MEMORANDUM

TO: Senator Grassley
FROM: Grassley Energy Policy Staff
RE: RINs & PES
DATE: February 5, 2018

On January 22, 2018, Philadelphia Energy Solutions Inc. (PES), the 10th largest refinery in the country, which has been in operation since 1870, filed for Chapter 11 bankruptcy protection in Delaware.

PES History

In 2011, Sunoco Inc. announced it was exiting the refining business as it had lost money on oil refining eight of the previous 10 quarters.[1] Sunoco's two refineries that make up PES today were sold/reconstituted as part of a transaction in 2012 which included $25 million from taxpayers, environmental waivers, and a reported investment of nearly $750 million from private equity firm Carlyle Group.[2] Sunoco contributed its plant, property, and equipment which had a carrying value of $46 million, and received an approximate 33% non-operating minority interest in the new PES entity.[3] Today, the PES refining site consists of 1,300 acres with the capacity to process 335,000 bpd of crude oil.

Sunoco invested an estimated $250 million per year to upgrade the refining complex from 2005-2011. Additionally, from September 8, 2012, through March 31, 2015, PES made $516.3 million of additional capital investments to upgrade and maintain the Philadelphia refining complex. The investments included $185.9 million for the construction and subsequent expansion of the North Yard terminal to 280,000 bpd to access higher volumes of domestic crude oil[4] which would mainly come from the Bakken region in North Dakota.

In 2015, PES tried to go public with a $250 million IPO that valued the overall company at $1.3 billion.[5] However, investors reportedly balked at the high valuation price and PES eventually decided to postpone its offering.

RFS & RINs

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[1] Gilbert D. (2011, September 7) Sunoco to Quit Oil Refining Business. *Wall Street Journal* Retrieved online from*:* *https://www.wsj.com/articles/SB10001424053111904537404576554291631658986*
[2] Renshaw J., & Resnick-Ault J. (2016, November 7). Four years after rescue, U.S. refinery reels as investors profit. *Reuters* Retrieved online from https://www.reuters.com/article/us-usa-refinery-debt/four-years-after-rescue-u-s-refinery-reels-as-investors-profit-idUSKBN1320H0
[3] Sunoco Inc., Form 10-Q for quarter ending June 30, 2012. Retrieved from SEC EDGAR website
[4] Philadelphia Energy Solutions Inc., Amendment No. 7 to Form S-1, Page 5, *Girard Point and Point Breeze*, Retrieved from SEC EDGAR website
[5] Renshaw J., (2016, September 14) Philadelphia Energy Solutions ends bid to go public *Reuters* Retrieved online from https://www.reuters.com/article/us-pes-ipo/philadelphia-energy-solutions-ends-bid-to-go-public-idUSKCN11K25W

PES has pinned blame for its recent financial woes on the Renewable Fuels Standard (RFS) and the compliance mechanism, which requires obligated parties (refiners and fuel importers) to obtain the appropriate number of Renewable Identification Number credits (RINs) to comply with blending mandates of the RFS each February. RINs were launched in 2010 by the Environmental Protection Agency (EPA).

PES is an obligated party; all obligated parties have two options for attaining RIN credits:

1) Invest in blending infrastructure and receive separated RINs when renewable fuels are blended; or

2) Purchase RINs from other parties that blend biofuels through the RIN marketplace, which is operated by the Environmental Protection Agency (EPA).

Collectively, $2.016 billion was spent upgrading the PES facility during the decade that ended March 31, 2015. However, PES apparently chose not to invest in sufficient blending infrastructure to acquire Renewable Identification Numbers (RINs) through blending biofuels.

PES has stated it is forced to buy RINs to comply with the RFS because it cannot generate them, yet it reportedly sold 40 million RINs in the fall of 2017.[6] That is very odd considering RINs are turned into the EPA in February to comply with the RFS. **Some have pointed out PES is likely trying to short the RIN market by selling ahead of what PES believes will be decisive federal action that will lower RIN prices.** If the bet is correct, PES could buy RINS back at a cheaper price before the compliance deadline and may profit from this short strategy. Recent news reports indicate PES was granted a 30 day extension for RIN compliance by the EPA.

Numerous studies have shown RINs do not impact the profitability of refiners and the costs are passed onto consumers. The studies include:

1. Wells Fargo Equity Research: **Independent Refiners: The Crack Ate My RINs—Policy and Profit Implications**, November 16, 2017

    - *"Unlevel Playing Fields. Operational issues associated with RINs and point of obligation (POO) exist. Merchant Independent Refiners remain relatively disadvantaged versus their more integrated peers. These disadvantages will/have narrow(ed) as the financial incentive to 'build out' wholesale infrastructure persists."*

2. Harvard University: **The Pass-Through of RIN Prices to Wholesale and Retail Fuels under the Renewable Fuels Standard**, June 2015

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[6] Renshaw J., & Prentice C. (2017, November 14) Struggling Philadelphia refiner sells biofuel credits, raises cash: sources. *Reuters* Retrieved from https://www.reuters.com/article/us-refineries-biofuels-philadelphia/struggling-philadelphia-refiner-sells-biofuel-credits-raises-cash-sources-idUSKBN1DE2UU

- *"One implication of these results, discussed in detail in Burkholder (2015), is that an obligated party with a net RIN obligation, such as a merchant refiner, is able to recoup their RIN costs on average through the prices they receive in the wholesale market, although this mechanism would not be apparent on the balance sheet of the obligated party because there is no explicit revenue line item offsetting the explicit cost of purchasing RINs. Even with full passthrough, however, an obligated party could face RIN price risk because of timing differences between when the RIN obligation is incurred and when RINs are acquired."*

3. CARD Policy Briefs: **Impact on Merchant Refiners and Blenders from Changing the RFS Point of Obligation**, December 2016

    - *"The key point that is neglected in the arguments of those who want to move the point of obligation is that added refiner costs from complying with the RFS are passed on to blenders through higher gasoline prices."*

Reasons PES Likely Filed For Bankruptcy Protection

1) Following a global collapse in crude oil prices in late 2015 and early 2016, producers in the Bakken, which was the predominate supplier of PES crude oil, suddenly found it uneconomic to continue producing in certain of the higher-cost fields in the region and, as a result, production declined by approximately 25% from over 1.2 million barrels per day in late 2015 to less than 1.0 million barrels per day in late 2016.

2) At approximately the same time, new pipeline capacity was put in service to connect the Bakken region to the U.S. Gulf Coast, providing crude oil producers with alternatives, and the U.S. government unexpectedly lifted the 40 year-old domestic crude oil export ban in late 2015.

3) As a result of these factors, producers in the Bakken had less crude oil to sell and were now free to export this crude oil to foreign refiners who, unlike PES, were not burdened by higher transportation costs associated with the requirement of the Jones Act. It became cheaper to transport crude oil from North Dakota to points in Western Europe than it was to transport the same crude oil to Philadelphia.

4) Moreover, when the Dakota Access pipeline opened in June of 2017, rail shipments of Bakken crude to East Coast refiners ended, depriving PES of profitable crude oil feedstocks.

    a. In 2014, PES processed 13.9% of the total Bakken crude shale from North Dakota.[7] This change likely nullified some of expected value from the $185.9 million spent to increase rail oil handling capacity at PES.

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[7] Philadelphia Energy Solutions Inc., Amendment No. 7 to Form S-1, Page 27 *A material decrease in crude oil production in the Bakken region could result in a material decrease in the volume of attractively priced Bakken crude oil processed by Refining.* Retrieved from SEC EDGAR website

5) With the crude oil export ban lifted, this combination of curtailed crude oil production in the Bakken along with cheaper transportation via a combination of new pipelines and foreign-flag vessels to foreign refiners, provided producers in the Bakken with a higher realized price for crude oil than they could achieve by selling to PES.

6) For over eight years since RINs were introduced, PES has apparently chosen not to invest in renewable fuel blending infrastructure or strike a deal that enables it to attain RINs at lower prices.

a. In 2010, the EPA estimated the cost of blending infrastructure to be roughly 9.6 cents per gallon of ethanol. According to industry experts, **PES could have invested around $40 million to build the blending infrastructure needed to secure its required RINs by blending biofuels. Instead, PES has spent a reported $832 million buying RINs since 2012.**[8]

b. Other merchant refiners such as Tesoro and Western Refining (now andeavor) have all made investments or entered into agreements with blenders to limit RIN costs.

c. PES already sells ethanol to Sunoco for blending with motor fuel.[9] Other independent refiners have agreements to provide blenders/marketers with both the ethanol and gasoline required for blending. In those agreements, the RINs attached to the provided ethanol are usually returned to the refiner. Why would this not be the case with the PES-Sunoco agreement?

Conclusion

The publicly available evidence points to the fact that PES finds itself in financial difficulty due primarily to changes in its available feedstocks and other management decisions. It does face a problem of having to acquire RINs to meet the looming RFS compliance deadline, but that is due in large measure to its reported decision last fall to sell off the RINs it had acquired, presumably in hopes of being able to buy them back at lower cost before the compliance deadline. Moreover, if PES had taken the sensible approach of other merchant refiners and invested in ethanol blending infrastructure or partnered with a blender, it appears it would have no need to purchase RINs at all.

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[8] Carey, K (January 27, 2018) Refinery Blues: As Philadelphia Energy Solution files for bankruptcy, unions eye uncertain future. *Delaware County Daily Times* Retrieved from: http://www.delcotimes.com/article/DC/20180127/NEWS/180129681

[9] Sunoco LP, Form 10-K for Fiscal Year Ended: December 31, 2016. Page 71, *Related Party Agreements*, Retrieved from SEC EDGAR website