

Refinery Maintenance Report



A Comprehensive Listing of Planned and Unplanned U.S. Refinery Maintenance

January 7, 2019

*Updated

PADD1 / East Coast

PES – The larger of two FCCs at the 350,000-b/d Philadelphia Energy Solutions refinery had restarted as of Jan. 2, after six to seven days of repairs following leak, according to market sources. The unplanned shutdown was the second in two weeks during December.

As previously reported, the 85,000-b/d FCC was shut on Dec. 10 for repairs to associated equipment. Plans remain in place for a Q1 turnaround at the Girard Point section, said to get underway in mid-January and to involve the Girard Point crude unit, reformer, large FCC and possibly also the alkylation unit.

PADD2 / Midwest

BP – The smallest of the crude units at the company's 430,000-b/d Whiting, Ind., refinery is reportedly scheduled to undergo maintenance during March, according to Bloomberg.

As previously reported, The refinery carried out about eight weeks of turnaround maintenance beginning in mid-September. Units that saw work included the largest of three crude units, a coker and a sulfur treatment unit.

Between late November and Dec. 10 a desulfurization unit (blending oil unit) was down for unplanned work.

CHS – The company's 102,500-b/d refinery in McPherson, Kan., is said to have set turnarounds for the crude unit, FCC and alkylation units beginning in March and running into late April, according to Bloomberg.

CVR Refining – The company said in July 2018 that it is planning maintenance for its 78,000-b/d Wynnewood, Okla., refinery in Spring 2019. Details are so far sparse but the work was said to include catalyst replacement for the reformer. OPIS notes that the refinery underwent a full plant turnaround in Fall 2017.

ExxonMobil – The company's 275,000-b/d Joliet refinery in Illinois has scheduled a multi-unit turnaround for Spring 2019, market sources told OPIS, citing Energy News Today. Units to see maintenance beginning in end-March include the crude unit, FCC and alkylation unit. The work will mean both unit shutdowns and rate reductions for associated processes.

HollyFrontier – The crude unit and FCC at the East Plant of the company's refinery in Tulsa, Okla., are expected to see some six weeks of maintenance between mid-February and end-March, according to Bloomberg.

Husky – Fall 2019 maintenance at the company's 185,000-b/d refinery in Lima, Ohio, will include conclusion of another phase of the crude flexibility project there. Current heavy crude processing capacity of 10,000 b/d at Lima is to rise by 30,000 b/d by the end of 2019, after the maintenance.

As previously reported, the Fall 2018 turnaround involved work on the FCC and coker, and reduced crude runs to 40% of capacity. The work stretched from about mid-September to mid-November.

Husky – Winterization of the 50,000-b/d refinery in Superior, Wis. – shut following an explosion and fire involving the FCC and an asphalt tank on April 26, 2018 – was underway, company officials said on Oct. 25. At the same time, design work for the rebuild of the FCC and crude unit proceeds ahead of resumption of normal operations sometime in

All refinery and processing unit capacity figures are given in barrels per stream day (as of Jan. 1, 2018) per the EIA Refinery Capacity Report from June 2018. Material is from the best possible sources, but because of the reticence of many companies to confirm unit outages, it cannot be guaranteed.

2020. That rebuild will include the previously planned 5,000-b/d increase in heavy crude processing capacity, likely some de-bottlenecking, possible minor vessel upsizing and modernization of technology, Husky said.

Marathon Petroleum – A Nov. 29 pinhole leak at the company’s MPC’s 74,600-b/d refinery in Mandan, N.D., forced the shutdown of a unit for repair, according to a local media report. MPC declined to identify the unit. According to the report, the leak released a gas described by the plant’s spokesman as a “propane-type material.” The release prompted a temporary evacuation of non-essential employees from the refinery.

OPIS notes that unit shutdowns can mean a reduction in crude oil throughput for the duration of repairs.

Phillips - The company reported flaring Dec. 16 at its 330,000-b/d Wood River joint-venture refinery (with Cenovus) in Illinois, according to an environmental filing. The event occurred after the “loss of flare gas recovery machine,” the filing said. The filing said that operations quickly returned to normal.

Reports had indicated unplanned maintenance at the refinery on Oct. 30. Reports were that the smaller of two crude units was down, along with the smaller of two cokers. Repair duration wasn’t known.

PADD3 / Gulf Coast

Calumet – The company’s 60,000-b/d refinery in Shreveport, La., will undergo a “significant” turnaround in the second half of 2019. Start and end dates as well as scope were not known as of presstime.

As previously reported, Calumet acknowledged an “unplanned event” in Q2 2018 which coincides with OPIS reporting that the Shreveport facility experienced a power outage on May 4 that affected the refinery and the rack, reportedly resulting in allocation of gasoline supply for about two weeks. In addition, the refinery was to see ten days of planned maintenance in November or December 2018, according to the company.

***CITGO** – Reformer catalyst changeout at the company’s 163,500-b/d Corpus Christi, Texas, refinery has pushed a little further into Q1 2019, OPIS understands from market sources. About four weeks of work on the larger of the plant’s two reformers is now seen beginning mid-March instead of during February.

As previously reported, a sulfur recovery unit upset in late November 2018 resulted in the rate reduction for the unit, suggesting that crude runs were also reduced while SRU operations were restored.

Deer Park – Early January has seen a process upset as well as planned maintenance at the Shell-Pemex joint venture 340,000-b/d oil/chemical complex along the Houston Ship Channel, according to community hotline notices about flaring. The notices have not specified identified the units involved or whether they are at the refinery or the chemical plant. OPIS notes that no reports have been filed with TCEQ as of presstime.

The process upset occurred on Jan. 3. Notices of planned maintenance have been made to the hotline on succeeding days. It isn’t known whether the maintenance refers to repairs due to the upset or separate work.

OPIS notes Shell-Pemex reportedly shut the smaller of two crude units and a vacuum distillation unit on Dec. 10, market sources told OPIS. Duration of the work wasn’t known.

Delek – The company is planning a major Q1 2019 turnaround for its 85,000-b/d refinery in El Dorado, Ark., the duration of which was shortened by maintenance carried out in Q4. The original estimate for the Q1 work was 35-40 days.

OPIS notes Delek’s disclosure that the refinery’s 21,000-b/d FCC saw three weeks of work in Q3, accounting for the plant’s lower capacity utilization in the period.

Delek – The 6,000-b/d alkylation unit approaching Q1 2019 completion at the company’s 83,000-b/d refinery in Krotz Springs, La., will aid Delek in converting low-value product into gasoline and in the production of multiple summer gasoline grades and premium gasoline, company execs said on Nov. 7. They also disclosed, without elaborating, that the refinery’s 34,000-b/d FCC had undergone ten days of maintenance in Q3.

ExxonMobil – The smaller of two FCCs at the company’s 584,000-b/d Baytown refinery in Texas experienced a compressor shutdown of no less than 24 hours on Dec. 29, ExxonMobil reported to state environmental regulators. The FCC was returned to “normal operation,” according to the filing made on the 29th.

As previously reported, upcoming maintenance at the refinery will include work on the largest of three crude units as well as a sulfur plant and a Gofiner hydrotreater, according to market sources. The Q1 turnaround, seen lasting about four weeks is said by some to begin in January with other accounts putting the start in early February.

***ExxonMobil** – Unit ramp-ups at the company’s 380,900-b/d refinery in Beaumont, Texas, were underway as of Jan. 7, two days after they were idled due to steam loss. No estimate was available on when operations would return to normal but an ExxonMobil statement indicated the fire directly impacted only steam-producing equipment and not processing units.

A Jan. 5 fire at a transformer caused steam loss to the entire plant, leading to a shutdown with emissions from a number of areas/units and flares including the coker, FCC and Power Plant 4.

As previously reported, one of two diesel hydrotreaters at the refinery experienced a process upset on Dec. 31.

Flint Hills – A leaking pipe in the flare header system caused a Jan. 3 incident at the company’s 330,000-b/d refinery in Corpus Christi, according to a report to state environmental regulators. It took more than seven hours to repair the leak.

OPIS notes operators had discovered a leak in a sulfur recovery unit on Dec. 8 that upset operations. The event appeared to have also affected crude oil processing, with market sources noting that one vacuum distillation unit was out.

Houston Refining – Indications as of early January were that LyondellBasell was operating a recently restarted coker at its Houston refinery at about half capacity, a market source told OPIS. As previously reported, the larger of two cokers at

the 296,300-b/d refinery resumed operations around Dec. 20, some three weeks after the unit was shut after a fire.

OPIS notes the refinery had shut the coker and the smaller of two crude units in September for maintenance that ran through the end of October. Following the autumn turnaround, the refinery said it was “set up for virtually no planned maintenance” from July 2019 through 2020, according to the company, suggesting that first-half 2019 work was a possibility.

Motiva – The lube hydrocracker at the company’s 635,000-b/d Port Arthur refinery was shut after experiencing a process incident on Dec. 25 that caused several hours of flaring, a market source told OPIS, without indicating how long it would be down.

On Dec. 4, the refinery’s second-largest crude unit (of three) also experienced a process incident. The event resulted in flaring due to an equipment failure. The unit was stabilized. The operating status of the unit wasn’t clear from the report.

Pasadena Refining – The 115,700-b/d refinery on Houston’s Ship Channel reportedly took a vacuum distillation unit down on Dec. 27, a market source told OPIS. Duration of the unplanned outage wasn’t known as of presstime.

PBF Energy – The coker and at least one of two crude units at the company’s 197,000-b/d refinery in Chalmette, La., will go into turnaround in January, market sources told OPIS. Start and end dates weren’t known as of presstime.

As previously reported, PBF plans to restart an idled and smaller coker at the refinery by the end of 2019 and the work involves planned maintenance. Under previous ownership, the 12,000-b/d coker was shut “to avoid doing a turnaround,” meaning that \$72 million of the \$110 million expense of PBF’s restart will go to the turnaround, with the rest going to additional safety enhancements.

Phillips 66 – The company’s 154,000-b/d Borger refinery in the Texas Panhandle experienced emissions on Dec. 24 involving the gasoil hydrodesulfurization (GOHDS) unit. Six days earlier one of the FCCs experienced an operational event. The status of operations and any impact on fuel production was not made clear in the reports to state environmental regulators.

OPIS notes the company had previously reported an emissions event involving the cat and GOHDS flares on Dec. 11.

Phillips 66 – A tripped compressor in a coker unit at the company’s 269,400-b/d Sweeny refinery in Texas on Jan. 2 led to flaring, the company said in an environmental report. The company reported the unit was brought back on line a little over an hour later.

OPIS notes that seven to eight weeks of maintenance at the refinery is scheduled to begin at the end of January and includes work on one of two crude units as well as the coker. The crude unit going down is likely the smaller, following the mid-January to mid-February 2018 turnaround on the larger CDU.

As previously reported, Sweeny was carrying out in Fall 2018 an FCC optimization project to increase output of higher-octane gasoline and petrochemical products.

Project completion in mid-2020 could mean that Phillips 66 will schedule FCC maintenance in the first half of that year.

Shell - The company on Dec. 18 began to restart the 52,000-b/d hydrocracker unit at its 260,000-b/d Convent refinery in Louisiana, according to market sources. The unit had shutdown in mid-November for turnaround work. The project had originally been scheduled for June 2019.

Shell – The timing of the company’s early 2019 planned maintenance at its 250,000-b/d refinery in Norco, La., has moved into March and April from February, OPIS understands from a market source. Some six weeks of work on at least the FCC and alkylation units is now seen getting underway in mid-March, according to the source. June timing for turnaround of the refinery’s coker appears unchanged from earlier reports.

Total – Restart of the sulfur recovery unit at the company’s 245,000-b/d refinery in Port Arthur, Texas, was underway on Dec. 28, following an unplanned shutdown one day earlier, a market source told OPIS. Duration of the ramp-up wasn’t known as of presstime. OPIS understands that resumption of SRU operations will mean a return to full rates for the refinery’s crude units and FCC, which have been reduced since Dec. 27.

The refinery’s tail gas thermal oxidizer was shut to repair a leak on Dec. 9 for about a week. Before that, the SCOT unit (associated with the tail gas thermal oxidizer) was restarted Nov. 23-25 following repairs made after an Oct. 28 fire shut the unit.

Valero – For the third time in 30 days, a unit at the company’s 282,000-b/d Corpus Christi refinery experienced a loss of containment on Dec. 23, according to a filing made to TCEQ. On Nov. 28 the event involved a hydrodesulfurization unit; on Dec. 9 and on the 23rd, the loss took place at the sour water stripper. In all cases, affected equipment was isolated and repairs made. The operating status of the units and any impact on fuel production wasn’t clear from the reports.

As previously reported, Valero told local media that the refinery had a fire in a unit (not identified) on Nov. 28.

Valero - A Dec. 16 process upset and flaring was reported at the company’s 197,000-b/d Houston refinery, according to an environmental filing. The event occurred due to an unplanned shutdown of a compressor unit and involved the main flare and ULSD flare, the company said. The refinery resumed normal operations after the seven-hour event, according to the filing.

Valero – A sulfur recovery unit at the company’s 335,000-b/d Port Arthur refinery experienced a process upset on Dec. 4 that resulted in emissions over a 10.5-hour period, according to a report to state environmental regulators. Feed gas was removed from the unit and personnel “worked to restore normal operations,” the report said. The operating status of the unit and any knock-on effects to fuel production weren’t clear as of presstime.

Valero – Downtime for the end-December unplanned FCC outage at the company’s 200,000-b/d McKee refinery in Sunray, Texas, was estimated at ten days, ending around Jan. 7, market sources told OPIS.

The shutdown – said due to a leak – occurred on Dec. 28. Valero’s report to state environmental regulators didn’t identify the unit in its description of action taken, but elsewhere in the report the FCC flare was identified as the emission point.

Valero - A pump fire was reported at Valero's 231,000-b/d Texas City, Texas, refinery, on Dec. 14, according to a state environmental filing. The early-morning fire in Complex III was extinguished in an hour, according to the filing. Impact on operations was unclear.

Valero - The FCC at the company's 91,000-b/d Three Rivers refinery in Texas went down on an unplanned basis on Dec. 31, OPIS understands from a market source. The cause and duration of the shutdown weren't known as of presstime. In early November, a deasphalting oil treater was shut due to a leak on Nov. 3, 2018. Duration of the shutdown isn't known.

PADD4 / Rockies

Chevron - The company's 56,000-b/d Salt Lake City, Utah, refinery underwent Q4 planned maintenance between about mid-October well into November (along with 62,900-b/d ExxonMobil Billings), according to a Nov. 21 research note from Tudor, Pickering, Holt & Co. It's not clear which units were involved in the two turnarounds but EIA data show Rockies crude processing falling by at least 70,000 b/d in that period.

ExxonMobil - The company's 62,900-b/d Billings, Mont., refinery underwent Q4 planned maintenance between about mid-October well into November (along with 56,000-b/d Chevron Salt Lake City), according to a Nov. 21 research note from Tudor, Pickering, Holt & Co. It's not clear which units were involved in the two turnarounds but EIA data show Rockies crude processing falling by at least 70,000 b/d in that period.

HollyFrontier - As of Nov. 21, the company had put open rack fuel buyers on allocations in Salt Lake City, Utah, due to issues at its 41,400-b/d Woods Cross refinery, sources told OPIS. The nature of the production issues wasn't known as of presstime.

OPIS notes that repairs following a March 12 crude unit fire had the refinery operating at reduced rates in Q2 and through August, and then ramping up in September.

PADD5 / West Coast

Marathon Petroleum - The FCC at the company's 125,000-b/d refinery in Anacortes, Wash., was reportedly down in the last week of December, a market source told OPIS. Significant flaring was observed beginning on Dec. 25. Duration of the unplanned shutdown for repairs wasn't known as of presstime.

Marathon Petroleum - The company's 72,000-b/d refinery in Kenai, Alaska, reduced throughput on Nov. 30 in the wake of a magnitude 7.0 earthquake that struck near Anchorage (about 52 miles away). MPC made the cut (of unspecified scope) as part of its earthquake inspection response plan. No injuries or significant damage was reported. The Trans Alaska Pipeline System, transporting crude, was shut as a precaution pending an assessment for possible damage.

Marathon Petroleum - As of early November, the company's 383,000-b/d Los Angeles refinery had shut down the 36,000-b/d FCC at the Wilmington portion of the two-facility complex, company officials said. The idling - announced in May 2014 and initially targeting early 2017 - was part of the project to integrate the Wilmington and Carson plants. Carson continues to operate a 102,500-b/d FCC.

The move allows MPC to run another 40,000 b/d of distillates instead of gasoline, which is an advantage when "the market trades distillate higher than gasoline" and ahead of the IMO 2020 marine bunker fuel sulfur reduction expected to increase demand for diesel, the company said.

Par Pacific - Completion and start-up of the 10,000-b/d diesel hydrotreater at the company's Kapolei, Hawaii, refinery is now expected in Q3 2019, one quarter earlier, Par said in early November. OPIS notes that previous company comments suggested that 2019 turnaround work (on Island Energy crude and vacuum units being acquired) would coincide with the hydrotreater tie-in. After the acquisition the Kapolei complex will have 135,000 b/d of crude capacity.

In addition, the complex is to get a 10,000-b/d naphtha hydrotreater and a 6,500-b/d isomerization unit, Par said. The project will allow 6,500 b/d of currently exported products to be upgraded to gasoline and jet fuel; Q1 2021 is targeted for its start-up. The Par refinery last saw planned maintenance July 9-Aug. 9, 2016.

PBF Energy - The company experienced a chemical leak at its 170,000 b/d refinery in Torrance, Calif., on Dec. 22, involving the alkylation unit, according to local media reports. The leak of a gallon and a half of occurred while hydrofluoric acid was being offloaded from a tanker truck to a fixed tank, the reports said. No storm drains or waterways were impacted and local air quality district officials said no air quality complaints had been received.

As previously reported, a unit upset occurred at the refinery on Dec. 16. A company spokesman confirmed the event, which a source said was related to a hydrocracker issue. The spokesman would not disclose the impact on operations.

Shell - The company's 149,000-b/d refinery in Anacortes, Wash., is set to carry out planned maintenance on processing units including the FCC in February, perhaps beginning in late January, OPIS understands from a market source.

As previously reported, the refinery proactively shut processing units at Anacortes Oct. 10-14, 2018 due to an issue with an offsite natural gas line