

DOCKETED

Docket Number:	15-PMAC-01
Project Title:	Petroleum Market Advisory Committee
TN #:	211223
Document Title:	Oil Price Information Service (OPIS) Refinery Maintenance Report
Description:	N/A
Filer:	Courtney Ward
Organization:	Oil Price Information Service
Submitter Role:	Public
Submission Date:	4/25/2016 8:17:54 AM
Docketed Date:	4/25/2016

OPIS Refinery Maintenance Report

April 19, 2016

* updated

PADD1 / East Coast

Delta/Monroe – Talk circulated in the spot market April 15 that the 50,000-b/d FCC at Delta's 185,000-b/d refinery in Trainer, Pa., was down following the discovery of a leak, according to trading sources, and that repairs could take a week or so. As of midday Friday, the issue was seen unlikely to affect the market in a meaningful way, sources indicated, due to currently brimming gasoline inventories in the Northeast.

PBF Energy – As of March 29, company was in the process of restarting the 49,000-b/d coker at the 190,200-b/d Delaware City, Del., refinery following maintenance, according to a source familiar with operations there. The unit was to be up and running in about a week, the person said. PBF had advanced planned work on the unit to February (from mid-March) after a Jan. 24 power outage forced the plant to shut for ten days. As of early February, the work was to be completed by the end of March.

PBF Energy – The company's 166,000-b/d refinery in Paulsboro, N.J., saw some maintenance on the FCC in mid-February due to an operational problem, a source told OPIS. The company declined to comment on the unit's status. As of Feb. 23, some 40 days of turnaround maintenance on the 55,000-b/d FCC and an alkylation unit remains scheduled for Fall 2016.

Phillips 66 – The company's 251,000-b/d Bayway refinery in Linden, N.J. is planning to upgrade the 145,000-b/d FCC in stages and complete the work in 2018. About \$400 million is to be spent to modernize the unit. The project includes replacing the existing, older reactor with modern technology that will increase yields of more valuable gasoline and diesel by about 4,000 b/d.

PADD2 / Midwest

BP – As of April 14 BP was in the midst of planned maintenance on a reformer at its 430,000-b/d Whiting, Ind., refinery, according to sources. Work on the unit, also known as the ultraformer, is expected to last about 45 days but could last as long as 70 days. The plant's total catalytic reforming capacity is 65,000 b/d, according to EIA.

As previously reported, BP wrapped up planned work the 240,000-b/d CDU at Whiting and was, as of April 8 returning overall production back to nameplate capacity. The refinery ran at approximately 350,000 b/d through the duration of the work on Pipestill 12. Maintenance on the larger of the refinery's two FCC units (110,000 b/d) is reportedly scheduled to take place over six weeks beginning in September.

BP/Husky – Trade sources told OPIS in mid-April that Q2 maintenance at the 160,000-b/d joint venture refinery in Toledo, Ohio, is due to begin in mid- to late-May and to last 45-55 days. Husky previously said the work would limit production to 25% of overall capacity.

CHS – Completion of the coker replacement on Feb. 5 at the company's 89,000-b/d refinery in McPherson, Kan., is allowing the plant to process a larger variety of crudes and to meet increased fuel demand, the company said on Feb. 17. Construction of the coker to replace the older 18,800-b/d unit began in March 2013. Meanwhile, an ongoing refinery expansion project should wrap up by Aug. 31, 2016.

CVR Energy – Poor gasoline margins spurred the company to advance by a week (to Feb. 20-21) the beginning of the second phase of a bifurcated turnaround at its 125,000-b/d refinery in Coffeyville, Kansas, top management said Feb. 18. The work is expected to last 30 to 35 days. Phase 1 of the turnaround began in second-

All refinery and processing unit capacity figures are given in barrels per stream day (as of Jan. 1, 2015) per the EIA Refinery Capacity Report from June 2015. Material is gathered from the best possible sources, but because of the reticence of many companies to confirm unit outages, it cannot be guaranteed.

half September and ended in mid-November. The next full-shutdown turnaround for the Coffeyville plant is scheduled to take place in Spring 2017.

Flint Hills – As of March 20, the company was repairing a coker unit at its 339,000-b/d Pine Bend refinery in Rosemount, Minn., according to a series of incident reports filed with regulators. The unit was forced into shutdown around March 14. The status of the unit wasn't known as of March 22 but traders told OPIS the plant was working through its operational issues.

Meanwhile, the refinery is set to begin planned turnaround maintenance on a crude unit on April 3, according to sources. The plant -- usually associated with the Group 3 spot market -- supplies Minnesota (including supplying large portion of the jet fuel used at Minn./St. Paul airport) and the upper Midwest.

HollyFrontier – As of Feb. 24, crude throughputs at the company's 141,000-b/d refinery in El Dorado, Kan., (together with those at the Navajo refinery in New Mexico) had been cut by "several thousand barrels per day," the company said, due to poor refining economics. Execs on a conference call didn't quantify the curtailments by refinery and characterized the reduction as minor. As previously reported, El Dorado underwent minor maintenance in November or December 2015, earlier than the turnaround that had been scheduled for Spring 2016.

Husky – As of April 15, the company's 170,000-b/d Lima, Ohio, refinery was still shut down amid maintenance work involving extensive work on multiple units, the company said. Work at the plant, completely off line since the second week of March, involves the full repair of an isocracker damaged in a January 2015 fire and the first stage of a crude flexibility project which will allow for the processing of up to 40,000 b/d of heavy crude by 2018. The turnaround is said to conclude in early May.

Northern Tier – The No. 2 crude unit turnaround at the company's 97,800-b/d St. Paul Park, Minn., refinery -- along with related organic growth projects -- is now scheduled for Fall 2016, the company said Feb. 25. As of early January, that work had been planned for Q2 and seen beginning in April. The No. 2 crude unit revamp

and distillate hydrotreater projects will lift throughput capability by 4,000 b/d and increase diesel recovery by 2%.

The replacement of a desalter for the No. 1 crude unit is seen wrapping up by the end of Q1, as planned. Replacement of a desalter for the No. 2 crude unit is now seen concluding in Fall, in tandem with the other No. 2 crude unit work.

Phillips 66 – As of April 13, planned maintenance was underway at the company's 330,000-b/d Wood River refinery in Roxana, Ill., according to a spokesperson. The work follows unit startup issues on April 12, which trade sources associated with complications ensuing from the refinery's attempts to resume normal rates following crude run cuts over a week. The April 2-10 shutdown of TransCanada's Keystone crude pipeline forced Phillips 66 to reduce runs.

Phillips 66 didn't specify the extent of the repairs and the units involved but trade sources previously told OPIS that it moved to engage in routine maintenance on at least a CDU, coker, and reformer unit during the week-plus downtime. Wood River (which Phillips 66 operates as a joint venture with Cenovus) primarily serves the Chicago spot market.

Valero – The company's 88,000-b/d refinery in Ardmore, Okla., is slated to see turnaround maintenance on a its crude distillation unit in March, sources told OPIS.

PADD3 / Gulf Coast

Alon – The company is moving ahead with the addition of a sulfuric acid alkylation unit at its 83,000-b/d Krotz Springs, La., refinery, executives said Nov. 2, 2015. The project is now in the engineering and procurement stage and is expected to be completed in 2017.

Chevron – The company's early spring maintenance turnaround at its 360,000-b/d refinery in Pascagoula, Miss., includes work on an 80,000-b/d FCC, sources told OPIS in late March. Chevron has been excessing high-sulfur VGO while the unit is down and is putting it into floating storage, the sources said. Begun in February, the turnaround on several processing units is expected to

continue into April. In February, Chevron told OPIS the turnaround should be completed in Q2.

CITGO – The company on April 18 began the process of shutting down Fluid Catalytic Cracking (FCC) Unit 2 for planned maintenance in the East Refinery of its refining complex in Corpus Christi, Texas. Market sources expect the planned maintenance to last at least a month. An alkylation unit also is expected to be taken offline in tandem with the FCC unit being offline.

Sources on April 18 were unsure whether CITGO had returned to service a 45,000-b/d coker in the West Refinery of the Corpus Christi complex. The coker was forced to shut on April 6 because of a minor leak in process equipment. The repairs were expected to take seven to 10 days.

***ExxonMobil** – A boiler servicing FCCU 3 at the company's 560,500-b/d Baytown, Texas, refinery was shut down on an unplanned basis on April 18, according to a filing with environmental regulators. As of April 19 the event was ongoing, with impact to production characterized as minimal. A company spokesman declined to comment on the status of the FCC's operations during repair of the boiler. As previously reported, a 20,000-b/d lube hydrotreating unit experienced a fire on April 7. As of April 13, repairs to that damage were ongoing.

Houston Refining – LyondellBasell's 302,300-b/d refinery in Houston is expected to reduce its operating rate by about 30% following the April 8 fire in a coker, sources told OPIS. The event at the heavy-crude-processing refinery, located near the Houston Ship Channel, is seen impacting production for about a month, they said.

Marathon Petroleum – A processing unit at the 481,000-b/d Galveston Bay refinery that was undergoing maintenance experienced a fire on Jan. 11, according to the company.

The blaze, which caused injuries to three contract employees, is under investigation. The unit involved was an FCC, multiple sources told OPIS.

Marathon Petroleum – Gasoline-focused expansions at the company's 561,000-b/d refinery in Garyville, La., in 2016 (involving FCC and alkylation units) are expected to conclude construction in September, based on the

timing in permit applications for work to increase gasoline blendstock supplies at the plant.

Motiva – The company's 255,000-b/d Convent, La., refinery, has begun startup procedures following planned maintenance work, a spokesman told OPIS on April 14, without specifying which units were involved. Reports indicate those units include a CDU and a reformer. As previously reported by OPIS, maintenance on a 150,000-b/d CDU began around March 10 and was slated to last through late April.

Motiva – As of March 8, the company had concluded planned maintenance on a crude unit at its 635,000-b/d refinery in Port Arthur, Texas, sources told OPIS, and was restarting the unit. That turnaround as well as work on several more units has been taking place over the past few months. In mid-March Motiva plans to take a hydrotreater offline for planned work lasting around four weeks, the sources said.

Pasadena Refining – A distillate hydrotreater at the 106,500-b/d PRSI refinery near Houston suffered a fire on March 5 that shut it and a gasoline hydrotreater next to it, according to the plant's owner, Petrobras. The rest of the plant is operating. As of March 7, there were no projected startup dates for the units and the cause of the fire was under investigation. Processing capacities of the units are 16,000 for the distillate unit and 34,000 b/d for the gasoline hydrotreater.

Phillips 66/Cenovus – Planned maintenance on one of two FCC units at the WRB joint venture's 154,000-b/d Borger refinery in northern Texas began on April 11, the company said in a filing with environmental regulators. The work is slated to last a week, and will include process changes in order to optimize operation. The plant, with total FCC capacity of 56,000 b/d primarily serves the Group 3 spot market. One week earlier, Phillips 66 (without identifying units) said planned maintenance was underway. March 29 saw the restart of an FCC after an operational glitch.

Total – Late March saw the company take a 60,000-b/d coker offline for planned maintenance at its 245,000-b/d Port Arthur, Texas, refinery, market sources told OPIS. The work, originally scheduled to begin in mid-April, was brought forward. The downtime is seen to have lowered crude processing rates at the refinery, which has in turn

reduced VGO production at the plant and prompted the purchase of VGO in the spot market.

Valero – The end of Q1 or early Q2 should see the start-up of a new crude topping unit at the company's 160,000-b/d Houston, Texas, refinery. Like a similar unit at Valero's Corpus Christi refinery (fired up in December 2015), the unit will process 90,000 b/d of light, sweet crude such as Eagle Ford and reduce demand for low sulfur residual fuel. In addition, the company expects to decide in Q1 whether to add a 13,000-b/d alkylation unit to the Houston plant.

Valero – As of about mid-March the company's 375,000-b/d Port Arthur, Texas, refinery was set to bring a hydrocracker on line, according to media reports. The unit had been shut in February.

Valero – As of Feb. 17, hydrocracker issues at the company's 220,000-b/d St. Charles refinery in Norco, La., had the plant producing excess amounts of sub-par-quality high-sulfur VGO, sources told OPIS. The hydrocracker had been down for planned maintenance and failed to restart as scheduled over Feb. 13-14.

Meanwhile, an expansion of hydrocracker capacity at the refinery should be completed by July. The project will increase St. Charles distillate yield by 23,000 b/d.

PADD4 / Rockies

Calumet – As of Feb. 18 the company had commissioned the new CDU at its Great Falls, Mont., refinery. The newly expanded refining capacity of 25,000 b/d (from 10,000 b/d) is expected to reach full rates by the end of March. A hydrocracker was also added to the refinery as part of the expansion project. According to Calumet, it has taken steps to significantly increase the amount of heavy Canadian crude it processes at Great Falls as well as its other refineries.

HollyFrontier – Company execs specified on Feb. 24 that planned maintenance on the FCC and alkylation units at the 52,000-b/d refinery in Cheyenne, Wyo., was to take place in April. No duration time frame was given but HollyFrontier previously said the work was estimated to last about one month.

HollyFrontier – Start-up timing for the 15,000-b/d capacity expansion at the company's 30,000-b/d Woods Cross refinery in Utah may have slipped by a few weeks. According to company comments on Feb. 24, construction and commissioning are to finish in Q1, with ramp-up seen taking place in Q2 and full rates achieved in Q3. Last fall, HFC said the ramp-up to full run rates was seen taking until Q2.

Meanwhile, the company has disclosed that the Woods Cross FCC and alkylation units will go into turnaround maintenance in October.

Phillips 66 – An upgrade of the vacuum tower at the Phillips 66 62,600-b/d Billings, Mont., refinery is being planned, the company said Oct. 12 in a disclosure about its capital spending plan for 2016. About \$400 million in discretionary spending of a total \$1.2 billion planned for refining has been allotted for work on the vacuum tower at Billings as well as modernization of the FCC at the Bayway refinery in New Jersey, along with other projects to improve product yields and lower feedstock costs. As of presstime, the timing of the Billings work wasn't known.

Wyoming Refining – The 14,500-b/d refinery in Newcastle, Wyo., owned by Black Elk Refining, is nearing the end of a project that is expected to put an additional 6,000 b/d of crude processing capacity into operation by the end of Q1.

PADD5 / West Coast

Alon – The company has deferred for now the possible restart of its shuttered 68,000-b/d refinery in Bakersfield, Calif., as well as construction of a crude oil rail terminal there. Executives said on Feb. 25 it was unlikely the projects would proceed "in the near future." The rail terminal received its permit in Sept. 2014 but crude by rail economics began deteriorating as crude values collapsed in 2015.

Restart of the refinery was to have followed completion of the rail terminal by about one year.

BP – As of March 4 the company's 225,000-b/d Cherry Point refinery in Blaine, Wash., was undergoing "minor work" on a flare gas recovery unit. The maintenance is

not having an impact on production rates, sources told OPIS. Mid-February had seen the company notify regional environmental regulators about upcoming scheduled maintenance. The units involved, as well as a time frame for completion, weren't known.

Chevron – The company reported flaring on April 14 from a mechanical failure at its 290,500-b/d El Segundo, Calif., refinery, according to filings with regulators. Although the notifications didn't specify the unit involved, sources told OPIS that the facility had a minor coker issue and was expected to reduce rates on the unit for some 24 hours.

The refinery recently wrapped up a round of planned maintenance, which was delayed from its initial April 1 end date. It was unknown whether the latest issue was tied to that work. The company notified regulators of anticipated flaring between April 7 and 12, which was said likely due post-turnaround restarts.

***ExxonMobil** – A problem with the alkylation unit at the company's 155,800-b/d refinery in Torrance, Calif., is expected to delay the planned startup for the FCC by a week, a source told OPIS on April 19. The restart target date is now May 2. The delay is not expected to impact the June 1 refinery handover date to PBF, the source said, adding that the FCC has to run two weeks at full rate in order to close escrow.

ExxonMobil received approval to restart the plant's gasoline production equipment from SCAQMD on April 2, more than a year after the equipment was shut. An explosion in February 2015 severely damaged an ESP associated with the FCC. An order of abatement allows ExxonMobil to begin restarting the FCC unit and ESP under strict conditions that would reduce the environmental impacts to the community.

Phillips 66 – February saw the conclusion of turnaround maintenance at the company's 128,000-b/d Rodeo, Calif., refinery that had begun on Jan. 8. The work involved the distillate hydrocracker and residual fuel hydrocracker.

Phillips 66 – Affs of late January, the company's 44,500-b/d Santa Maria refinery in Arroyo Grande, Calif., continues to operate at reduced rates because of the closure in May 2015 of the Plains All American pipeline after a rupture

and spill. The company characterizes the closure's impact to Santa Maria crude supply as 20,000-25,000 b/d, but says that increased truck delivery of crude has mitigated the impact to some 10,000-12,500 b/d. Together, the Rodeo and Santa Maria refineries make up one system. Rodeo upgrades semi-refined products from Santa Maria into various finished petroleum products for California markets.

Shell – As of March 28, the company had restarted a processing unit at its 158,000-b/d Martinez, Calif., refinery that had been shut for about 12 days, according to a report filed with local health officials. While the report didn't identify the unit, sources previously told OPIS it was a sulfur recovery unit. As previously reported by OPIS, the refinery has about a month of planned maintenance slated for early May involving crude and coker units.

Tesoro – The company's 72,000-b/d Kenai refinery in Alaska will shut temporarily for a spring turnaround, according to local media reports. The maintenance and upgrade work is said to take place around April or May and last some six to 10 weeks. It will include, per a consent decree with EPA, the installation of a flare gas recovery unit. The Kenai refinery's last turnaround took place in 2012.

Tesoro – The 276,000-b/d Carson portion of Tesoro's Los Angeles refinery suffered a fire on March 14 that occurred, according to sources, in a pipeline near a reformer unit and hydrotreater. Tesoro said refinery operations were unaffected. Notably, the refinery had a fire break out in November 2015 that prompted the shutdown of a reformer unit. It was unclear whether or not the March 14 incident involved the same unit, or if the two incidents were related. As previously reported, planned maintenance at both the Carson and 107,000-b/d Wilmington parts of the plant, begun in early February had been expected to conclude around March 10.


Tesoro – On March 2, the company notified local health officials of a "major unit startup" at its 170,000-b/d Golden Eagle refinery in Martinez, Calif. A Tesoro spokesman said the ramp-up followed minor maintenance that began on Feb. 26 but didn't disclose details on the unit or kind of maintenance performed. On Feb. 2 the company had said it was "just completing" a planned maintenance turnaround. Sources had told OPIS that the work involved a crude unit and an alkylation unit.

Valero – The late March restart of a 75,300-b/d FCC unit at the company’s 149,000-b/d Benicia refinery in the San Francisco Bay area of California likely signals that a large-scale planned maintenance turnaround at the plant is either nearing completion or has already wrapped up, sources told OPIS on March 29. Valero notified state emergency management officials on March 26 or 27 of flaring tied to a planned unit startup (without identifying the unit). Work on the FCC, an alkylation unit, a reformer, a gasoil hydrotreater, and a sulfur recovery unit was originally scheduled to conclude by around March 18.



Mark your calendar for these upcoming OPIS events!

We've got something for everyone, no matter where you fall on the fuel chain. Visit www.opisnet.com/events.aspx or call 888-301-2645 for complete information and to register.

 Refined Products


 Renewable Fuels

 LPG / NGLs

 Natural Gas

 Retail

 Seminar

 Conference

MAY

OPIS Mexico-U.S. Petroleum Summit: Spring Update



Understand the reforms underway in Mexico's energy markets and what opportunities they present for your business.

May 24-25, 2016
Hyatt Regency Houston Galleria
Houston, TX

JUNE

OPIS Mexico-U.S. LPG Congress



This event focuses on the amazing opportunities opening up for the LPG industry on both sides of the border as a result of Mexico's landmark Energy Reform.

June 8-9, 2016
Hyatt Regency
San Antonio, TX

SAVE THE DATE

OPIS 8th Annual RFS2, RINs & Biodiesel Forum

September 29-30, 2016 • JW Marriott Hotel • Chicago, IL



OPIS 18th Annual Supply Summit

October 10-11, 2016 • Fairmont Scottsdale Princess • Scottsdale, AZ



OPIS 5th Annual LCFS & Carbon Markets Workshop

December 8-9, 2016 • Parc55 Hotel • San Francisco, CA



ELEARNING

OPIS Basics of Fuel Buying



A complete online course on how to purchase physical fuel.