

MARKETS REPORT

Natural Gas Futures Fall Again as Milder Temps Weaken Spot Market

Natural gas futures slipped for the second straight day Tuesday as strong production numbers continue to suggest plentiful supply heading into injection season. In the spot market, milder weather for the second half of the week helped sink prices across most of the Midwest and Northeast Tuesday, while Southern California points continued higher; the *NGI National Spot Gas Average* dropped 17 cents to \$2.68.

The May contract settled at \$2.656, down 3.7 cents on the day after trading as high as \$2.726 Tuesday morning. June settled at \$2.694, also down 3.7 cents.

“May natural gas prices rallied initially” Tuesday morning, “testing the \$2.72 resistance level twice...before reversing hard on cash weakness around 8:30 a.m. ET and continuing lower through the day,” Bespoke ...cont' pg. 3

PRODUCTION

Louisiana, Appalachia Lead Way as U.S. Natural Gas Production Sets Records

U.S. natural gas production as measured by gross withdrawals reached 90.9 Bcf/d in 2017, the highest volume on record, the U.S. Energy Information Administration reported Tuesday.

Starting in July 2017, gross U.S. gas withdrawals increased for five straight months, ultimately reaching a record monthly high of 96.7 Bcf/d in December, according to the EIA's *Monthly Crude Oil, Lease Condensate, and Natural Gas Production Report*. Louisiana saw the largest total volumetric gain in gross withdrawals in 2017, increasing to 5.8 Bcf/d, up from 2016 production of 4.8 Bcf/d.

“Economic and technological advancements and increased drilling have resulted in growth in natural gas production from Louisiana's Haynesville play,” EIA said.

The *Appalachian* ...cont' pg. 9

ANALYSIS

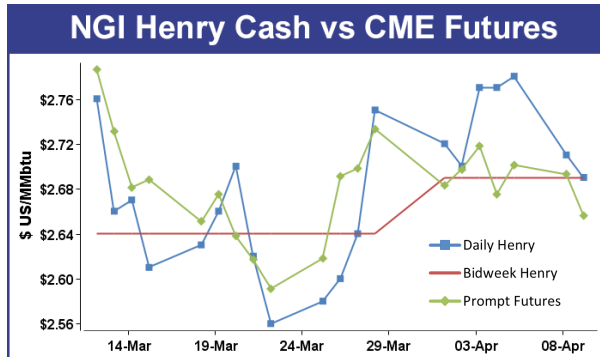
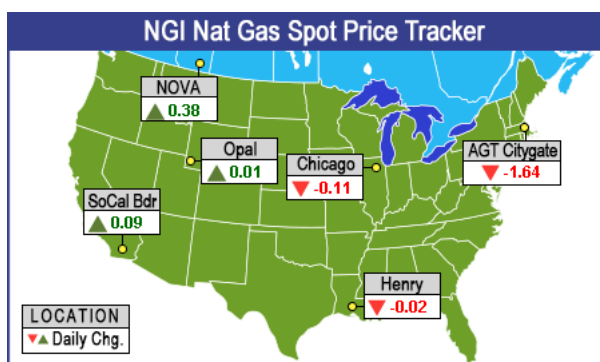
Southeast Natural Gas Price Volatility Thriving in Direct Contrast to Henry Hub

The U.S. unconventional oil and gas revolution has helped to lower realized natural gas prices, reduce concerns about domestic energy security and more recently, price volatility, particularly at the Henry Hub, according to energy experts.

During the 18th Southeast LDC Forum in Atlanta, NextEra Energy Resources' Anupam Das, manager of market analytics, said “last year, we actually had the lowest intraday volatility since the contract started trading.”

Much has been written lately about the lack of New York Mercantile Exchange (Nymex) volatility, but that does not mean it has disappeared from the U.S. gas markets. It's more of a local issue today, according to speakers at the LDC conference on Tuesday.

In a morning address, BP plc's Michael Thomas, COO of ...cont' pg. 8



Previous 5 Days Table	Apr 04	Apr 05	Apr 06	Apr 09	Apr 10
May Futures	2.718	2.675	2.701	2.693	2.656
Henry Hub	2.77	2.77	2.78	2.71	2.69
Chicago	2.94	2.96	2.89	2.69	2.58
AGT Citygate	6.81	9.61	8.47	8.42	6.78
Opal	2.17	2.18	2.00	2.06	2.07
SoCal Bdr. Avg.	2.36	2.19	2.11	2.31	2.40
NOVA	1.97	2.01	1.88	0.86	1.24

More Detailed Market Prices on Pages 2-4.

INSIDE THIS ISSUE

Columbia Gas Seeks FERC OK for Buckeye XPress 5

FERC OKs 322,000 Dth/d Tetco Expansion Along Texas Gulf Coast 7

LIQUEFIED NATURAL GAS

Dominion Cove Point Officially Enters Commercial LNG Service

Dominion Energy's liquefied natural gas (LNG) export facility, Cove Point, on Chesapeake Bay in Maryland has officially entered commercial service.

On Tuesday, Dominion said “after completing a planned maintenance outage, the facility has been ramping up to full production of LNG from natural gas provided by its export customers since late March.”

Last month, the Federal Energy Regulatory Commission ...cont' pg. 10



Interior Considering Moving BLM Headquarters West, Says Deputy

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NGI CASH MARKET PRICES

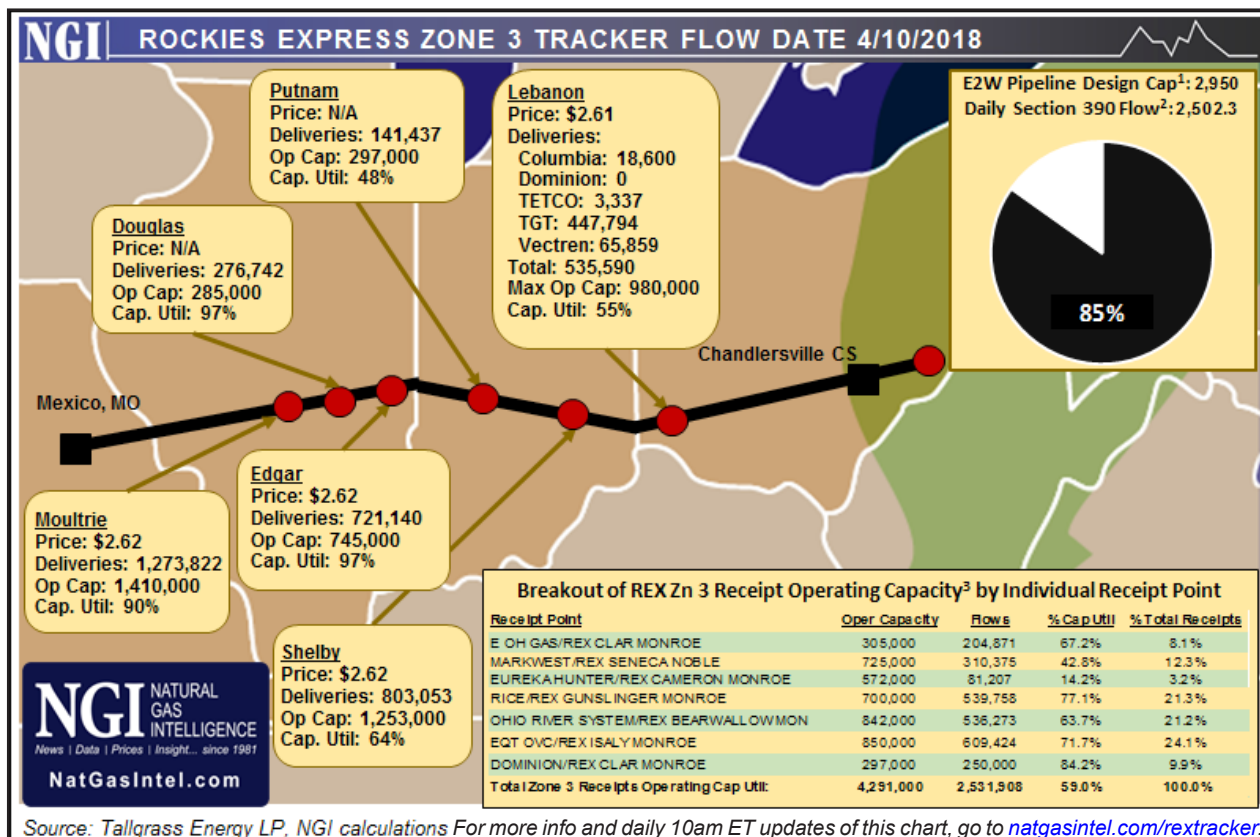
Trade Date: Apr 10; Flow Date(s): Apr 11

Trade Date: Apr 10; Flow Date(s): Apr 11

	RANGE	AVG	CHG	VOL	DEALS
South Texas					
Agua Dulce	--	--	--	--	--
Florida Gas Zone 1	--	--	--	--	--
NGPL S. TX	2.70-2.72	2.70	--	40	6
Tennessee Zone 0 South	2.55-2.62	2.60	-0.01	207	32
Texas Eastern S. TX	2.66-2.70	2.67	0.02	61	10
Transco Zone 1	2.69-2.70	2.70	0.01	26	10
Tres Palacios	2.63-2.82	2.74	-0.01	433	67
S. TX Regional Avg.	2.55-2.82	2.68	-0.02	766	125
East Texas					
Atmos Zone 3	2.42-2.44	2.43	-0.12	118	24
Carthage	2.55-2.58	2.57	-0.05	632	76
Golden Triangle Storage	2.70-2.70	2.70	0.00	30	4
Houston Ship Channel	2.88-2.88	2.88	-0.01	58	14
HPL - East Texas Pool	--	--	--	--	--
Katy	2.79-2.84	2.81	-0.02	645	87
Maypearl	2.45-2.58	2.47	-0.11	93	14
Moss Bluff	2.77-2.80	2.79	0.03	340	39
NGPL TexOk	2.50-2.55	2.54	-0.06	687	104
Tennessee Zone 0 North	2.60-2.60	2.60	-0.02	20	2
Texas Eastern E. TX	2.62-2.65	2.64	0.00	78	19
Tolar Hub	2.51-2.55	2.53	-0.07	142	16
Transco Zone 2	2.65-2.70	2.66	-0.03	29	11
E. TX Regional Avg.	2.42-2.88	2.63	-0.04	2,868	410
West Texas/SE New Mexico					
El Paso Permian	0.96-2.15	1.47	-0.41	793	149
Northern Natural Gas 1-7	1.75-1.75	1.75	-0.18	26	6
Oneok WesTex	1.69-2.00	1.79	-0.15	268	41
Transwestern	1.88-2.15	1.99	0.07	93	14
Waha	1.70-1.90	1.82	-0.16	278	35
W. TX/SE NM Regional Avg.	0.96-2.15	1.76	-0.17	1,457	245
Midwest					
Alliance	2.54-2.62	2.58	-0.14	828	102
ANR ML7	--	--	--	--	--
Bluewater Hub	--	--	--	--	--
Chicago Citygate	2.52-2.62	2.58	-0.11	792	144
Chicago - Nicor Gas	2.52-2.60	2.56	-0.09	251	49
Chicago - NIPSCO	2.53-2.62	2.59	-0.12	383	64
Chicago - North Shore	--	--	--	--	--
Chicago - Peoples	2.52-2.62	2.56	-0.14	158	31

	RANGE	AVG	CHG	VOL	DEALS
Consumers Energy	2.63-2.75	2.69	-0.12	368	70
Dawn	2.63-2.74	2.69	-0.13	587	75
Emerson	2.37-2.45	2.42	-0.08	140	34
Joliet	2.53-2.62	2.58	-0.14	1,366	179
Lebanon	2.48-2.52	2.50	-0.11	194	22
Michigan Consolidated	2.54-2.67	2.59	-0.12	767	119
NGPL Amarillo Mainline	2.25-2.30	2.27	-0.20	62	24
NGPL Iowa-Illinois	2.58-2.58	2.58	--	1	1
NGPL MidAmerican	2.58-2.60	2.58	-0.07	2	3
Parkway/Union	2.66-2.77	2.72	-0.14	95	16
REX into ANR - Shelby	2.50-2.53	2.51	-0.11	368	74
REX into MGT - Edgar	2.51-2.58	2.54	-0.08	210	30
REX into NGPL - Moultrie	2.49-2.53	2.51	-0.11	582	82
REX into PEPL - Putnam	2.48-2.52	2.51	--	36	6
REX into Trunk - Douglas	--	--	--	--	--
St. Clair	--	--	--	--	--
Midwest Regional Avg.	2.25-2.77	2.56	-0.12	5,565	879
Midcontinent					
ANR SW	2.05-2.29	2.12	-0.18	237	34
Enable East	2.50-2.64	2.58	-0.11	141	16
Enable West	--	--	--	--	--
NGPL Midcontinent	2.06-2.30	2.16	-0.18	752	110
Northern Border Ventura	2.44-2.52	2.46	-0.20	123	21
Northern Natural Demarc	2.32-2.40	2.36	-0.20	230	33
Northern Natural Gas 8-12	--	--	--	--	--
Northern Natural Gas 13-16A	2.10-2.10	2.10	-0.23	3	1
Northern Natural Ventura	2.43-2.60	2.48	-0.18	193	39
OGT	1.24-1.28	1.27	-0.06	200	32
Panhandle Eastern	2.06-2.30	2.19	-0.17	382	63
Southern Star	2.10-2.20	2.14	-0.22	58	9
Transwestern Panhandle Pool	--	--	--	--	--
Midcontinent Regional Avg.	1.24-2.64	2.19	-0.20	2,315	358
North Louisiana/Arkansas					
Enable South	2.65-2.65	2.65	-0.03	20	1
NGPL Gulf Coast Mainline	2.49-2.53	2.51	-0.11	123	15
Perryville	--	--	--	--	--
Texas Eastern, M1, 24	--	--	--	--	--
Texas Gas Zone 1	2.58-2.60	2.59	-0.03	393	57
Trunkline Zone 1A	2.58-2.60	2.59	-0.04	81	18
N. LA Regional Avg.	2.49-2.65	2.58	-0.06	616	91

...cont' pg. 3



Source: Tallgrass Energy LP, NGI calculations For more info and daily 10am ET updates of this chart, go to natgasintel.com/rextracker.

NGI CASH MARKET PRICES

Trade Date: Apr 10; Flow Date(s): Apr 11

	RANGE	AVG	CHG	VOL	DEALS
South Louisiana					
ANR SE	2.54-2.57	2.54	-0.10	241	41
Bobcat Storage	--	--	--	--	--
Columbia Gulf Mainline	2.58-2.62	2.60	-0.03	456	88
Columbia Gulf onshore	2.62-2.64	2.63	-0.02	70	10
Egan Hub	2.66-2.67	2.66	-0.01	62	6
Florida Gas Zone 2	--	--	--	--	--
Henry Hub	2.67-2.70	2.69	-0.02	178	30
NGPL Louisiana	--	--	--	--	--
Pine Prairie	2.62-2.65	2.64	-0.01	438	67
Southern Natural	2.62-2.68	2.66	-0.02	508	83
Tennessee Line 500	2.61-2.66	2.65	-0.02	595	90
Tennessee Line 800	2.62-2.65	2.64	0.00	149	30
Texas Eastern E. LA	2.58-2.66	2.64	0.01	182	34
Texas Eastern W. LA	2.63-2.67	2.66	0.01	170	28
Texas Gas Zone SL	2.64-2.64	2.64	--	8	2
Transco Zone 3	2.63-2.69	2.67	0.00	310	37
Trunkline E. LA	2.59-2.60	2.59	-0.03	4	4
Trunkline W. LA	--	--	--	--	--
S. LA Regional Avg.	2.54-2.70	2.64	-0.02	3,366	550
Southeast					
Cove Point	2.80-2.80	2.80	--	8	1
FGT Citygate	--	--	--	--	--
Florida Gas Zone 3	2.67-2.69	2.68	-0.02	148	24
Southern Pines	--	--	--	--	--
Tenn Zone 1 100L	2.59-2.63	2.60	-0.05	333	44
Texas Eastern M-1, 30	2.69-2.69	2.69	0.10	17	1
Transco Zone 4	2.66-2.71	2.69	0.00	817	138
Transco Zone 5	2.65-2.95	2.82	-0.33	337	47
Transco Zone 5 North	2.65-2.95	2.83	-0.28	154	20
Transco Zone 5 South	2.75-2.87	2.81	-0.37	183	27
Southeast Regional Avg.	2.59-2.95	2.74	-0.12	1,658	255
Appalachia					
Columbia Gas	2.51-2.59	2.54	-0.03	787	158
Dominion North	2.10-2.40	2.27	-0.22	449	99
Dominion South	2.10-2.41	2.31	-0.18	1,133	178
Leidy Hub	2.48-2.51	2.50	-0.11	19	3
Millennium Delivered	--	--	--	--	--
Millennium East Pool	1.85-1.99	1.90	-0.49	146	39
Tenn Zone 4 200L	2.48-2.53	2.51	-0.08	284	71
Tennessee Zn 4 313 Pool	2.28-2.36	2.33	-0.26	132	34
Tennessee Zn 4 Marcellus	1.80-2.01	1.93	-0.41	147	33
Texas Eastern M-2, 30 Delivery	--	--	--	--	--
Texas Eastern M-2, 30 Receipt	2.00-2.40	2.20	-0.26	1,027	173
Texas Eastern M-3, Delivery	3.05-3.30	3.16	0.54	35	18
Texas Eastern M-3, Receipt	--	--	--	--	--
Transco-Leidy Line	1.90-2.35	2.17	-0.25	447	98
Appalachia Regional Avg.	1.80-3.30	2.35	-0.17	4,600	904
Northeast					
Algonquin Citygate	3.55-8.75	6.78	-1.64	237	55
Algonquin Citygate (non-G)	3.55-8.50	6.66	-1.76	223	49

Trade Date: Apr 10; Flow Date(s): Apr 11

	RANGE	AVG	CHG	VOL	DEALS
Algonquin Receipts	2.20-2.40	2.32	-0.18	24	4
Dracut	--	--	--	--	--
Iroquois Zone 1	3.07-3.15	3.13	-0.01	57	10
Iroquois Zone 2	3.20-3.50	3.27	0.08	138	27
Iroquois, Waddington	2.90-3.08	3.00	-0.06	420	100
Maritimes & Northeast	8.75-8.85	8.81	-0.80	37	4
Niagara	2.62-2.70	2.67	-0.17	49	14
PNGTS	8.00-8.70	8.23	-0.68	15	3
Tenn Zone 5 200L	3.30-3.50	3.34	0.07	238	12
Tenn Zone 5 300L	--	--	--	--	--
Tenn Zone 6 200L	3.60-8.40	7.33	-1.23	40	6
Tenn Zone 6 300L	--	--	--	--	--
Transco Zone 6 non-NY	2.78-2.90	2.83	-0.36	287	81
Transco Zone 6 non-NY North	2.78-2.90	2.83	-0.36	287	81
Transco Zone 6 non-NY South	--	--	--	--	--
Transco Zone 6 NY	3.05-3.50	3.17	-0.04	201	54
Northeast Regional Avg.	2.20-8.85	4.60	-0.77	1,739	370
Rocky Mountains					
Cheyenne Hub	1.96-2.23	2.06	-0.03	328	54
CIG	1.90-2.15	1.97	-0.05	111	14
CIG DJ Basin	1.90-2.10	2.00	-0.04	50	6
El Paso Bondad	1.74-2.00	1.83	-0.19	60	6
El Paso non-Bondad	1.70-2.25	1.89	-0.14	282	37
Kern River	1.95-2.25	2.03	-0.03	547	89
Kingsgate	1.90-2.05	2.00	0.13	41	12
Northwest S. of Green River	2.00-2.00	2.00	-0.02	20	2
Northwest Sumas	2.00-2.20	2.09	0.13	59	10
Northwest Wyoming Pool	1.91-2.18	2.00	0.03	175	30
Opal	1.95-2.26	2.07	0.01	470	60
Questar	1.91-1.97	1.96	-0.06	31	8
Ruby - Receipts	--	--	--	--	--
Stanfield	2.00-2.20	2.13	0.07	179	36
Transwestern San Juan	2.00-2.30	2.22	0.15	173	34
White River Hub	1.93-2.06	2.01	-0.02	89	16
Rocky Mtns. Regional Avg.	1.70-2.30	2.02	0.00	2,556	407
Arizona/Nevada					
El Paso S. Mainline/N. Baja	2.45-2.60	2.51	0.13	102	26
Kern Delivery	2.18-2.50	2.36	0.15	312	78
California					
Malin	2.00-2.25	2.07	-0.02	370	46
PG&E Citygate	2.61-2.69	2.66	0.04	725	88
SoCal Citygate	3.50-4.02	3.83	0.22	348	79
Southern Border, PG&E	2.20-2.30	2.24	0.09	112	27
SoCal Border Avg.	2.15-2.65	2.40	0.09	525	72
California Regional Avg.	2.00-4.02	2.64	0.08	2,079	312
National Avg.	0.96-8.85	2.68	-0.17	29,990	5,009
Canada					
Empress	1.97-2.26	2.13	0.04	282	60
NOVA/AECO C	1.14-1.38	1.24	0.38	1,386	171
Westcoast Station 2	1.20-1.49	1.38	0.29	178	41

Prices are in U.S. \$/MMBtu except locations in the Canada section which are in Cdn\$/GJ. The deals column represents the number of transactions used by NGI in the calculation of the price. The volume column is the sum of the volume of those deals, in thousand MMBtus/day. Volumes may not total because of rounding. The data upon which we derive our indexes include both data provided to NGI from the ICE trading platform as well as submitted directly from companies who are principals to the trade. For more information, please see [NGI's Price Methodology](#).

...from **MARKETS REPORT - Natural Gas Futures Fall Again, pg. 1**

Weather Services said in closing comments for the day. "...The primary focus of the natural gas market remains record production levels and the recent loosening accordingly shown in" Energy Information Administration (EIA) data.

Other factors remain supportive, including an increase in nuclear outages, indicating "there may be a closer floor for prices," the firm said. "Weather also remains incredibly supportive, with cold keeping heating demand above average into the final week of April that will help us continue pulling gas from storage later than expected."

EIA released its **Short-Term Energy and Summer Fuels Outlook** Tuesday, predicting dry gas production will average 81.1 Bcf/d in 2018. The federal agency is forecasting U.S. gas consumption to increase by 4.2 Bcf/d (5.7%) in 2018 and by 0.7 Bcf/d (0.9%) in 2019, with electric power generation the leading contributor. Meanwhile, net gas exports should rise to an average of 2.2 Bcf/d in 2018 and 4.4

Bcf/d in 2019 from an average of 0.4 Bcf/d in 2017.

This comes as storage inventories ended March at almost 1.4 Tcf, which was 19% lower than the previous five-year average, EIA said.

"Based on a forecast of rising production, EIA forecasts that natural gas inventories will increase by more than the five-year average rate of growth during the injection season (April-October) to reach almost 3.8 Tcf on Oct. 31, which would be 2% lower than the previous five-year average," researchers said.

Supporting EIA's forecast for an increase in net exports this year, Dominion Energy on Tuesday announced the **start of commercial service** at its Cove Point liquefied natural gas (LNG) export terminal on the Chesapeake Bay in Maryland.

In a recent note, BTU Analytics LLC senior energy analyst Matthew Hoza highlighted LNG as a key source of potential incremental demand growth for summer 2018.

"The impact that LNG demand has already had on ...cont' pg. 4

the U.S. natural gas market, and will continue to have, shouldn't be understated, even as the global LNG market begins to wane, coming off peak winter demand," Hoza said. He noted that Cove Point had been loading its second cargo, while Cheniere Energy Inc.'s Sabine Pass terminal "continues to run strong, sometimes operating above nameplate capacity."

This summer, the start-up of both Freeport LNG and Kinder Morgan Inc.'s Elba Island export terminal "will add more than 1 Bcf/d of incremental LNG export capacity, adding to the strong deliveries off of natural gas pipelines that we are seeing to current facilities," he said.

BTU is also projecting power burn as a potential source of demand upside this summer given weak natural gas prices and new gas-fired capacity coming online, according to Hoza.

"While BTU expects to see record power burn levels this summer, if it weren't for some notable headwinds," namely further renewables buildout and greater power plant efficiency, "it could have been even higher," he said.

Turning to the spot market, a number of points throughout the Midwest and East fell by double digits as chilly conditions to start the week were forecast to make way for more spring-like temperatures in key demand markets over the next several days.

After lingering cold in the northern and eastern United States Tuesday "with morning lows of teens to 30s for strong demand...rapid warming will take place Wednesday through Friday as high pressure builds overhead, warming afternoon highs into the 60s to near 70 degrees as far north as Chicago to New York City," NatGasWeather.com said in its latest one- to seven-day outlook.

"Most of the West will be mild to warm apart from showers into the coast," the firm said. "During the weekend, a strong weather system will track through the central U.S. with rain, snow and colder than normal conditions as highs only reach the 30s to 50s, then tracking into the East late Sunday into Monday for another round of stronger than normal demand."

Chicago Citygate shed 11 cents to \$2.58, while further east Transco Zone 6 New York fell 4 cents to \$3.17.

In Appalachia, Dominion South tumbled 18 cents to \$2.31. Bucking the downtrend was Tetco M3 Delivery, which jumped 54 cents to average \$3.16.

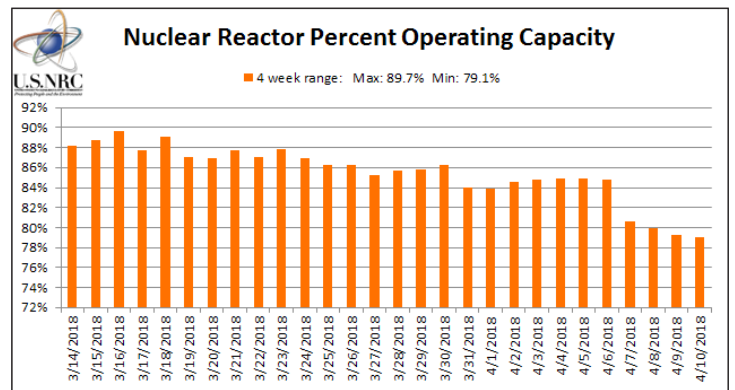
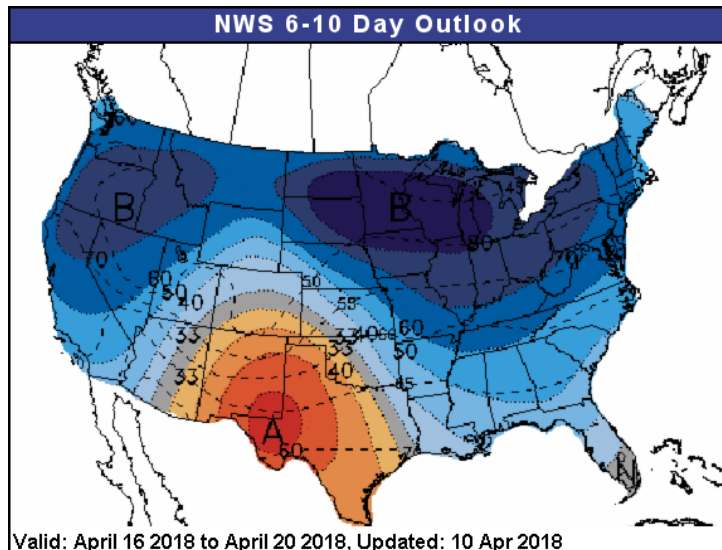
Texas Eastern Transmission Co. (Tetco) is conducting a series of market area outages this week, including maintenance ...cont' pg. 5

CME HENRY HUB FUTURES PRICES

Trade Date: Apr 10

CONTRACT	OPEN	HIGH	LOW	SETTLE	CHANGE
May-18	2.6990	2.7260	2.6430	2.6560	-0.0370
Jun-18	2.7370	2.7610	2.6820	2.6940	-0.0370
Jul-18	2.7820	2.8070	2.7300	2.7470	-0.0330
Aug-18	2.8010	2.8280	2.7520	2.7700	-0.0320
Sep-18	2.7930	2.8200	2.7450	2.7630	-0.0310
Oct-18	2.8100	2.8330	2.7580	2.7770	-0.0310
Nov-18	2.8560	2.8790	2.8050	2.8270	-0.0290
Dec-18	2.9930	3.0060	2.9370	2.9600	-0.0250
Jan-19	3.0700	3.0880	3.0230	3.0470	-0.0230
Feb-19	3.0330	3.0540	2.9920	3.0150	-0.0210
Mar-19	2.9250	2.9470	2.8920	2.9110	-0.0190
Apr-19	2.6660	2.6740	2.6390	2.6560	-0.0090
May-19	2.6380	2.6480	2.6130	2.6300	-0.0090
Jun-19	2.6540	2.6690	2.6470	2.6570	-0.0090
Jul-19	2.6830	2.6970	2.6770	2.6870	-0.0080
Aug-19	2.6940	2.7010	2.6760	2.6930	-0.0060
Sep-19	2.6840	2.6880	2.6700	2.6810	-0.0050
Oct-19	2.7040	2.7180	2.6980	2.7080	-0.0050
Nov-19	2.7600	2.7750	2.7510	2.7670	-0.0020
Dec-19	2.8920	2.9050	2.8780	2.8980	-0.0010
Jan-20	2.9890	3.0010	2.9890	3.0010	-0.0010
Feb-20	2.9670	2.9790	2.9670	2.9790	0.0000
Mar-20	2.8780	2.8900	2.8780	2.8900	-0.0010
Apr-20	2.6410	2.6460	2.6410	2.6460	0.0050
May-20	2.6170	2.6220	2.6170	2.6220	0.0050
Jun-20	2.6450	2.6500	2.6450	2.6500	0.0050
Jul-20	2.6800	2.6800	2.6800	2.6800	0.0050
Aug-20	2.6850	2.6850	2.6850	2.6850	0.0050
Sep-20	2.6700	2.6750	2.6700	2.6750	0.0050
Oct-20	2.6970	2.7020	2.6970	2.7020	0.0050
Nov-20	2.7620	2.7620	2.7570	2.7570	0.0050
Dec-20	2.9030	2.9030	2.9030	2.9030	0.0050
Jan-21	3.0310	3.0310	3.0310	3.0310	0.0050
Feb-21	3.0090	3.0090	3.0090	3.0090	0.0050
Mar-21	2.9280	2.9280	2.9230	2.9230	0.0050
Apr-21	2.6750	2.6750	2.6750	2.6750	0.0070
May-21	2.6550	2.6550	2.6550	2.6550	0.0070

Source: CME Group, Inc. Updates provided by CSI.



Region	% Power	% Change	MDC (MW)	MW Offline
Northeast	82	-2	25,957	4,747
Southeast	79	2	32,535	6,791
Midwest	89	1	21,011	2,276
West	66	-2	21,089	7,250
Total	79	0	100,591	21,065

Source: Nuclear Regulatory Commission. How to Interpret These Data: The bar chart depicts the Maximum Daily Capacity (MDC) power in Megawatts (MW) generated as a percentage of maximum power generation across all nuclear reactors in the United States for the date listed. The tabular data breaks down those percentages into the four regions and adds a column showing the Megawatts offline in each region. For updated reports or to see a breakdown to the individual nuclear unit level, please visit: naturalgasintel.com/nrc

restricting flows on Tetco's M3 market zone, according to Genscape Inc. Tetco will be conducting maintenance through Thursday on its 36-inch Line 20 in M3 in New Jersey from Lambertville to Linden, limiting capacity through the Linden Compressor Station to 888 MMcf/d.

"Elsewhere in M3, Tetco will be conducting in-line inspection tool runs on the Uniontown to Bedford 36-inch Line 1 on April 11, April 13 and April 17," the firm said. "This will limit flows from Bedford to Heidlersburg by as much as 767 MMcf/d based on 30-day max flows."

In California, SoCal Citygate followed up Monday's 99-cent surge by tacking on another 22 cents to finish at \$3.83. SoCal Border Average climbed 9 cents to \$2.40, including a 22-cent day/day increase at SoCal Border-Ehrenberg reported in NGI's MidDay Alert.

"Gas prices took yet another spike" in Southern California Monday, "this time tracing broader regional dynamics," Genscape said. The Southern California Gas (SoCalGas) utility "system demand did bounce about 0.4 Bcf/d from Sunday to reach a 13-day high of 2.54 Bcf/d as cooling loads are kicking in. This comes as pipeline import capacity restrictions remain in place.

"But the demand increase by itself is not commensurate with the price increase," the firm said. "Instead, it appears SoCal Citygate had to print a higher price with upstream Desert Southwest markets' demand for gas also on the rise. Desert Southwest demand for gas for cooling needs is not only being raised by warming temperatures, but also to replace lost nuclear generation."

Nuclear Regulatory Commission data showed two units at the Palo Verde nuclear plant taken down recently — one for planned maintenance, the other apparently unplanned — totaling 2,618 MW of generating capacity, according to Genscape.

Further upstream in West Texas, points mostly mirrored the double digit declines observed across other regions, while El Paso Permian experienced a much steeper drop, tumbling 41 cents to average \$1.47.

El Paso Natural Gas was expected to begin testing on its Black River Station Wednesday and Thursday, reducing operating capacity by 125 MMcf/d, according to Genscape.

"This point typically flows very close to operating capacity, so capacity reductions usually equate to flow cuts," the firm said. "The affected L2000 line flows gas westward out of the Permian."

In Canada, prices at NOVA/AECO C took a sharp dive Monday, dropping C\$1.02 to average C86 cents/GJ. NOVA/AECO C followed that up by gaining back C38 cents to average C\$1.24 in Tuesday's trading.

"Buckle your seat belt and pull down the restraining device, as the 2Q2018 AECO roller coaster ride appears to be underway," analysts with Tudor, Pickering, Holt & Co. (TPH) said Tuesday, attributing the declines to maintenance season restricting interruptible transportation flows "along both the eastern gate and western gate.

Intraday data on the Nova Gas Transmission system "indicates field receipts were 11.4 Bcf

Monday, down from 12.1 Bcf over the weekend, with maintenance the suspected culprit behind roughly 0.7 Bcf of curtailments," the TPH analysts said. "...What's interesting is it appears exports were unaffected, with storage withdrawals presumably picking up the slack. We'll wait for the official data to confirm, but if demand is being met by withdrawals, it could deliver incremental tightening to a market we believe is already tighter than appreciated." ■

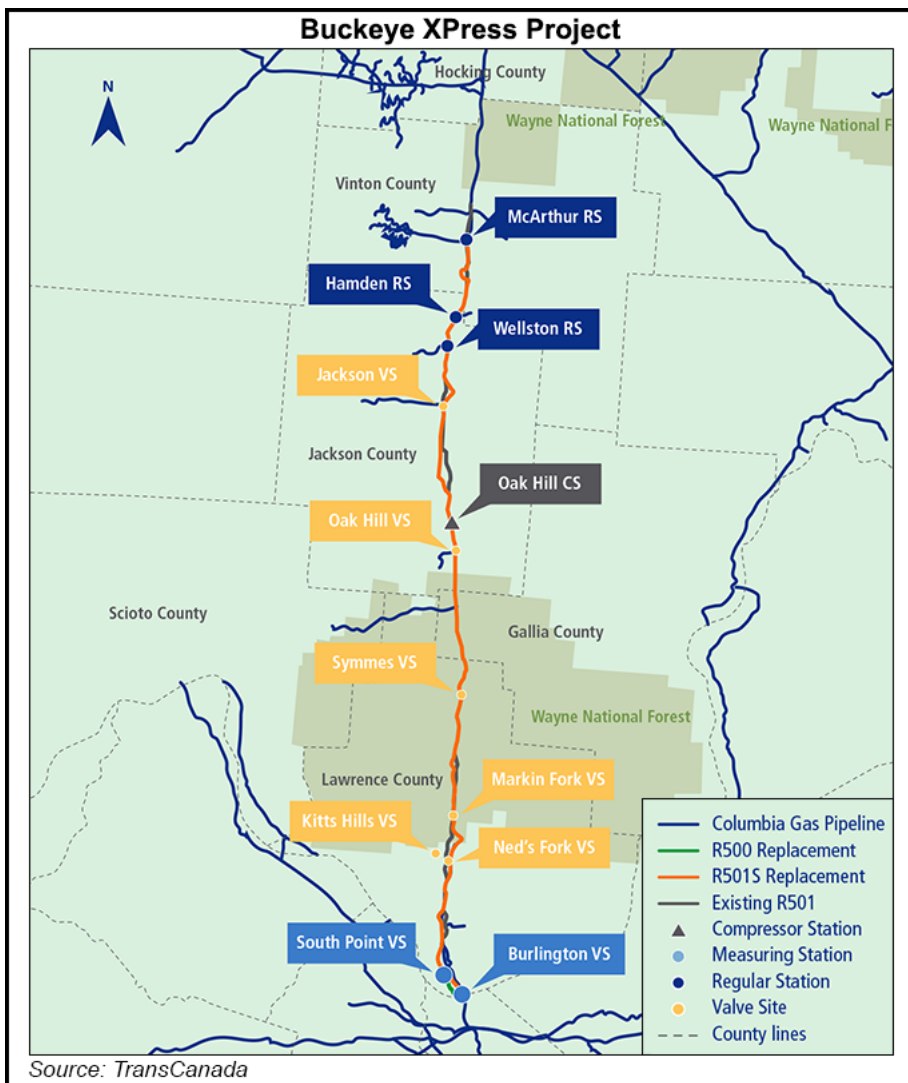
PIPELINES

Columbia Gas Seeks FERC OK for Buckeye XPress

TransCanada Corp.'s Columbia Gas Transmission LLC (TCO) has requested FERC's approval to construct and operate the Buckeye XPress Project in Ohio and West Virginia, which would add another 275 MMcf/d of natural gas capacity to the interstate pipeline system.

Buckeye XPress would include replacing 60.8 miles of aging 20- and 24-inch diameter pipeline with 66.2 miles of 36-inch pipeline in southern Ohio's Vinton, Jackson, Gallia and Lawrence counties, as well as in western West Virginia's Wayne County. The project, primarily designed to increase safety and reliability, would replace portions of TCO's R-system, which was constructed in the 1940s.

The R-system, which supports more than 1 Bcf/d of primary firm transportation, is critical to TCO's storage operations, ...cont' pg. 6



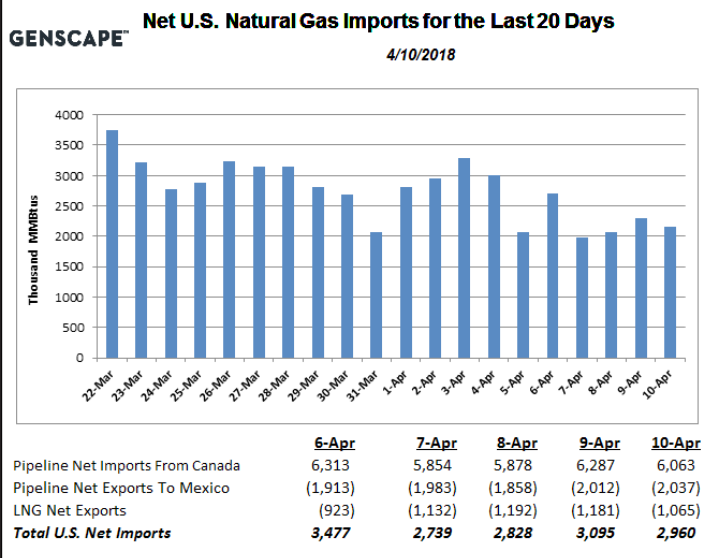
according to the application. It provides the main path for gas to move into Ohio for summer storage injections and allows a way for gas to move southward from the Ohio storage fields in the winter.

“The use of the larger diameter replacement pipeline will allow Columbia to be ready to meet an anticipated growth in transportation demand from the Appalachian production area to delivery points in Kentucky and West Virginia, with only minimal additional environmental and landowner impacts,” TCO said in the application. “In fact, no new landowners will be impacted by the upsizing of the pipe for the project.”

TCO launched a nonbinding open season for the project in January 2017, [envisioning a larger project](#) at the time. It started the pre-filing process at the Federal Energy Regulatory Commission last August.

Buckeye XPress is expected to cost \$709 million. In addition to replacing the old pipe, the project would add four mainline valves, four tie-in assemblies, installation of a regulation run at the existing Ceredo compressor station, and two sets of bidirectional launchers and receivers. The additions would help increase transportation capacity to its Leach, KY, interconnection with the Columbia Gulf Transmission system and the TCO pool market in the West Virginia region.

TCO requested authorization for the project by Jan. 31. The target in-service date is Nov. 1, 2020. ■



Source: [Genscape](#). Flow volume is in thousand MMBtus and is taken from the evening nomination cycle on the day prior to actual flow into the specified points. Excludes volumes delivered from or into LDC systems (except MichCon), intrastate pipelines, and gathering systems. These data are updated first at [naturalgasintel.com/flowdata-imports](#). A more detailed version of this table that breaks out U.S. natural gas imports from and exports to Canada, Mexico, and LNG facilities is also available on our website. Genscape can be reached at natgassales@genscape.com

GENSCAPE™ U.S. Natural Gas Pipeline/Hub Flows

Tuesday, April 10, 2018 NGI

Supply/Demand Flows									
Pipeline/Hub	Supply	D/D Chg	Y/Y Chg	Demand	D/D Chg	Y/Y Chg	NGI's Daily GPI Spot Price	Daily Change	Diff to Henry Hub
Chicago Citygate	N/A	N/A	N/A	2,993	(383)	1,211	\$2.69	(\$0.20)	(\$0.02)
El Paso Permian	1,870	(377)	(343)	N/A	N/A	N/A	\$1.88	(\$0.09)	(\$0.83)
Malin - PG&E	N/A	N/A	N/A	1,531	148	158	\$2.09	\$0.04	(\$0.62)
Malin - Ruby	N/A	N/A	N/A	348	(50)	(105)	\$2.09	\$0.04	(\$0.62)
NGPL Midcontinent	1,778	23	182	44	(35)	6	\$2.34	\$0.00	(\$0.37)
NGPL TexOk	747	(246)	87	470	93	96	\$2.60	(\$0.05)	(\$0.11)
Opal Gas Processing - Kern	660	(1)	69	N/A	N/A	N/A	\$2.06	\$0.06	(\$0.65)
PG&E Citygate	N/A	N/A	N/A	1,849	113	153	\$2.62	\$0.03	(\$0.09)
SoCal Border	N/A	N/A	N/A	2,166	(191)	(150)	\$2.31	\$0.20	(\$0.40)
Transco Zn 4	3,367	(592)	1,234	1,108	(72)	299	\$2.69	(\$0.05)	(\$0.02)
Tennessee Zn 4 300 Marcellus	3,670	(239)	55	194	(65)	(79)	\$2.34	(\$0.17)	(\$0.37)
Transco Zn 6 Leidy Line	1,918	(11)	199	N/A	N/A	N/A	\$2.42	(\$0.12)	(\$0.29)
Transco Zn 6 New York	N/A	N/A	N/A	1,414	75	455	\$3.21	\$0.05	\$0.50
Transco Zn 6 Non-New York	2,111	(175)	(100)	1,912	(254)	53	\$3.19	\$0.09	\$0.48

Import/Export Flows									
Pipeline/Hub	Imports	D/D Chg	Y/Y Chg	Exports	D/D Chg	Y/Y Chg	NGI's Daily GPI Spot Price	Daily Change	Diff to Henry Hub
CEGT Perryville	445	38	128	680	49	(17)	\$2.65	(\$0.05)	(\$0.06)
Gulf South Perryville	1,159	23	54	278	7	(185)	\$2.65	(\$0.05)	(\$0.06)
NGPL TexOk	(997)	3	(11)	(69)	(69)	(31)	\$2.60	(\$0.05)	(\$0.11)
Tennessee Zn 4 300 Marcellus	N/A	N/A	N/A	2,024	209	251	\$2.34	(\$0.17)	(\$0.37)
Transco Zn 4	1,273	(55)	1,086	3,532	(575)	2,021	\$2.69	(\$0.05)	(\$0.02)

Source: [Genscape](#) and NGI's Daily Gas Price Index. Flow volume is in thousand MMBtus and is taken from the evening nomination cycle on the day prior to actual flow into or out of the pipelines at the specified location. Supply represents gas that flows into a pipeline from producers, gathering lines, and the tailgates of processing plants, and is therefore a proxy for production. Demand measures gas that is delivered either to a citygate, or to end-users along a pipeline. Imports show gas flows into a pipeline from interconnects with other pipelines, while Exports indicate gas that is delivered into other pipelines. Not all of these statistics are applicable to each pipeline or Hub. D/D Chg expresses the volume change between the most recent gas day and day-ago flows. Y/Y Chg represents the volume from the current and year-ago gas days. NGI's Daily Spot Price is the price per MMBtu for "day-ahead" gas as defined in [NGI's Price Methodology](#) for gas to be delivered on the flow day expressed at the top of this chart. Difference to Henry Hub displays the difference between each market price and the NGI's Daily Gas Price Index price for the comparable time period.

Genscape can be reached at natgassales@genscape.com

PIPELINES

FERC OKs 322,000 Dth/d Tetco Expansion Along Texas Gulf Coast

Late last week, the Federal Energy Regulatory Commission issued a certificate for Texas Eastern Transmission LP (Tetco) and Brazoria Interconnector Gas Pipeline LLC to move forward with their Stratton Ridge Expansion Project, designed to increase natural gas delivery capacity into the Texas Gulf Coast.

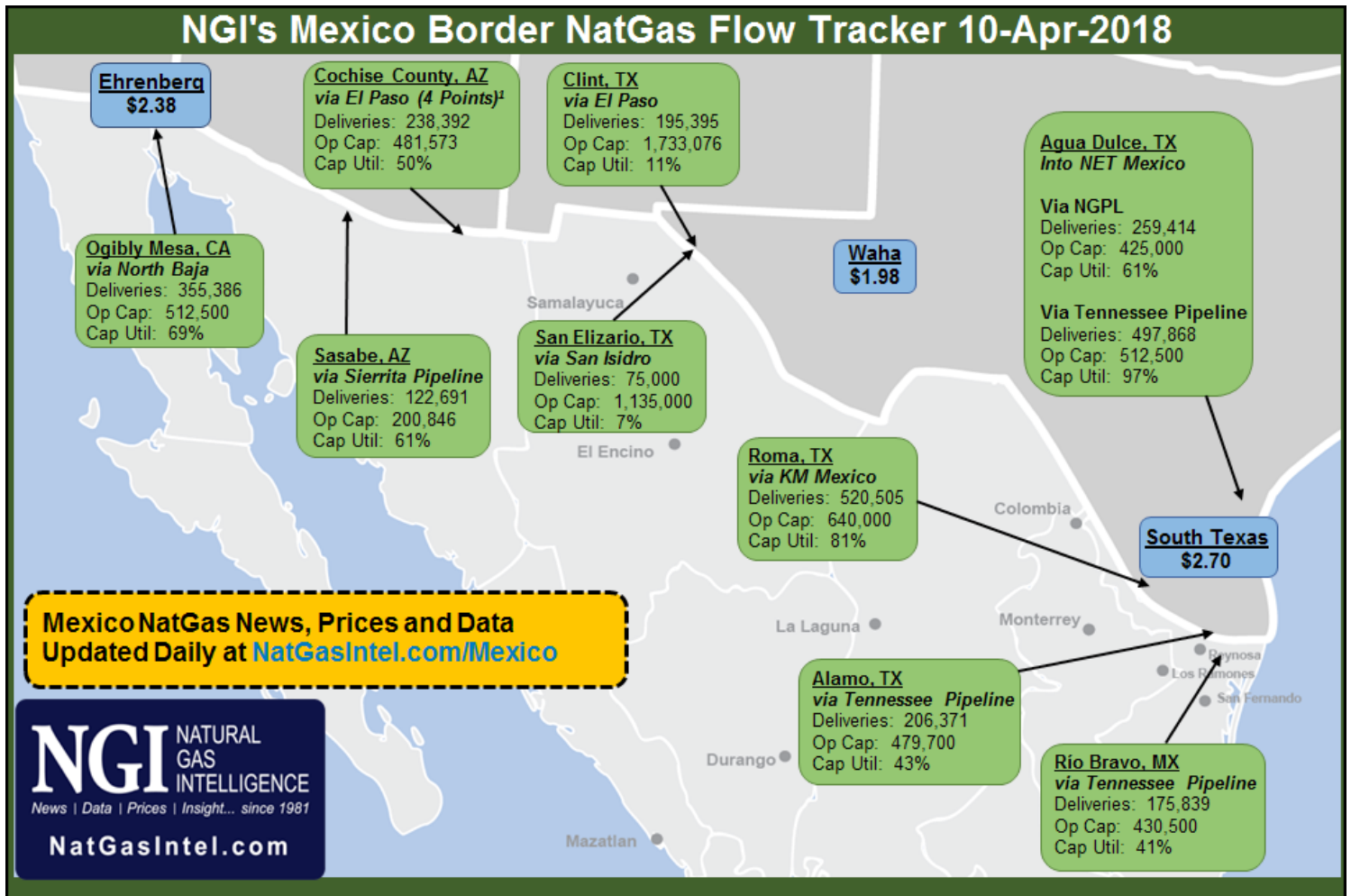
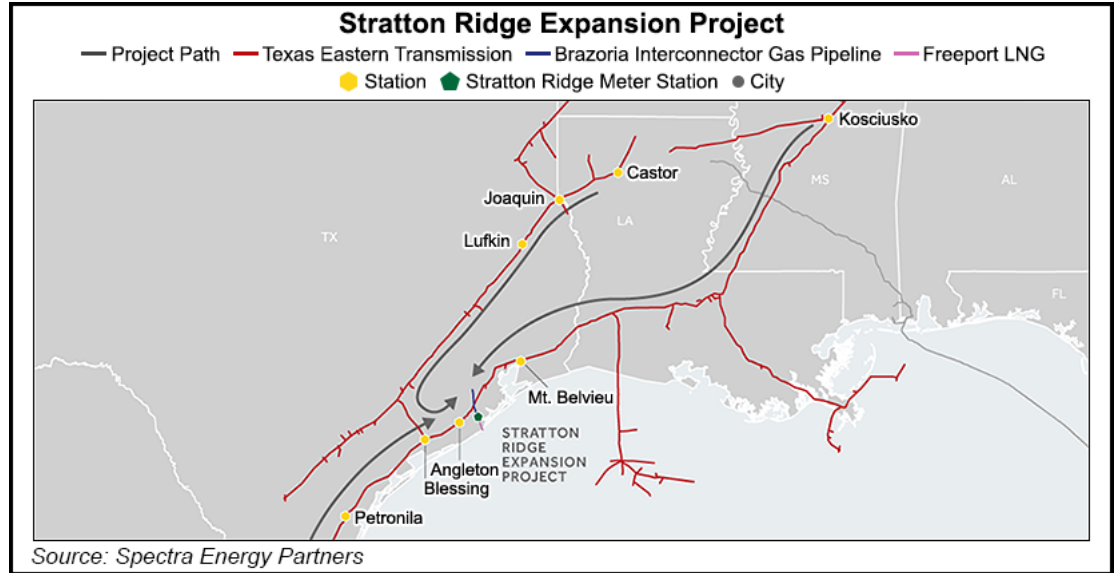
As part of the estimated \$100 million Stratton Ridge expansion, Tetco would enable additional bi-directional flow on its system while leasing capacity on Brazoria's intrastate system to allow for 322,000 Dth/d of additional firm transportation service to a delivery point near Stratton Ridge in Brazoria County, TX [CP17-56, CP17-57].

That delivery point is just upstream from Freeport LNG Development LP's proposed liquefied natural gas export project, which is scheduled to begin service by 2019.

The Stratton Ridge project proposes constructing the new 12,500 hp Angleton Compressor Station in Brazoria County and a 0.5-mile, 30-inch diameter pipeline between the Angleton compressor and Brazoria's system, along with various other modifications and facilities.

Brazoria owns and operates 30.5 miles of intrastate pipeline running between Stratton Ridge in southern Brazoria County and Iowa Colony in northern Brazoria County.

Tetco's system consists of 9,096 miles of pipeline ...cont' pg. 8



stretching from Texas and the Gulf Coast all the way to markets in the Mid-Atlantic and Northeast.

Tetco and Brazoria, both subsidiaries of **Enbridge Inc.-owned Spectra Energy Partners LP**, filed in 1Q2017 for a certificate to build the Stratton Ridge expansion. The project is scheduled to enter service in the first half of 2019. ■

...from ANALYSIS - Southeast Natural Gas Price Volatility, pg., 1

North American Gas & Power, said he read a recent article that said gas volatility was dead. But the article only discussed Nymex “and it didn’t even really differentiate between basis markets and Nymex markets...”

“I was waiting for the ‘but,’ but producing basins are \$1.00 under the market, or you’ve got AECO that’s pricing negative, or you have this happening in the basis markets,” Thomas said. “You have \$135/MMBtu in Transco, you’ve got Houston Ship Channel going to \$14, you’ve got Algonquin trading at \$83.

“At no time,” he said, did the news article discuss regional markets, basically, “the basins and what’s happening in the various markets,” he added.

Thomas expects regional volatility to continue going forward, particularly “in the production basins,” where there are “winter peaking markets that...do have significantly increased volatility in the marketplace.”

To wit: Das said the “very, very volatile” Transco Zone 6 Non-New York and Transco Zone 5 markets this past winter, “even though the pricing volatility did not extend as widely or over a longer period of time as it did during the winter of 2013/14, prices this winter actually set a higher level.” He was referring to the winter four years ago when a polar vortex occurred.

“...During the intervening years, Northeast production actually grew by close to 20 Bcf/d, so that did not seem to make even a little bit of impact on this extreme weather related volatility that we saw.”

According to *NGI* data, winter 2017/18 prices reached a high of \$124.71 on Transco Zn 6 Non-New York, vs. \$127.57 on Transco Zone 5.

Just how much regional volatility will continue to outpace that at the Henry Hub was a topic on a panel regarding southeast demand and supply economics.

Das noted that prices at the Henry Hub likely will be subdued for the next two years, with prices averaging around \$2.75/MMBtu

as supply outstrips demand through 2019. He thinks producers in the Marcellus and Utica shales may be quicker to fill new pipeline capacity than the market is anticipating.

Growing Appalachia production may have an impact on future price volatility in several regions of the country.

NG Advantage’s Michael Holt, director of business development, noted that gas flows into Transco from Appalachia have increased the last two years. While that may have had something of a calming impact on regional pricing volatility in New England, everything else being equal, he said growing power generation in the Southeast is “something that’s very likely to keep volatility alive and well” in that part of the country.

Pipeline reversals from the Appalachia to the Gulf Coast and Southeast, and gas-on-gas competition from the Haynesville Shale versus the Marcellus/Utica are also having an impact on gas prices in those regions.

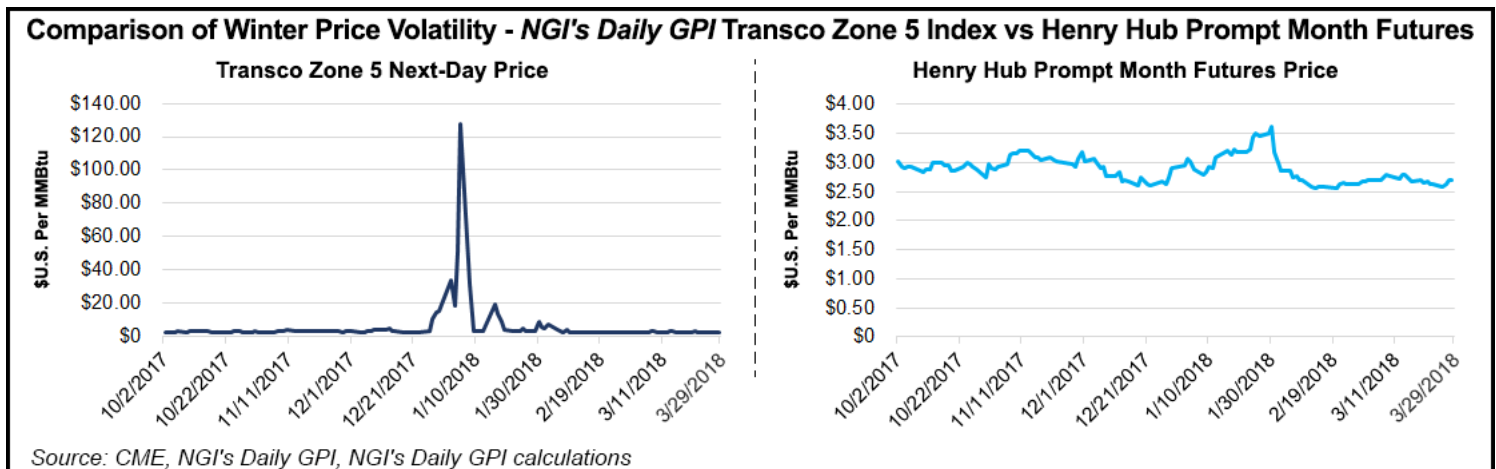
Tenaska Marketing Ventures’ John Reinhardt, senior director of marketing, discussed Haynesville prices. He said “the running joke until recently was that you could always quote what the basis this summer was minus 6 cents; what’s the next winter minus 6 cents. What’s the next year? Minus 6 cents. It didn’t change much. So we’re starting to see some of the volatility creep into the forward basis.”

Reinhardt, who expects the Southeast to become more volatile over time, noted that extreme winter weather in other parts of the country can impact supply in the south. The Energy Information Administration’s storage report for Jan. 5 was a **record 359 Bcf** withdrawal, 153 Bcf of which was from the South Central region, the most in any region of the country.

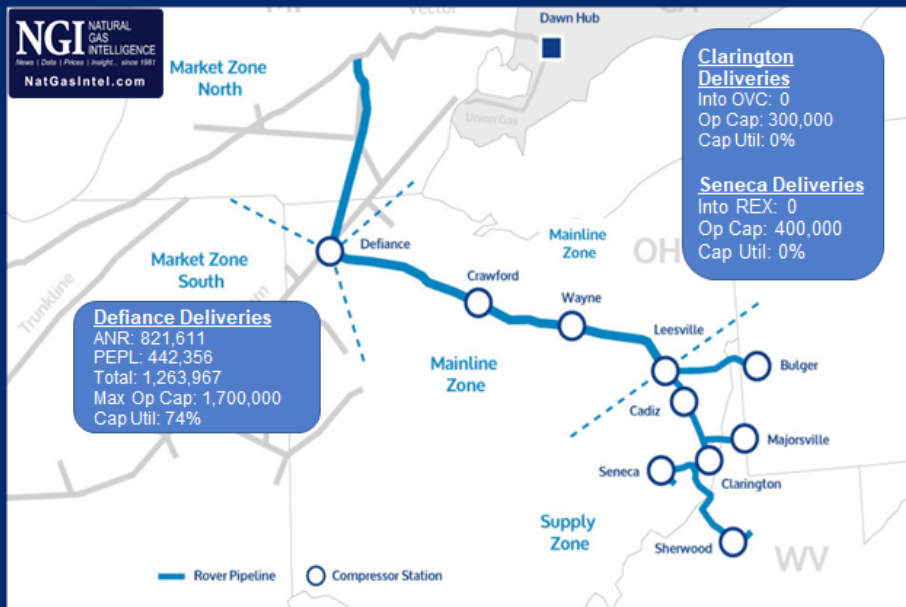
On the sidelines of the conference, an industry trader told *NGI* that forward curves do not necessarily tell the complete story with respect to future volatility. Volatility “is going to manifest itself in the cash market. And with growing power demand, and liquefied natural gas exports just around the corner, expect volatility in the Southeast to continue to grow.”

It may not be as volatile as in the Northeast, however. Reinhardt said, “as long as people continue to live in New York and Boston,” there will be natural gas price volatility in the region, because of a lack of pipeline infrastructure.

“But price volatility in the Southeast could rival that in the Northeast over time, and even now, on some days, it’s even greater,” the trader said. ■



Rover Tracker for Gas Day 4/10/18



Rover Receipt Points	Oper Cap	TSQ	% Util	Rover Receipt Point	Oper Cap	TSQ	% Util
CADIZ-MW	300,000	0	0%	BERNE	350,000	141,000	40%
CADIZ-ORS	950,000	551,225	58%	MADISON	400,000	232,724	58%
CLARINGTON-EUREKA	300,000	181,000	60%	SENECA	731,518	68,482	9%
CLARINGTON-OVC	300,000	236,652	79%	SUN DANCE	300,000	0	0%

	System Cap	TSQ	% Util		System Cap	TSQ	% Util
Total Rover Receipts	1,700,000	1,411,083	83%	Total Rover Deliveries	1,700,000	1,263,967	74%

than the No. 2 state, Pennsylvania.

Marketed gas production also reached an annual record high of 78.9 Bcf/d last year, with the monthly record high of almost 84.0 Bcf/d set in December. Marketed production reflects gross withdrawals minus natural gas used for repressuring reservoirs, quantities vented/flared, and nonhydrocarbon gases removed in treating or processing operations.

The EIA also reported that total natural gas exports through pipelines and as liquefied natural gas (LNG), grew about 36% in 2017, with LNG exports nearly quadrupling. As such, the United States became a **net gas exporter** in 2017 for the first time in nearly 60 years, as EIA previously noted.

Dry gas production came in at an annual level of 73.6 Bcf/d, but didn't set a new record. Dry gas is consumer-grade natural gas, or marketed production minus extraction losses, the EIA noted.

EIA's monthly production report collects oil and natural gas production data from a sample of operators in 15 states, the Federal Offshore Gulf of Mexico and collectively from the remaining states and the Federal Offshore Pacific.

Henry Hub 2018, 2019 Forecasts Mirror March

On Tuesday, EIA also issued the **Short-Term Energy and Summer Fuels Outlook**, predicting dry gas production will average 81.1 Bcf/d in 2018,

establishing another record. Gas production is forecast to rise by 1.7 Bcf/d in 2019.

The federal agency is forecasting U.S. gas consumption to increase by 4.2 Bcf/d (5.7%) in 2018 and by 0.7 Bcf/d (0.9%) in 2019, with electric power generation the leading contributor. Meanwhile, net gas exports should rise to an average of 2.2 Bcf/d in 2018 and 4.4 Bcf/d in 2019 from an average of 0.4 Bcf/d in 2017.

Gas inventories ended March at almost 1.4 Tcf, which was 19% lower than the previous five-year average.

"Based on a forecast of rising production, EIA forecasts that natural gas inventories will increase by more than the five-year average rate of growth during the injection season (April-October) to reach almost 3.8 Tcf on Oct. 31, which would be 2% lower than the previous five-year average," researchers said.

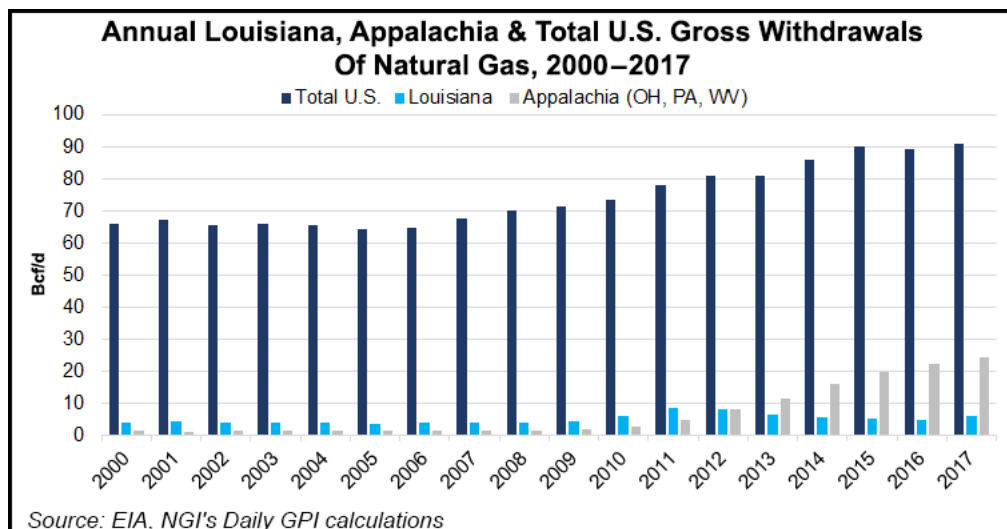
Henry Hub spot prices are forecast to average \$2.99/MMBtu in 2018 and \$3.07 in 2019, mirroring the **March EIA forecast**.

The average New York Mercantile Exchange futures and options contract values for July 2018 delivery that traded during the five-day period ending April 5 "suggest that a range of \$2.30/MMBtu to \$3.43/MMBtu encompasses the market expectation for July Henry Hub natural gas prices at the 95% confidence level," EIA said.

The forecast for U.S. oil ...cont' pg. 10

...from **PRODUCTION - Louisiana, Appalachia Lead Way, pg. 1**
 region for the second year in a row remained the largest gas producing region. Output from the Marcellus and Utica/Point Pleasant plays of Ohio, West Virginia and Pennsylvania saw gross withdrawals increasing to 24.3 Bcf/d in 2017 from 22.2 Bcf/d in 2016, EIA said. Ohio had the largest percentage increase in gross gas withdrawals, increasing 24% in 2017 to 4.9 Bcf/d.

Texas, meanwhile, posted the largest volumetric decline of any state for gross withdrawals, falling from 22.2 Bcf/d in 2016 to 21.7 Bcf/d in 2017. The Lone Star State, however, remained the largest gas producing state with gross withdrawals of nearly 7 Bcf/d more



production also is strong. Domestic output averaged 10.4 million b/d in March, up 260,000 b/d from February, according to EIA. Total U.S. crude oil production averaged 9.3 million b/d in 2017.

Average U.S. oil output now is forecast to average 10.7 million b/d in 2018, "which would mark the highest annual average U.S. crude oil production level, surpassing the previous record of 9.6 million b/d set in 1970," said EIA. Next year's oil output is expected to increase again, averaging 11.4 million b/d.

West Texas Intermediate (WTI) oil prices are seen averaging around \$4.00/bbl lower than Brent prices this year and in 2019; Brent averaged \$66/bbl in March and is seen averaging around \$63 in both 2018 and 2019. ■

...from LIQUEFIED NATURAL GAS - Dominion Cove Point, pg., 1

authorized Dominion Energy Cove Point LNG LP to commence service for facilities in Maryland and Virginia involved in the liquefaction project, which includes the terminal in Lusby, MD [CP13-113].

Cove Point is the second U.S. facility to export LNG sourced from domestically produced gas in the Lower 48. Cheniere Energy Inc.'s Sabine Pass LNG terminal in Cameron Parish, LA, began exporting gas in February 2016.

Center for LNG (CLNG) Executive Director Charlie Riedl said Cove Point entering commercial service marked "an important day" for the facility "and the LNG industry at large...Now that the facility has entered into commercial service, Cove Point will bring U.S. natural gas and energy options to allies and partners across the globe looking to reduce emissions and pollution.

"Vast natural gas resources in the United States enable LNG exports to bring significant benefits to our country's economy," Riedl said. "As more LNG exports come online, those benefits will increase exponentially, in terms of job creation, investment and supply contracts across the whole natural gas supply chain."

CLNG said Cove Point was the largest construction project in the history of Maryland. The facility attracted \$4 billion worth of investment and created more than 10,000 jobs, it noted.

Cove Point's marketed capacity is fully subscribed under 20-year service agreements. Pacific Summit Energy LLC, a U.S. affiliate of Japan's Sumitomo Corp., as well as Gail (India) affiliate Gail Global (USA) LNG LLC, have each contracted for half of the marketed capacity. Sumitomo has agreements to serve Tokyo Gas Co. and Kansai Electric Power Co. Inc. ■

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