

February 20, 2019 | Volume 13: Issue 34

TODAY IN THE MARKET

Ethylene and propylene prices were unchanged on Wednesday. Energy futures and olefins feedstocks were mixed. PE prices were steady, while PP was flat to lower.

Feb MtB-NOVA ethylene was bid at 15 cpp and offered at 16.5 cpp. Feb had been offered down to and assessed at 15.25 cpp on Friday. Mar MtB-NOVA ethylene was bid at 15 cpp and offered at 17 cpp. Mar was last assessed at 15.5 cpp. Mar MtB-NOVA ethylene traded at parity to the PCW index. Feb and Mar Choctaw ethylene were bid at 15 cpp with no offers. Feb Choctaw ethylene last traded at 15.25 cpp last week. Feb MtB-other ethylene was offered at 19.75 cpp.

Feb MtB-EPC PGP was offered at 33.5 cpp against no bids, holding at its last assessment at 32 cpp. Mar MtB-EPC PGP was offered at 35 cpp. Mar last traded Tuesday at 32.5 cpp. Feb rail RGP was bid at a 5 cpp premium to index pricing.

No olefins operations updates emerged.

Mar NYMEX crude settled at \$56.92/bbl, up 83 cents from Tuesday. Apr Brent settled at \$67.08/bbl, up 63 cents. Mar NYMEX nat gas settled at \$2.636/mmBtu, down 2.6 cents.

Ethylene cash costs were mixed. Ethane-based costs rose 0.4 cpp to 13.9 cpp. Propane-based costs were also up 0.4 cpp at 22.6 cpp. Butane-based costs eased 0.2 cpp to 24.3 cpp. The ethane-ethylene spread contracted from 5.191 cpp to 4.854 cpp. The spread between ethane and HDPE BM was 28.604 cpp. The propane-PGP spread narrowed by 0.3 cpp to 15.378 cpp. The propane-HoPP spread also narrowed by 0.3 cpp at 31.378 cpp.

Feb HDPE BM HIC offers were seen at 40 cpp railcar FOB Houston, but no buying interest was confirmed. Feb LLDPE butene film was unchanged at 37.5 cpp railcar FOB Houston. Feb HoPP raffia/IM prices were unchanged; offers were last seen at 48-49 cpp railcar FOB Houston. In the domestic resale market, offgrade HDPE dairy was quoted at 42-44 cpp railcar delivered. Offgrade HDPE frac melt suitable for non-pressure pipe was steady around 43-45 cpp railcar delivered. Offgrade HDPE pail availability was mainly seen at 45-47 cpp railcar delivered. Generic prime LLDPE hexene film was at 53-55 cpp railcar delivered. Good-quality offgrade HoPP IM was around 50 cpp railcar delivered, while generic prime HoPP IM was quoted as low as 54 cpp railcar delivered.

Ethylene: \$/lb. Mt B NOVA = Mont Belvieu NOVA storQage. Choctaw = Choctaw (LA) Board-walk storage. **Propylene:** \$/lb, Mt B EPC = Mont Belvieu (TX) Enterprise storage. Benzene: \$/gal, delivered, duty paid, Houston/Texas City basis. **Resins:** \$/lb, Generic Prime. Domestic prices reflect reseller railcars delivered to North American locations excluding Mexico, West Coast and Pacific Northwest. **Cash Costs** are derived from formulas using OPIS NGLs and PCW petrochemical assessments and employ yield formulas understood to be commonly used by ethylene producers.

CLOSING MARKETS

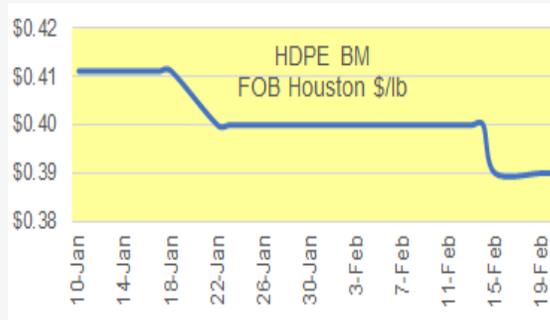
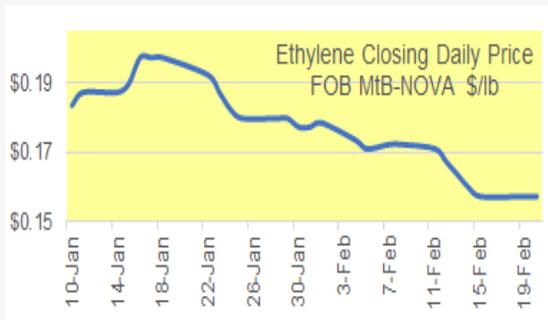
Monomers	FEB	change	MTD cal avg
Ethylene MtB FOB	0.15250	-	0.16221
Ethylene Choctaw FOB	0.15250	-	0.16048
PGP MtB FOB	0.32000	-	0.35212
RGP MtB FOB	0.23000	-0.01500	0.25154
Benzene DDP HTC	2.00000	-	1.96846
Polymers			
FOB Houston Bulk Railcar			
HDPE Blow Mold	0.39000	-	0.39769
LLDPE Film	0.37500	-	0.37115
HoPP Raffia	0.48000	-	0.49462
HoPP Inj	0.48000	-	0.49462
Domestic Resale (DER)			
HDPE Blow Mold	0.53500	-	0.54500
LDPE Film	0.62000	-	0.62346
HDPE Inj	0.56000	-	0.56346
HMWPE Film	0.58000	-	0.59231
LLDPE Film	0.52000	-	0.52423
HoPP	0.55000	-0.00500	0.56500
CoPP	0.58000	-0.00500	0.59269
GPPS	0.73000	-	0.73000
HIPS	0.79000	-	0.79000
Ethylene Cash Costs			
Ethane-based	0.13933	0.00434	0.14163
Propane-based	0.22650	0.00461	0.20047
Butane-based	0.24338	-0.00233	0.22657
Natural Gasoline-Based	0.37283	0.00190	0.32588

CLOSING BID/ASK

Monomers	Bid	Ask	Polymers	Bid	Ask
Ethylene MtB-NOVA Feb	0.15000	0.16500	HDPE BM FOB Houston	0.39000	0.40000
Ethylene MtB-NOVA Mar	0.15000	0.17000	LLDPE Film FOB Houston	0.36500	0.37500
Ethylene MtB-Other Feb	-	-	HoPP Raffia FOB Houston	0.46000	0.48000
Ethylene MtB-Other Mar	-	0.18750	HoPP Inj FOB Houston	0.46000	0.48000
Ethylene Choctaw Feb	0.15000	-	HoPP Inj Domestic	0.54000	0.56000
Ethylene Choctaw Mar	0.15000	-	CoPP Inj Domestic	0.57000	0.59000
RGP MtB-EPC Feb	-	-	HDPE Blow Mold Domestic	0.52000	0.55000
RGP MtB-EPC Mar	-	-	HDPE Inj Domestic	0.55000	0.57000
PGP MtB-EPC Feb	-	0.33500	LLDPE Film Butene Domestic	0.51000	0.53000
PGP MtB-EPC Mar	-	-	HMWPE Film Domestic	0.57000	0.59000
Benzene DDP HTC Feb	-	-	LDPE Film Clarity Domestic	0.61000	0.63000
Benzene DDP HTC Mar	1.98000	2.02000	HIPS Domestic	0.77000	0.81000
			GPPS Domestic	0.71000	0.75000

CLOSING SPREADS (\$/lb)

Ethylene - (Ethane x. 0.422)	0.022
Ethylene - (Ethane div. 2.97)	0.049
Ethylene - Propane	-0.014
Ethylene - Butane	-0.029
Ethylene-Nat gasoline	-0.064
Ethylene - PGP	-0.168
Ethylene - RGP	-0.078
RGP-Propane	0.064
PGP - RGP	0.090
LDPE film - Ethylene	0.468
LLDPE film - Ethylene	0.368
HDPE blow mold - Ethylene	0.383
HDPE inj - Ethylene	0.408
HDPE HMW - Ethylene	0.428
LDPE film - Ethane	0.516
LLDPE film - Ethane	0.416
HDPE blow mold - Ethane	0.431
HDPE inj - Ethane	0.456
HDPE HMW - Ethane	0.476
PP homo - RGP	0.320
PP copol - RGP	0.350
PP homo - Propane	0.384
PP copol - Propane	0.414
GPPS - Benzene	0.459
GPPS - Ethylene	0.578
HIPS - Benzene	0.519
HIPS - Ethylene	0.638



CLOSING SPREAD FORWARD CURVES (\$/lb)

	Ethylene-Ethane	HDPE BM-Ethane	PGP-Propane	HoPP-Propane
Feb-19	0.04854	0.28604	0.15378	0.31378
Mar-19	0.05062	0.28562	0.15686	0.31186
Apr-19	0.05104	0.28604	0.16245	0.31245
May-19	0.05020	0.28520	0.16878	0.31378
Jun-19	0.05020	0.28520	0.17452	0.31452
Jul-19	0.05020	0.28520	0.17731	0.31481
Aug-19	0.05145	0.28520	0.17856	0.31481
Sep-19	0.05270	0.28520	0.17907	0.31407
Oct-19	0.05395	0.28520	0.18134	0.31259
Nov-19	0.05520	0.28520	0.18237	0.31112
Dec-19	0.05666	0.28541	0.18854	0.30979
Jan-20	0.05687	0.28562	0.19236	0.30861
Feb-20	0.05708	0.28583	0.19647	0.30772

Closing spreads are calculated on a straight price basis, not inclusive of costs or co-product credit factors. NGLs used in spreads are OPIS closing prices. Spreads are calculated in \$/lb, using standard conversion factors for NGLs and benzene, which transact in \$/gal.

Closing Forward Curves

	Ethylene FOB MtB	Ethylene FOB Choc	PGP FOB Mt B	HDPE FOB Hou	LLDPE FOB Hou	HoPP FOB Hou	HDPE FOB Chi	LLDPE FOB Chi	HoPP FOB Chi	Ethane-based Ethylene Cost	Propane-based Ethylene Cost	Butane-based Ethylene Cost	C5-based Ethylene Cost
Feb-19	0.15250	0.15250	0.32000	0.39000	0.37500	0.48000	0.49500	0.48000	0.52000	0.13933	0.22650	0.24338	0.37283
Mar-19	0.15500	0.15500	0.32500	0.39000	0.37500	0.48000	0.49500	0.48000	0.52000	0.14020	0.23445	0.24036	0.39550
Apr-19	0.15500	0.15750	0.33000	0.39000	0.37500	0.48000	0.49500	0.48000	0.52000	0.14096	0.23058	0.22179	0.38818
May-19	0.15500	0.16000	0.33500	0.39000	0.37500	0.48000	0.49500	0.48000	0.52000	0.14070	0.22789	0.21500	0.38451
Jun-19	0.15500	0.16250	0.34000	0.39000	0.37500	0.48000	0.49500	0.48000	0.52000	0.14041	0.22602	0.21381	0.38112
Jul-19	0.15500	0.16375	0.34250	0.39000	0.37500	0.48000	0.49500	0.48000	0.52000	0.14022	0.22527	0.21362	0.38007
Aug-19	0.15625	0.16375	0.34375	0.39000	0.37500	0.48000	0.49500	0.48000	0.52000	0.14015	0.22635	0.21416	0.38011
Sep-19	0.15750	0.16375	0.34500	0.39000	0.37500	0.48000	0.49500	0.48000	0.52000	0.14013	0.22889	0.21534	0.38218
Oct-19	0.15875	0.16625	0.34875	0.39000	0.37500	0.48000	0.49500	0.48000	0.52000	0.13996	0.23082	0.21629	0.38313
Nov-19	0.16000	0.16875	0.35125	0.39000	0.37500	0.48000	0.49500	0.48000	0.52000	0.13952	0.23268	0.21714	0.38325
Dec-19	0.16125	0.17125	0.35875	0.39000	0.37500	0.48000	0.49500	0.48000	0.52000	0.13872	0.23286	0.21689	0.38012
Jan-20	0.16125	0.17125	0.36375	0.39000	0.37500	0.48000	0.49500	0.48000	0.52000	0.13811	0.23320	0.21638	0.37748
Feb-20	0.16125	0.17125	0.36875	0.39000	0.37500	0.48000	0.49500	0.48000	0.52000	0.13703	0.23015	0.21271	0.37383
Mar-20	0.16125	0.17125	0.37375	0.39000	0.37500	0.48000	0.49500	0.48000	0.52000	0.13578	0.21574	0.19833	0.36981
Apr-20	0.16125	0.17125	0.38125	0.39000	0.37500	0.48000	0.49500	0.48000	0.52000	0.13141	0.20274	0.18745	0.36248
May-20	0.16125	0.17125	0.38875	0.39000	0.37500	0.48000	0.49500	0.48000	0.52000	0.12939	0.19671	0.18224	0.35786
Jun-20	0.16125	0.17125	0.39625	0.39000	0.37500	0.48000	0.49500	0.48000	0.52000	0.12802	0.19434	0.18029	0.35295
Jul-20	0.16125	0.17125	0.38875	0.39000	0.37500	0.48000	0.49500	0.48000	0.52000	0.12720	0.19668	0.18217	0.35528
Aug-20	0.16125	0.17125	0.38125	0.39000	0.37500	0.48000	0.49500	0.48000	0.52000	0.12669	0.20145	0.18501	0.35786
Sep-20	0.16125	0.17125	0.37375	0.39000	0.37500	0.48000	0.49500	0.48000	0.52000				
Oct-20	0.16125	0.17125	0.37375	0.39000	0.37500	0.48000	0.49500	0.48000	0.52000				

FOB = Free on Board. MtB= Mont Belvieu. Hou = Houston. Chi = Chicago. For a full methodology, visit www.petrochemwire.com

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Spot Ethylene Trading Ranges (front month)			
	Low	High	Midpoint
Today			
Ethylene MtB-NOVA	-	-	-
Ethylene TX-Other	-	-	-
Ethylene Choctaw	-	-	-
Ethylene LA-Other	-	-	-
This Month			
Ethylene MtB-NOVA	0.16000	0.17250	0.16625
Ethylene All Texas	0.16000	0.17250	0.16625
Ethylene Choctaw	0.15250	0.16750	0.16000
Ethylene All Louisiana	0.15250	0.16750	0.16000

Ethylene Calendar Averages			
	MTD Feb	Jan	Change
30-day Mt B	0.16221	0.18071	-0.01850
30-day Choctaw	0.16048	0.18179	-0.02130
Ethylene Weighted Averages			
	MTD Feb	Jan	Change
30-day Mt B all	0.16639	0.18564	-0.01924
30-day LA all	0.16157	0.18232	-0.02075
30-day TX/LA	0.16456	0.18454	-0.01998
45-day Mt B all	0.17264	0.18899	-0.01635
45-day LA all	0.16604	0.19064	-0.02461
45-day TX/LA	0.17052	0.18955	-0.01904
	MTD Mar	MTD Feb	Change
45-day TX all	0.19000	0.17264	0.01736
45-day LA all	-	0.16604	-
45-day TX/LA	0.19000	0.17052	0.01948

Ethylene Spot Volumes (MM lbs)		
	MTD Feb	Jan
Current Month phys 30d - TX & LA	71	85
Current Month phys 30d - TX only	44	57
Current Month phys 30d - LA only	27	28
Current Month phys 45d - TX & LA	109	114.5
Current Month phys 45d - TX only	74	75.5
Current Month phys 45d - LA only	35	39
Next Month phys 45d -TX & LA	9	29.5
Next Month phys 45d - TX only	9	18.5
Next Month phys 45d - LA only	0	11
Forward phys - TX & LA	28	34
Spreads phys - TX & LA	44	72
Index phys - TX & LA	27	59
All Paper	29	54.6

	20-Feb	19-Feb	15-Feb	14-Feb	13-Feb	12-Feb	11-Feb	8-Feb
February Physical				.1525 Choc .1525 Choc	.16 MtB-N	.1625 MtB-N		.1675 Choc .1675 MtB-N
March Physical		.19 TX-O						
Forward Physical			.155 Apr MtB-N		.16 Mar MtB-N		.17 Apr MtB-N	
Spreads Physical			.0025 Feb/Mar MtB-N .0025 Feb/Mar MtB-N					.0025 Feb MtB-N/Choc
Index Physical	.0 Mar PCW index					.0 Feb PCW index		
All Paper				.16 Apr	.17 Feb-Dec			

	7-Feb	6-Feb	5-Feb	4-Feb	1-Feb	31-Jan	30-Jan	29-Jan
January Physical								.1725 Choc (x2)
February Physical	.17 MtB-N .1675 MtB-N		.165 MtB-N .165 Choc	.1725 MtB-N .17 MtB-N .16875 MtB-N .165 MtB-N (x2) .1675 Choc			.17625 MtB-N	
Forward Physical	.17 Mar MtB-N	.16875 Mar MtB-N		.17 Mar MtB-N			.1775 Mar MtB-N	
Spreads Physical		.0025 Feb MtB-N/Choc						.03875 Apr-May OPIS ethane (Choc del.)
Index Physical					.0 Feb PCW index .0 2H PCW index			.0 Feb PCW index (x2) .0 Mar PCW index .0 2Q PCW index .0 3Q PCW index
All Paper		.175 Feb-Dec		.17 Mar				

Spot Ethylene Trading Ranges (front month)			
	Low	High	Midpoint
Today			
Ethylene MtB-NOVA	-	-	-
Ethylene TX-Other	-	-	-
Ethylene Choctaw	-	-	-
Ethylene LA-Other	-	-	-
This Month			
Ethylene MtB-NOVA	0.16000	0.17250	0.16625
Ethylene All Texas	0.16000	0.17250	0.16625
Ethylene Choctaw	0.15250	0.16750	0.16000
Ethylene All Louisiana	0.15250	0.16750	0.16000

Ethylene Calendar Averages			
	MTD Feb	Jan	Change
30-day Mt B	0.16221	0.18071	-0.01850
30-day Choctaw	0.16048	0.18179	-0.02130
Ethylene Weighted Averages			
	MTD Feb	Jan	Change
30-day Mt B all	0.16639	0.18564	-0.01924
30-day LA all	0.16157	0.18232	-0.02075
30-day TX/LA	0.16456	0.18454	-0.01998
45-day Mt B all	0.17264	0.18899	-0.01635
45-day LA all	0.16604	0.19064	-0.02461
45-day TX/LA	0.17052	0.18955	-0.01904
	MTD Mar	MTD Feb	Change
45-day TX all	0.19000	0.17264	0.01736
45-day LA all	-	0.16604	-
45-day TX/LA	0.19000	0.17052	0.01948

Ethylene Spot Volumes (MM lbs)		
	MTD Feb	Jan
Current Month phys 30d - TX & LA	71	85
Current Month phys 30d - TX only	44	57
Current Month phys 30d - LA only	27	28
Current Month phys 45d - TX & LA	109	114.5
Current Month phys 45d - TX only	74	75.5
Current Month phys 45d - LA only	35	39
Next Month phys 45d -TX & LA	9	29.5
Next Month phys 45d - TX only	9	18.5
Next Month phys 45d - LA only	0	11
Forward phys - TX & LA	28	34
Spreads phys - TX & LA	44	72
Index phys - TX & LA	27	59
All Paper	29	54.6

	20-Feb	19-Feb	15-Feb	14-Feb	13-Feb	12-Feb	11-Feb	8-Feb	7-Feb	6-Feb
Ethylene MtB-NOVA					.16 MtB-N	.1625 Feb		.1675 Feb	.17 Feb	.1675 Feb
Ethylene - TX -Other		.19 Mar								
Ethylene Choctaw				.1525 Feb	.1525 Feb			.1675 Feb		

	5-Feb	4-Feb	1-Feb	31-Jan	30-Jan	29-Jan	28-Jan	25-Jan	24-Jan	23-Jan
Ethylene MtB-NOVA	.165 Feb	.1725 Feb .17 Feb .16875 Feb .165 Feb .165 Feb			.17625 Feb			.1775 Feb	.1775 Feb	
Ethylene - TX -Other								.1825 Feb .1775 Feb		
Ethylene Choctaw	.165 Feb	.1675 Feb				.1725 Jan .1725 Jan	.1725 Feb			.185 Jan .18625 Feb

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PGP Trading Ranges (front month)			
	Low	High	Midpoint
Today			
PGP MtB	-	-	-
PGP TX Non-MtB	-	-	-
This Month			
PGP MtB	0.32500	0.37750	0.35125
PGP TX Non-MtB	-	-	-

PGP Calendar Averages			
	MTD Feb	Jan	Change
30-day Mt B	0.35212	0.37381	-0.02169
PGP Weighted Averages			
	MTD Feb	Jan	Change
30-day Mt B	0.35888	0.37542	-0.01654
30-day All TX	0.35888	0.37542	-0.01654
45-day Mt B	0.36551	0.37542	-0.00991
45-day All TX	0.36551	0.37542	-0.00991
	MTD Mar	MTD Feb	Change
45-day Mt B	0.32500	0.36551	-0.04051
45-day All TX	0.32500	0.36551	-0.04051

PGP Spot Volumes (MM lbs)		
	MTD Feb	Jan
Current Month phys 30d	29	36
Current Month phys 45d	44	36
Next Month phys 45d	3	15
Forward phys	4	0
Spreads phys	29	35
Index phys	19	44
All paper	94.1	149

	20-Feb	19-Feb	15-Feb	14-Feb	13-Feb	12-Feb	11-Feb	8-Feb	7-Feb	6-Feb
February Physical		.325 MtB-E			.345 MtB-E	.345 MtB-E		.37 MtB-E .355 MtB-E .345 MtB-E	.3775 MtB-E	.3775 MtB-E
March Physical		.325 MtB-E								
Forward Physical		.33 Apr MtB-E								
Spreads Physical				.005 ctg Feb/Mar .005 ctg Feb/Mar				.01ctg Feb/Apr exch		.005 ctg Feb/Mar
Index Physical			-.03 Mar CP					-.03 Feb CP		-.03 Feb CP -.03 Feb CP -.03 Feb CP
All Paper		.3425 Mar-Sep		.36125 2Q .36125 2Q .36125 2Q .39 2H .39 2H .3975 Jan				.3825 Mar .3725 Mar .3725 Mar .3825 2Q .3875 2Q .405 Aug-Sep .405 Aug-Sep .405 3Q .405 3Q .405 3Q .405 3Q .41 Aug-Dec .405 4Q .4 4Q		

RGP Calendar Averages			
	MTD Feb	Jan	Change
30-day RGP pipe	0.25154	0.25714	-0.00560
RGP Trading Ranges (front month)			
	Low	High	Midpoint
Today			
RGP MtB-E	-	-	-
RGP TX Non-MtB	-	-	-
RGP non-TX	-	-	-
This Month			
RGP MtB-E	0.23000	0.26500	0.24750
RGP TX Non-MtB	-	-	-
RGP Non-TX	-	-	-

RGP Weighted Averages			
	MTD Feb	Jan	Change
30-day RGP pipe MtB-E	0.25125	0.25714	-0.00589
30-day RGP all MtB-E	0.25125	0.25714	-0.00589
30-day RGP all TX	0.25125	0.26799	-0.01674
30-day RGP all TX/Non-TX	0.25125	0.26799	-0.01674
45-day RGP pipe MtB-E	0.25450	0.25200	0.00250
45-day RGP all MtB-E	0.25450	0.25200	0.00250
45-day RGP all TX	0.25691	0.26150	-0.00459
45-day RGP all TX/Non-TX	0.25691	0.26150	-0.00459
	MTD Mar	MTD Feb	Change
45-day RGP pipe	-	0.25450	-
45-day RGP all MtB-E	-	0.25450	-
45-day RGP all TX	0.30000	0.25691	0.04309
45-day RGP all TX/Non-TX	0.30000	0.25691	0.04309

RGP Spot Volumes (K bbl)		
	MTD Feb	Jan
Current Month Pipe 30d	150	175
Current Month Pipe 45d	250	250
Next Month Pipe 45d	0	100
Forward phys	70	17.5
Current Month All 30d	150	248.5
Current Month All 45d	264	323.5
Next Month All 45d	14	114
Spreads phys	0	0
Index	11	25

	20-Feb	19-Feb	15-Feb	14-Feb	13-Feb	12-Feb	11-Feb	8-Feb	7-Feb	6-Feb
February Physical		.23 MtB-E						.2525 MtB-EPC .25 MtB-EPC .245 MtB-EPC		
Mar Physical		.3 TX-O*	.32 TX-O*							
Spreads Physical										
Index physical		.05 Feb index (non-TX del.)								

	5-Feb	4-Feb	1-Feb	31-Jan	30-Jan	29-Jan	28-Jan	25-Jan	24-Jan	23-Jan
January Physical										
February Physical	.265 MtB-EPC .265 MtB-EPC					.265 MtB-EPC .26 MtB-EPC			.3 TX-O*	
Spreads Physical										
Index physical										

*not pipeline

MTD EST. ETHYLENE OUTPUT	
MTD Max GC Capacity	4.044 B
MTD Est GC Output	3.845 B
MTD LBS OUT	0.199 B

MTD OVERALL OPERATING RATES	
Texas	94.7%
Louisiana	96.3%
Gulf Coast	95.1%

YTD OVERALL OPERATING RATES	
Texas	96.7%
Louisiana	98.6%
Gulf Coast	97.1%

YTD EST. ETHYLENE OUTPUT	
YTD Max GC Capacity	10.312 B
YTD Est GC Output	10.015 B
YTD LBS OUT	0.297 B

Current Outages	Location	MM lbs/day Ethylene	% US Capacity	Start Date	Status	Planned or Unplanned	Total Days Down/Reduced	Est. MM Pounds Out
Eastman	Longview HCC-3	0.849	0.46%	2H Oct	<i>Shut</i>	P	119	100
Chevron Phillips	Sweeny 22	1.640	0.90%	9-May-18	<i>Idled</i>	P	34	471
ExxonMobil	Baton Rouge	2.945	1.61%	15-Feb-19	<i>Shut</i>	P	6	18
Past Outages	Location	MM lbs/day Ethylene	% US Capacity	Start Date	End Date	Planned or Unplanned	Total Days Down/Reduced	Est. MM Pounds Out
ExxonMobil	Beaumont	4.932	2.70%	8-Jan-19	mid-Jan	U	6	<i>Reduced</i>
BASF/Total	Port Arthur	5.830	3.19%	30-Dec-18	Early Jan	U	4	<i>Reduced</i>
Dow	Freeport TX-8	6.288	3.44%	27-Dec-18	29-Dec-18	U	2	13
NOVA	Geismar	5.644	3.09%	end-Nov	21-Dec-18	P	25	141
Chevron Phillips	Sweeny 24	4.110	2.25%	22-Nov-18	end-Nov	U	<i>Reduced</i>	<i>Reduced</i>
Eastman	Longview HCC-3A	0.849	0.46%	15-Apr-18	2H Oct	P	184	156
Chevron Phillips	Port Arthur	5.150	2.82%	9-Sep-18	mid-Nov	P	68	350
Shell	Deer Park OP2	2.190	1.20%	10-Nov-18	20-Nov-18	U	10	22
MarkWest	Javelina	0.616	0.34%	19-Oct-18	2-Nov-18	U	14	9
Chevron Phillips	Port Arthur	5.150	2.82%	29-Jun-18	9-Sep-18	P	71	<i>Reduced</i>
Huntsman	Port Neches	1.096	0.60%	10-May-18	19-Jun-18	P	70	77
Dow	Freeport TX-8	6.288	3.44%	23-Apr-18	24-Jun-18	P	62	390
Nova/Dow	Joffre E-3	7.671	NA	23-May-18	21-Jun-18	P	24	230
Dow	St Charles SCO 1	3.562	1.95%	28-Apr-18	11-Jun-18	U	45	160
Markwest	Javelina	0.616	0.34%	20-May-18	26-May-18	P	6	3.7

*Outages are personally confirmed by PCW editors.