

PARKLAND FUEL CORPORATION UNDERTAKING NO. 5

Hearing Date: July 17, 2019

Transcript Reference: Volume 1, Page 223, Line 20 to Page 224, Line 11

Requestor: Commissioner Cote

Witness: Dr. Kahwaty

Request: In Dr. Kahwaty's view, what would be a reasonable average or median profit margin for a refinery?

Response:

My report cited to the Canadian Fuels Association's description of the refining business as being a "low return, low growth, capital intensive, politically sensitive and environmentally uncertain" business.¹ I also indicated that the profit margins for refineries are generally relatively thin, ranging between 1 and 10 percent of gross revenues, citing to a study by Robert Clews.² These comments relate to the petroleum refining industry generally, and the margins earned at a specific facility need to compensate the owners of that facility for both the general industry risks and the facility-specific risks they face, which vary from refinery to refinery, and for their invested capital. Nevertheless, I indicated in my testimony that a reasonable way to think about Commissioner Cote's question was to compare profit margins in petroleum refining to profit margins in other, similar industries.

Several sources are available that provide profit margins for different industries in North America to facilitate such a comparison. Refineries are a highly capital intensive business, have a low per-unit margin, and utilize commodities as inputs in a high-volume production process. A producer in an industry such as this must have sufficient margins and sell a sufficient volume of product to cover its capital costs or, in the long the run, the facility will not be profitable and will be forced to shut down. Industries used for comparison purposes must share these characteristics.

Capital IQ provides data for the petroleum refining industry and other industries, including fertilizers and agricultural chemicals, commodity chemicals, and steel. The margins used in its calculations are company-wide and are not margins for specific facilities. The Capital IQ data show that petroleum refiner profit margins are lower than those of these comparable industries, though the differences vary by industry and by the time period considered. As detailed in **Table 1**, the Petroleum Refining industry in

¹ "The Economics of Petroleum Refining," Canadian Fuels Association, December 2013, p. 4.

² Clews, Robert, Project Finance for the International Petroleum Industry, Elsevier, 2016, pp. 125-126.

the United States and Canada had an average profit margin of 4.62% from 2015 - 2018, while these other industries had an average profit margin of 9.79%.

Table 1
Capital IQ Average EBIT Margins
Select Industries, Region: United States and Canada
2015 – 2018

Industry Name	2015	2016	2017	2018	Average
Fertilizers and Agricultural Chemicals	23.50%	13.30%	12.10%	10.30%	14.80%
Commodity Chemicals	7.51%	8.31%	10.50%	8.59%	8.73%
Steel	4.68%	5.80%	4.98%	7.95%	5.85%
Petroleum Refining	6.86%	2.65%	3.60%	5.36%	4.62%
Average Excluding Petroleum Refining	11.90%	9.14%	9.19%	8.95%	9.79%

Note: Capital IQ classifies companies into various industries using its own “Primary Industry Classification System” (PIC). The PIC classifications are based on, and can be mapped back to, SIC and NAICS codes. According to Capital IQ, companies are assigned to industries based on the industry which best matches its principal business activities. Financial information reported is derived from company level data, meaning performance metrics such as EBIT margins capture all business activities not just those under the specific industry classification.

Source: Compustat Operating Metrics and Ratios, Capital IQ; “A guide to Industry additions for Market Intelligence products,” S&P Global – Capital IQ, available at <http://pages.marketintelligence.spglobal.com/rs/565-BDO-100/images/MI-Platform-Industry-Classification-Changes.pdf>.

IBISWorld similarly provides data that allows for a comparison of average profit margins for petroleum refiners to other capital-intensive businesses producing high volumes of products from commodity inputs. These data are summarized in **Table 2**.

Table 2
IBISWorld Average Profit Margins
Select Industries, Region: United States
2018 – 2019

Industry Name	2018	2019	Average
Chemical Manufacturing	6.70%	n/a	6.70%
Inorganic Chemical Manufacturing	6.84%	6.54%	6.69%
Iron and Steel Manufacturing	5.12%	8.06%	6.59%
Fertilizer Manufacturing	5.39%	n/a	5.39%
Petroleum Refining	5.21%	4.69%	4.95%
Average Excluding Petroleum Refining	6.01%	7.30%	6.66%

Source: "Petroleum Refining in the US," IBISWorld, March 2018, p. 4; "Iron & Steel Manufacturing," IBISWorld, October 2018, p. 4; "Inorganic Chemical Manufacturing," IBISWorld, December 2018, p. 4; "Petroleum Refining in the US," IBISWorld, April 2019, p. 4; "Inorganic Chemical Manufacturing," IBISWorld, May 2019, p. 4; "Fertilizer Manufacturing," IBISWorld, December 2018, p. 4; "Chemical Product Manufacturing,"

IBISWorld, December 2018, p. 3; "Iron & Steel Manufacturing," IBISWorld, April 2019, p. 4.

Though the figures reported by these two sources differ because of the specific methodologies they use, they both report average profit margins for petroleum refining that are below the average profit margins in other industries with similar production characteristics.