facilities to act as export terminals. "If the U.S. gets into the gas export business, European markets will be the biggest target markets," Mullick said. That would lead to the construction of new regasification terminals in these markets, he added.

Lower gas prices have caused producers to divert rigs to liquids-rich plays because of the higher liquids and oil prices. In an effort to optimize their performance and production, AspenTech customers have also used the company's simulation tools in processing and production optimization to target wells tied into their facilities that will produce more liquids than gas.

"Our customers can switch production from wells to maximize their liquids production if they have the flexibility of switching production from different wells. If they have to deliver certain contracted volumes of gas, they will operate a gas well on a certain day to meet these demands. Above that on the spot market they will favor production, which maximizes their revenue," Mullick said. The simulation tools that the company offers

provides users with this data in near real-time for operational decision support.

This ability could be even more important as both Dooley and Mullick sense that more of the large integrated companies will be getting into the midstream sector. "Several of the large companies have been divesting and splitting back apart. The trend of consolidating everything is now ending," Dooley said.

"A lot of the investments in shale and early risk taking were done by smaller and midstream companies. We've been seeing the larger players watch from the sidelines and they are now beginning to take equity positions through acquisitions," Mullick said.

Mullick added that this trend is also taking place in the engineering sector with larger companies acquiring smaller engineering companies. "It's just the nature of the game where the big guys don't want to be left out on the engineering, midstream or E&P front. This is especially true in E&P since the international oil companies are getting access to fewer and fewer production assets -- especially internationally, where the assets are controlled by governments and their national oil companies. Shale is one way for these companies to grow their proven reserves."

Regardless of the customer, Mullick is confident that AspenTech can provide them with valuable tools for their projects. "We have been very successful in selling to our engineering customers as well as the owner-operators who pay for these projects is that there is a better way of doing things by integrating the engineering workflow. In most projects, 80% of the costs get locked in before most of the engineering is done, and that is because decisions have to be made very early. By enabling early insight and collaboration between engineering

disciplines, our customers are able to optimize designs for better performance and return on investment.”

More companies are beginning to utilize concurrent engineering on their projects with these sorts of solutions, which

allows companies to screen and optimize more options early in the process.

– Frank Nieto

Chesapeake... (continued from page 1)

8% by EV Energy. In addition, Total E&P USA Inc., which has a 25% share in Chesapeake's Utica wet gas acreage, has an option to participate in the project, which would reduce Chesapeake Midstream Development's stake to 44% and EV Energy's stake to 6%. Total's exact financial input into the project should they exercise their option was not disclosed.

Chesapeake Midstream Development (CMD) is, along with its oilfield services subsidiary, part of Chesapeake Energy's plans for a vertically integrated business model designed to enhance shareholder value. Although CMD has operated as the arm between Chesapeake Energy and Chesapeake Midstream Partners, if and when any dropdown acquisitions are made, it doesn't guarantee that any projects that CMD undertakes will be dropped down to the MLP. The partnership by CMD to create this infrastructure is a necessity for Chesapeake Energy, which is the largest landowner in the Utica.

According to Aubrey McClendon, Chesapeake Energy's chairman and chief executive, the Utica shale is similar to the Eagle Ford shale in that it has three phases. In the eastern section of the play is dry gas, wet gas in the middle and oil on the western part.

The company is focusing production currently on the middle portion, which is where its joint venture with Total is in

place, due to the strong economics of liquids over gas. Until gas prices get stronger, that section of the play will be held back in both production and prospective joint ventures. During the company's recent Q4 2011 earnings call, McClendon said that Chesapeake hasn't drilled enough wells in the oil window of the play to establish its EURs.

“We have about 400,000 acres in the dry gas window and I think about 400,000 in the oil window as well. So we are going to continue to develop both of those sides of the play, but the primary amount of our drilling will be in the wet gas window ... We've said from the beginning we love this play, and we are very excited about what we've seen to date. The dry gas is going to work when gas prices get a little better. And then on the oil side we hope to have some breakthroughs this year as well and hope others in the industry do also,” McClendon said during the call.

In a news release to discuss this midstream project, Mike Stice, president of CMD, said, “We are pleased to partner with M3 and EV Energy to build a critically important link in the value chain for the rapidly developing Utica Shale play. This partnership will allow CMD to focus on building the extensive gathering and compression requirements of the system, while leveraging the exper-

tise of Momentum to build and operate the processing and fractionation facilities. In addition, the scope of this project will provide an economic boost for companies and residents throughout Ohio as well as hundreds of high-quality, well-paying, new jobs for Ohioans. We look forward to joining with the citizens of Ohio to provide superior service and a high quality, reliable stream of natural gas and NGL products to our customers.”

“Our partnership with Chesapeake Midstream Development and EV Energy is a win-win situation for our companies and the citizens of Ohio. We will invest significant capital and technical resources to develop this project in a responsible manner, utilizing the highest industry standards,” Frank Tsuru, president and chief executive of M3 added.

Mark Houser, EV Energy's president and chief executive, stated, “We are delighted to be a part of this next step in the development of the Utica Shale, particularly with our partners CMD and Momentum, who have a proven track record in upstream and midstream shale development. This investment compliments EVEC's asset base in Ohio, where EnerVest has a decade of operating experience and a substantial Utica acreage position.”

– Frank Nieto

Senate Rejects NAT GAS Act

The U.S. Senate rejected the New Alternative Transportation to Give Americans Solutions (NAT GAS) Act Amendment to the SB 1813, the Senate Highway Bill by a vote

of 51-47. The amendment would have provided up to \$9 billion in tax credits for natural gas vehicles along with the construction of related infrastructure such as CNG fuel-

ing stations. The vote on the legislation was taken quickly without any debate.

The amendment, which would have placed a 2.5¢ per gallon of natural gas

starting in 2014 before increasing to 12.5¢ per gallon in 2021, was opposed by both environmental groups as well as industry groups, such as the American Chemistry Council (ACC), because of the costs that would be placed on Americans.

“Policies that either constrain domestic natural gas supplies or distort natural gas markets put economic growth

and job creation at risk, and are flawed from the start. The NAT GAS Act is an expensive and inefficient use of taxpayer dollars and would have disadvantaged manufacturing industries that rely on natural gas.

“We applaud the Senate for refusing to subsidize natural gas vehicles at a time when American taxpayers could have

least afforded it and when the economics justify greater utilization of natural gas without new government subsidies. Instead, we should be working toward developing a comprehensive national energy policy that maximizes all of our domestic energy sources,” the ACC said in a news statement.

– Frank Nieto

Exterran Partners Completes Compression, Processing Dropdown

Exterran Partners LP completed its dropdown acquisition of compression and processing assets from Exterran Holdings Inc. for \$77.4 million in cash and the assumption of \$105.4 million in debt.

The acquisition includes 400 compressor units with a combined 188,000 horsepower along with contracts for approximately 40 customers. The deal also

include approximately 140 compressor units with a combined 75,000 horsepower that were previously leased from the general partner to the Partnership along with a 10 million cubic feet per day natural gas processing plant in the Northeast.

Exterran Holdings will use the proceeds to reduce outstanding debt under its credit facility. Exterran Partners fi-

nanced the transaction with approximately \$78.8 million of borrowings under its revolving credit facility and approximately \$104.0 million of net proceeds from its recently completed underwritten public offering of common units.

CPS Energy Acquires Gas-Fired Plant To Replace Coal-Fired Plant

CPS Energy, a San Antonio-based utility, entered into an agreement to purchase an existing natural gas plant, supporting its strategy of diversification and risk management and allowing customers to continue to benefit from a generation portfolio that is heavily weighted in low-cost, cleaner traditional resources.

Rio Nogales, located in Seguin, Texas, is an 800 megawatt (MW) combined-cycle gas plant that will replace the energy output of J.T. Deely, a two-unit coal plant, planned to come offline in 2018. Purchasing the plant allows CPS Energy to avoid a minimum of \$1 billion in costs that would have been required to keep Deely, the utility’s oldest coal plant, operational and compliant with expected environmental regulations.

“This agreement is a short- and long-term win for our ratepayers and the South Texas economy, as well as our community’s air quality,” said Doyle BENEBY, CPS Energy’s president and chief

executive. “We are avoiding the continuous costs of environmental retrofits to Deely, starting with a \$565 million scrubber. This investment is in power that does not emit particulate matter or sulfur dioxide and supports abundant natural gas resources in Texas, rather than coal from Wyoming.”

“Gas is a cleaner fuel and there is plenty of it in the ground in Texas. CPS Energy’s purchase of an existing plant is a smart move for its ratepayers and the timing could not be more right,” said Dave McCurdy, president and chief executive of the American Gas Association.

In comparison to the Deely Power Plant, a natural gas combined-cycle plant:

- uses approximately one-half the water;
- emits approximately one-half the carbon dioxide;
- emits approximately one-third of the ozone-forming nitrogen oxide emissions;

- has virtually no sulfur dioxide, mercury, and particulate matter emissions;
- and, has no ash by-product to dispose of, reducing recycling efforts.

Rio Nogales is currently owned by a Tenaska Capital Management, LLC, affiliate, which has entered into a purchase and sale agreement with CPS Energy, capping the utility’s eight-month process to identify additional natural gas resources. The 10-year old plant is expected to be operational for the next 30 to 40 years.

Purchase of the plant is expected to be finalized in early April. Rio Nogales’ current employees (approximately 30) will be offered employment with CPS Energy which will become effective at the closing of the acquisition.

Report: U.S. Becomes Net Gasoline Exporter for First Time Since 1961

Due to refinery production and falling demand, U.S. gasoline exports have skyrocketed during the past two years. Providing more detail on this trend, PFC Energy reported that between 2000 and 2009, the amount of U.S. gasoline sent abroad consistently averaged between 100,000 barrels per day (b/d) to 200,000 b/d.

Since then, exports have increased dramatically, averaging some 525,000 b/d during 2011, including better than 650,000 b/d in the last two months of the year.

Although gasoline exports in November were higher, December was more noteworthy as the volume sent abroad that month actually exceeded the amount received, according to PFC.

While the company acknowledges the country's gasoline surplus in December 2011 was small – a paltry 3,000 b/d – it was still the first time since August 1961 that the U.S. has been a net exporter of gasoline.

Among the factors that contributed to this historic surplus:

U.S. demand has decreased significantly during the past few years. Excluding the ethanol that is blended into the supply pool, which has increased from 660,000 b/d in 2009 to 812,000 b/d in 2011, refined gasoline demand decreased from 8.4 million b/d in 2009 to 7.93 million b/d in 2011.

The report said that gasoline consumption has fallen more than 11% from its 2006 peak, including a drop of about 3.4% last year alone. At the same time, refinery production in the Gulf Coast and Mid-Continent regions has rebounded nicely after several years of below-average output.

For the latter region, this increased production is attributable to the much publicized “inland crude discount” that has prevailed since late 2010. With such

a favorable operating environment, Midwest refiners are understandably maximizing their throughput.

Meanwhile, production in the Gulf Coast has also ticked upward, in part thanks to the streaming of a major expansion project at Marathon's Garyville refinery in January 2010 but also due to increased demand from Latin America.

And since Midwest production is also rising, the call for PADD 3 barrels in that region has declined significantly. Thus, Gulf Coast gasoline that used to move north has had to find another home.

The report explains why Gulf Coast product is being sent abroad when the East Coast is still importing significant quantities of gasoline (some 700,000 b/d in 2011).

Put simply, pipeline capacity to the East Coast is effectively full and alternative means of transport to these markets is prohibitively expensive; strange as it sounds, the imported gasoline has typically had a price advantage over Gulf Coast gasoline sent by barge or rail.

In addition, gasoline specifications in Latin America, the primary destination

for Gulf Coast exports, are less demanding than those in the U.S., so fuel sent there is cheaper to produce.

PFC Energy said that the country's move to a net exporter of gasoline will not be permanent. December demand is typically among the lowest of any month in a given calendar year, so in that sense it was “easier” for the U.S. to go net long then.

At the same time, Sunoco's Marcus Hook refinery was idled over the course of December 2011, thereby increasing demand for foreign product – all other things being equal.

However, preliminary data suggests that U.S. gasoline demand in January and February was significantly lower than in December, while total refinery throughput was down only slightly. Indeed, the favorable operating environment that has helped spur higher production within the U.S. Mid-Continent does not appear to be dissipating anytime soon.

Moreover, sometime within the next month or so, Gulf Coast refiner Motiva will complete a 325,000-b/d expansion

RESIN PRICES – MARKET UPDATE – MARCH 16 2012

TOTAL OFFERS: 20,328,752 lbs		SPOT		CONTRACT	
Resin	Total lbs	Low	High	Bid	Offer
LLDPE - Film	3,730,992	0.73	0.78	0.67	0.71
LDPE - Film	2,966,876	0.74	0.84	0.72	0.76
PP Homopolymer - Inj	2,908,416	0.77	0.85	0.77	0.81
HDPE - Inj	2,425,060	0.71	0.74	0.66	0.70
HDPE - Blow Mold	2,355,956	0.64	0.76	0.65	0.69
PP Copolymer - Inj	2,157,668	0.70	0.88	0.79	0.83
HMWPE - Film	1,234,576	0.75	0.76	0.70	0.74
LDPE - Inj	1,184,208	0.72	0.85	0.72	0.76
GPPS	615,000	0.86	0.86	0.87	0.92
HIPS	380,000	1.01	1.03	0.98	1.03
LLDPE - Inj	370,000	0.77	0.79	0.70	0.74

Source: Plastics Exchange – www.theplasticsexchange.com

project at its Port Arthur, Texas, refinery, thereby offsetting effectively all of the capacity that was recently idled in the Philadelphia area.

So at least until the summer driving season, the U.S. will likely remain rela-

tively close to balanced in terms of net gasoline supply, according to the research firm.

And looking forward, it may not be long before the country becomes a net gasoline exporter on a more regular

basis – something it has not been for more than half a century.

PIPELINES & TECHNOLOGY

Howard Energy To Acquire South Texas Gathering Assets From Meritage Midstream

Howard Energy Partners reached an agreement to acquire substantially all of Meritage Midstream Services' natural gas gathering assets in South Texas with a 400 million cubic feet per day (MMcf/d) capacity, including the Eagle Ford Escondido gathering system, which is partially owned by Laredo Energy, and the Cuervo Creek gathering system. The agreement for the systems is expected to close in April.

The systems, which are both 12- and 16-inch high-pressure systems, are located in Webb County, Texas, consist of 83 miles of newly constructed pipeline, a 102-mile of lean gas gathering system, and two leased amine treating plants. It also includes long-term contracts for more than 200 billion cubic feet of total volume commitments. It is expected that the systems will be expanded to accommodate increased demand from the Escondido, Olmos, San Miguel, the Austin Chalk and Eagle Ford shale.

Upon closing of the agreement, Howard Energy will own and operate roughly 450 miles of gathering pipelines in Webb, Dimmit, Frio, Maverick and Zavala counties in Texas. Its current gathering capacity on these assets is more than 175 MMcf/d.

The agreement is being funded primarily through equity investments in Howard Energy by Crosstex Energy LP (NASDAQ: XTEX), Quanta Services Inc (NYSE: PWR), GE Energy Financial Services and Clear Springs Energy Co. LLC. After closing of the acquisition and including initial investments, Crosstex and Quanta will have contributed an aggregate of \$87.25 million each to Howard Energy. These two companies, along with GE Energy Financial Services, upon the closing of the acquisition, will each own 30.6 percent of the outstanding units in HEP.

"The addition of these strategic assets enhances the value of our position in the prolific South Texas area so that we may continue to provide integrated midstream solutions to our customers," Brad Bynum, president of Howard Energy Partners, said in a news release. "Adding GE Energy Financial Services to our partnership complements our strengths and allows us the opportunity to accelerate our growth strategy and solidify our position as a total-solutions provider in and around the Eagle Ford Shale. We would like to thank our existing partners for their continued support as we grow this company."



"We developed the Eagle Ford Escondido and Cuervo Creek systems through a key producer midstream partnership with Laredo IV from the ground up in just two years. We are very pleased to realize a strong return for our investors, EnCap Flatrock Midstream and TPH Partners, and look forward to working with the HEP team on a seamless operational transition for our producers," Meritage president and chief executive Steven B. Huckaby added. "Howard Energy will bring additional resources to our producers, expanding opportunities to maximize the wellhead value of their natural gas. I've known Howard Energy's CEO for a long time. Mike Howard and his team are excellent operators who will serve Eagle Ford customers well."

Kinder Morgan To Divest Assets Ahead Of El Paso Acquisition

In order to finalize its acquisition of El Paso Corp. (NYSE: EP), Kinder Morgan Inc (NYSE: KMI) reached an agreement with the Federal Trade Commission to divest

certain assets from Kinder Morgan Energy Partners LP (NYSE: KMP). The company anticipates the acquisition of El Paso to finalize in May.

These include Kinder Morgan Interstate Gas Transmission, Trailblazer Pipeline Co., its Casper Douglas natural gas processing and West Frenchie Draw

treating facilities in Wyoming, and its 50% interest in the Rockies Express Pipeline.

“We would prefer to retain all of these assets, but as we anticipated when the transaction was announced, we must sell certain assets in the Rockies to obtain FTC approval,” Kinder Morgan chairman and chief executive Richard D. Kinder said in a news release. “The amount of divestitures is reasonably consistent with our original financial model. We are very

excited about the 43,000 miles of El Paso natural gas pipelines that we will be adding to our Kinder Morgan portfolio. In addition, we anticipate significant interest in the Kinder Morgan assets that will be sold, particularly the Rockies Express Pipeline, which was the largest natural gas pipeline to be built in the United States when it was fully completed in 2009. We are nearing the final stages in the regulatory process, and we look for-

ward to becoming the largest midstream and the fourth largest energy company in North America when the acquisition is completed, which is expected to occur in mid to late May.”

The company announced it plans on dropping down some assets from El Paso to the Partnership to replace some of these divested assets.

NEWS & TRENDS

Total, Kuwait Petroleum To Build Chinese Refining, Petrochemical Project

Total signed a comprehensive Memorandum of Understanding (MOU) with Kuwait Petroleum International (KPI) and Petrochemicals Industries Co. (PIC), two wholly owned subsidiaries of Kuwait Petroleum Corp. The MOU relates to a targeted participation in the Zhanjiang project in China. This project consists of a planned development of a large size (300,000 barrels per day) full-conversion refinery integrated with petrochemicals and marketing, in partnership with Sinopec.

The proposed refining and petrochemicals platform will be designed to process Kuwaiti crude as feedstock and

to produce high-quality refined and petrochemicals products.

“KPC is pleased to expand its cooperation with Total,” said Farouk Al Zanki, KPC chief executive officer, after the signing of the MOU. “Total, with its long experience in the Downstream business in China, coupled with know how in Refining and Petrochemicals operations, will add value to the China project. Moreover, Total and KPC’s strategic objectives in Guangdong are highly aligned,” he added.

“Total is pleased to have been selected by Kuwait Petroleum Corporation as its preferred partner to participate in the project of a top-performing refining and

petrochemicals platform with Sinopec in China. This agreement will be the keystone of a long-term relationship with KPC,” said Christophe de Margerie, Total chairman and chief executive. “The project is in line with our strategy of expanding in growth markets, based on a few highly competitive and integrated platforms,” he added.

KPI, PIC and Total have agreed to form a consortium, which will potentially hold interests in two joint-ventures together with Sinopec. The MOU sets forth the agreement among KPI, PIC and Total regarding the development of the project.

Formosa Petrochemical To Take Cracker Down Again

Taiwan’s Formosa Petrochemical Corp. officials announced that its No. 1 naphtha cracker, which has been offline several times in the past few years, will once again be taken down for scheduled maintenance at the end of June for 35 days.

The facility, located at Mailiao, Taiwan, has a capacity of 700,000 tons per year and is one of three crackers the company operates. This latest round of maintenance has been scheduled in order to meet the Taiwan government’s request

to meet safety checks due to a number of fires. The company must complete these safety checks by the end of August.

ExxonMobil, GE Contribute \$1M Each To Shale Gas Training Initiative

The Pennsylvania State University, the University of Texas at Austin and the Colorado School of Mines announced a joint training initiative at each institution to provide regulators and policymakers with the latest technology and operational expertise

in regard to the development of shale gas and oil plays. The initiative is being supported by \$1 million contributions from both ExxonMobil and GE.

The initiative’s courses will primarily focus on conventional and uncon-

ventional petroleum geology; petroleum technology, including principles of drilling operations and facility and well design and operations; environmental management technology and practices, including water treatment and manage-

ment and air emission control technologies; and federal and state oil and gas regulatory requirements.

As part of the initiative, the Center for Petroleum and Geosystems Engineering (CPGE) at the University of Texas at Austin added an Education, Training and Outreach Program, which is directed by Dr. Hilary Clement Olson. "This funding provides us with the resources to broaden our partnerships and our scope to create a new training program for regulators in the oil and gas industry that is collaborative and interdisciplinary," Olson said in a news release. "Regulators have said that the need for increased training is one of their highest priorities due to the rapid expansion of shale resource development and the equally active evolution of technologies and best practices in the field."

"The Shale Gas Regulators Training program affords the university a unique opportunity to further develop shale gas

best management practices and to offer new regulators the chance to learn the latest science-based concepts related to geology, petroleum technology and environmental quality," Thomas Murphy, co-director of the Penn State Marcellus Center for Outreach and Research, said. "Penn State looks forward to providing development training that will help ensure a strong, yet consistent, regulator process across the Appalachian Basin."

"Colorado School of Mines' focused mission to educate the next generation of engineers and applied scientists fosters a natural partnership in this consortium. Our specialized curriculum and research program centered on responsible resource development is helping to enhance global understanding of our most pressing earth, energy and environmental challenges," Colorado School of Mines President M.W. Scoggins said.

"America's shale energy resources are creating jobs and economic growth

in regions across the country, and Americans rightly want to know that these resources are being produced safely and responsibly," ExxonMobil chief executive Rex Tillerson said. "ExxonMobil is pleased to provide the resources to assist the schools in equipping regulators with the latest technical and operational knowledge being applied in this growing sector."

"Natural gas is dramatically changing the way we power America, and GE is committed to its responsible development. We believe advanced technology, an expert workforce and smart regulation are the keys to America leading the world in shale gas development. As a technology leader in the energy sector, GE recognizes the importance of minimizing a site's environmental footprint while simultaneously increasing operational efficiency," GE chief executive Jeff Immelt said.

Bahrain Plans LNG Import Terminal

Abdul Hussain Mirza, Bahrain's Oil Minister, announced that the country would award a contract to build an LNG terminal capable of importing up to 400 million cubic feet per day by the end of the

year, according to a *Bloomberg Businessweek* report.

The terminal is estimated to cost \$350 million and will be completed by 2014. In addition, the country is planning to

expand a crude pipeline from Saudi Arabia by 120,000 barrels per day (b/d) to 350,000 b/d and expand the refinery to which it connects.

FEED Started For Dominican Republic LNG Terminal

Foster Wheeler's subsidiary of its Global Engineering and Construction Group has been awarded the basic design and front-end engineering design (FEED) contract by Complejo GNL del Este for a new LNG receiving terminal and jetty to be built in San Pedro de Marcoris in the Dominican Republic.

Foster Wheeler previously completed a feasibility study for the selection of the most suitable technology for the new ter-

minal, which will be designed for a send-out capacity of 240 million standard cubic feet per day (MMscf/d) and will include an LNG storage tank of 160,000 cubic meters.

The design will also consider future expansions up to 700 MMscf/d. Foster Wheeler will work with a local partner in executing the work, which is expected to be completed in September 2012.

Complejo GNL del Este is a consortium of Dominican and Colombian companies that participate in the energy sector of those countries.

This will be the second LNG terminal built in the Dominican Republic. AES Andres constructed the first terminal in the island nation and imported its initial cargo in February 2003.

SNAPSHOT

Coal Displacement Not Simply An Economic Decision

While the economics for natural gas-fired power plants to displace coal-fired power plants remain strong, the actual displacement level is affected by more than simple economics. Barclays Capital estimates that if the decision was merely an economical one, then gas could displace up to 30 billion cubic feet per day (Bcf/d) of coal with a price of \$2.50 per million Btu. However, the investment firm estimated that the actual displacement figure is roughly 10 Bcf/d.

Coal displacement is set by the amount of underused gas-fired capacity. While the average gas-fired unit ran about 30% used in 2010, the firm noted that power operators are not capable of switching freely between coal and gas because many coal-fired plants have long-term contracts for coal. Many op-

erators choose to utilize these deliveries when it has a higher price than gas because of the lack of a coal spot market that limits resale opportunities. In addition, plant operators must secure steady supplies of natural gas and without the proper transportation systems in place this may necessitate the continued use of coal-fired plants in some locations.

"We believe that the eastern power markets will see an increase in coal displacement, but will be bumping against an effective limit of displacement, at about 5 Bcf/d on an annual average basis. Taking into account the installed base of coal capacity and the amount of gas-fired capacity which can displace it, the Midwest and Texas markets could contribute a little over 3 Bcf/d followed by a little under 2 Bcf/d in the West," according to

Barclay's Capital's *Gas and Power Weekly Kaleidoscope* for the week of March 13.

In the future, these figures will increase as plant operators become more familiar with utilizing gas-fired generation as the primary baseload. The advent of shale gas has lowered the price to the point that gas prices have become very competitive with coal prices. Barclays Capital found that the Southeast and Northeast should see the largest drop in coal-fired market share due to the greater cost of coal in those parts of the country.

Since 2009, the Southeast has been the region with the largest amount of displaced coal because of the higher prices in the region compared with other parts of the country along with a large number of both coal- and gas-fired power plants. — Frank Nieto

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