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October 4, 2019
File No.: 305706.00025/14797

By Electronic Filing

British Columbia Utilities Commission
Suite 410, 900 Howe Street
Vancouver, BC V6Z 2N3

Attention: Patrick Wruck, Commission Secretary

Dear Sirs/Mesdames:

Re: British Columbia Utilities Commission – An Inquiry into Gasoline and Diesel Prices in British Columbia – Project No. 1599007
Parkland Fuel Corporation ("Parkland") Responses to BCUC Information Request No. 1

We enclose, on behalf of Parkland, responses to the BCUC's information requests in Exhibits A-33. The responses were prepared by Dr. Kahwaty.

Yours truly,

FASKEN MARTINEAU DuMOULIN LLP

[Original signed by]

Matthew Ghikas
Personal Law Corporation

MTG/lh
Enclosure

PARKLAND FUEL CORPORATION RESPONSE TO BCUC QUESTIONS

Request Date: September 30, 2019

Request Document: Exhibit A-33

Witness: Dr. Kahwaty

Questions: **1.0 Reference: Exhibit C5-30, Figures 1–3, pp. 8–12 | Refining Margins in BC and Other Provinces**

1.1. The Alberta, Saskatchewan and Manitoba wholesale prices plotted on the graphs above appear to be identical based on a visual comparison of the graphs. Please confirm, or otherwise update, the accuracy of the data underlying these graphs.

1.2. There is an increasing trend in the monthly differences between refining margins in BC and each of the other three provinces over time from January 2015 to September 2019. Please provide an explanation for this trend.

2.0 Reference: Exhibit C5-30, p. 2, Figures 4–14, pp. 23–35 | The Regression Between Vancouver Rack Prices and PNW Spot Prices

2.1 Please explain how to interpret the value of the intercept "+20.801."

3.0 Reference: Exhibit C5-30, p. 36 | Marginal Source of Supply

3.1 Please explain over what time frame would a supply source be considered marginal. (i.e. a day, a week, a month?)

3.1.1 Consider an example where only one barrel per day is trucked from the PNW (at a higher cost) while all other barrels from the PNW were barged (at a lower cost). Would that one barrel shipped by truck be considered the marginal source of supply every day for the purpose of setting the wholesale price in the BC market? Please explain.

3.1.2 Consider another example where barged product from the PNW is sufficient to balance supply and demand for most days of a given month except for a few days when trucked product is also needed to balance the market. Would trucked product be considered the marginal source of supply for the whole month or only on those days that it is required to balance the market? Please explain.

3.1.3 Which of the two above examples best represents the BC situation? Please elaborate.

3.1.4 If one barrel shipped by the marginal method of transportation (highest cost) is all it takes to set the wholesale price for the BC market, why would it not become an incentive to have recourse to such transportation method strategically once a day, rather than as sparingly as possible?

3.2 Please state which supply source and which transportation method should be considered the marginal source of supply for the BC market. Please provide data to support your response and indicate whether this marginal source of supply is Parkland's marginal barrel or BC's marginal barrel.

4.0 Reference: Exhibit C5-30, p. 44; British Columbia Utilities Commission Final Report, Appendix D, Table 12
Retail Market Control

4.1 In light of the regulations in those three provinces, please explain why a regulatory body should only be concerned with the retail or the wholesale part of the vertical chain of production.

Response:

Response to Question 1.1

The Alberta, Saskatchewan and Manitoba refining margins presented in Figures 1-3 of my September 23, 2019 supplemental report,[1] now marked as Exhibit C5-30, may appear to be identical based on a visual comparison of the graphs but are not. These data were sourced from the Kent Group.[2] The monthly refining margins for British Columbia, Alberta, Saskatchewan, and Manitoba were calculated by subtracting average monthly crude prices from the average monthly wholesale prices for each province. The crude prices used in the calculations were the same for each of the four provinces.[3] The wholesale prices used in the calculations were the simple weighted wholesale prices reported by the Kent Group for each province.[4] The Kent Group

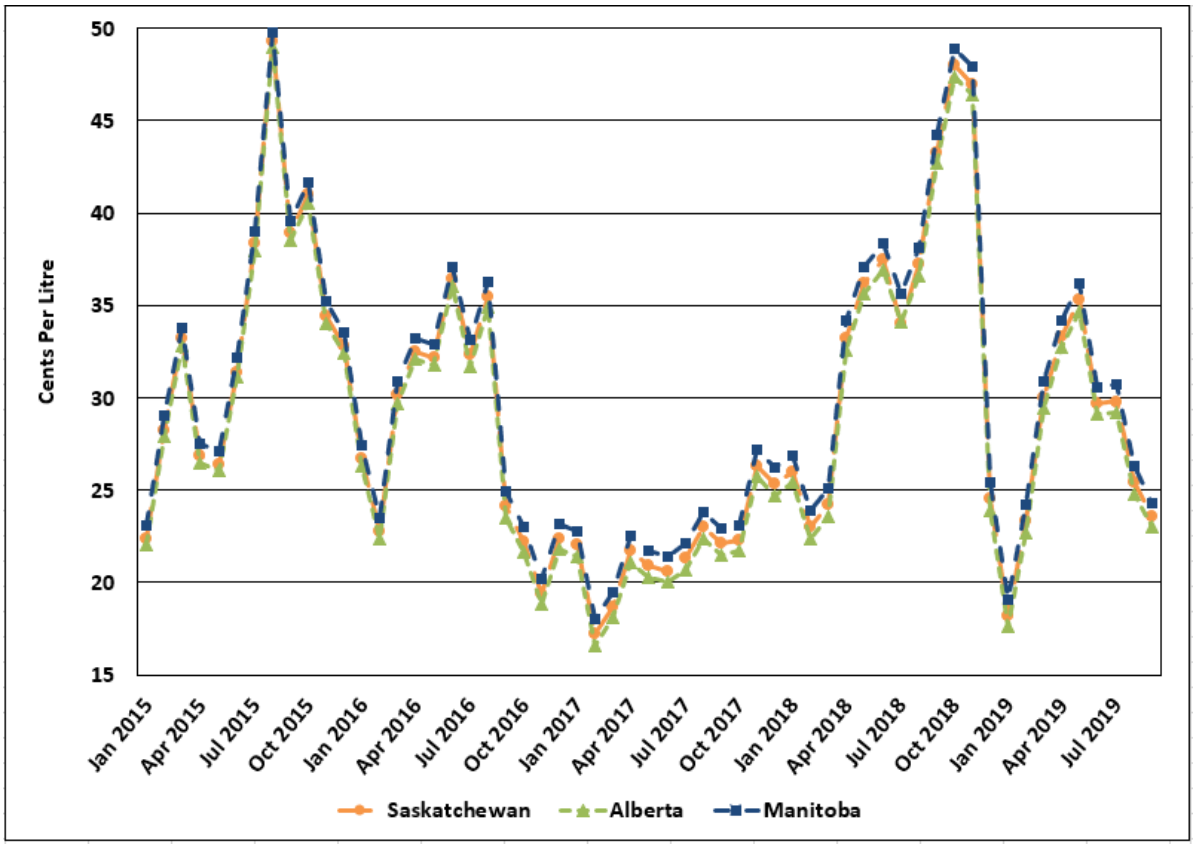
[1] Supplemental Report of Henry J. Kahwaty, September 23, 2019, British Columbia Utilities Commission An Inquiry into Gasoline and Diesel Prices in British Columbia, Exhibit C5-30. Hereafter, the "Kahwaty Supplemental Report".
[2] Kent Petroleum Price Data, Kent Group Ltd., available at https://charting.kentgroupltd.com/.
[3] This crude price is referred to as the western crude average by the Kent Group. *See* Kent Group, Ltd. – Wholesale Crude Sources, available at https://www.kentgroupltd.com/wp-content/uploads/2019/04/WholesaleCrudeSources.pdf.
[4] Kent Petroleum Price Data, Kent Group Ltd., available at https://charting.kentgroupltd.com/.

collects wholesale prices directly from wholesalers in 24 Canadian cities, including Vancouver, Nanaimo, Prince George, Kamloops, Calgary, Edmonton, Regina, Saskatoon, and Winnipeg.[5]

The Alberta, Saskatchewan and Manitoba refining margins are highly correlated but are not identical. While the crude prices used for the calculations were the same for all the provinces shown, the wholesale prices were not. In all the months studied, the wholesale price is highest in Manitoba, lower in Saskatchewan, and lowest in Alberta. Over the period of January 2015 to September 2019, on average, the monthly wholesale price and refining margin are 0.8 cents per litre higher in Manitoba than in Saskatchewan and 0.5 cents per litre higher in Saskatchewan than in Alberta. This is consistent with the Kahwaty Supplemental Report, which states that the average monthly differences between refining margins in BC and Alberta, Saskatchewan and Manitoba are 8.2, 7.7, and 6.8 cents per litre, respectively, over the same period.[6] **Figures 1 and 2** below show the monthly refining margins in Alberta, Saskatchewan, and Manitoba. **Figure 1** covers January 2015 to September 2019, while **Figure 2** is a subset of the data covering September 2018 to September 2019. The differences in the data can be more easily seen in the narrower time period.

[5] Kent Group, Ltd. – Wholesale Crude Sources, available at https://www.kentgroupltd.com/wp-content/uploads/2019/04/WholesaleCrudeSources.pdf; The Kent Group, Ltd. – Methodology Notes, available at http://www.kentgroupltd.com/methodology-notes/.
[6] Kahwaty Supplemental Report, pp. 8-11.

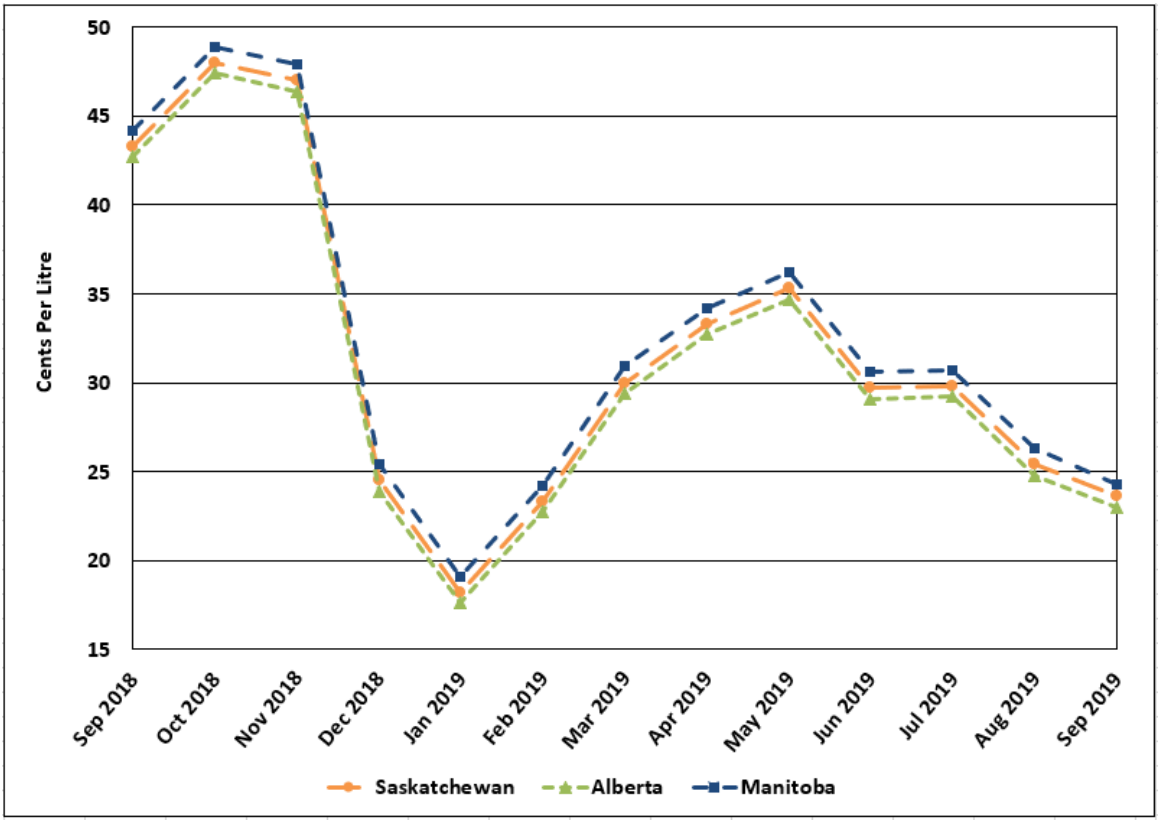
Figure 1
Monthly Refining Margins for Regular Unleaded Gasoline in Alberta, Saskatchewan, and Manitoba
January 2015 – September 2019



Note: Monthly refining margins are calculated using simple average crude and wholesale prices. September 2019 margins are based on data through September 12, 2019.

Source: Kent Petroleum Price Data, Kent Group Ltd., available at https://charting.kentgroupltd.com/.

Figure 2
Monthly Refining Margins for Regular Unleaded Gasoline in Alberta, Saskatchewan, and Manitoba
September 2018 – September 2019



Note: Monthly refining margins are calculated using simple average crude and wholesale prices. September 2019 margins are based on data through September 12, 2019.

Source: Kent Petroleum Price Data, Kent Group Ltd., available at https://charting.kentgroupltd.com/.

Response to Question 1.2

There has been an increasing trend in the monthly differences between the refining margins in BC and each of the other three Western Canada provinces over the past several years. There has also been volatility in these differences, which have increased and decreased over different time periods. There are several explanations for why the gap between wholesale prices in BC vs. other Western Canada provinces has generally widened since 2015. These explanations have been offered by multiple parties throughout this Inquiry. I provided an Expert Report in this Inquiry on June 27, 2019 (the "Kahwaty Report") and provided hearing testimony and an accompanying presentation on July 17, 2019 (the "Kahwaty Testimony" and the "Kahwaty Presentation"). In the Kahwaty Report, I explain how the markets for gasoline and diesel in BC differs from

other parts of Canada and North America.[7] These differences offer some explanation of the trend above. Additionally, in the Kahwaty Report and the Kahwaty Presentation, I explain the factors which have contributed to the increase in retail gasoline and diesel prices in BC since 2015.[8] Some of these factors are specific to the BC refining and wholesale market and provide additional reasons for the trend. In particular, I have stressed the reduction in the capacity available on TMPL to import refined products into BC from Edmonton.[9]

Refiners active in the BC wholesale market have also submitted evidence relating to this trend. For example, Imperial Oil indicated that changes in BC in the last five years include "increased regulatory compliance obligations and costs" and increased "finished product movements to British Columbia by rail and marine vessel" as a result of pipeline apportionment.[10] Similarly, Suncor mentioned "[d]oing business in BC has become more costly and complex over the past five years" as a result of "transportation costs" and "regulatory compliance costs."[11] Suncor also noted increases in real estate costs at its British Columbia terminalling facilities.[12] I note that I have not reviewed confidentially submitted evidence and therefore cannot comment on whether any of this additional evidence available to the BCUC relates to increases in the BC refining margin relative to those in these other provinces.

In the Kahwaty Supplemental Report, I discussed one of the key distinctions between the wholesale markets in BC and those in the other Western Canada provinces to be the availability of low-cost transportation capacity to facilitate the importation of low-priced refined products from elsewhere, especially from Edmonton.[13] As I have previously discussed, since 2015 there has been decreasing availability of low-cost pipeline capacity for shipping refined product (and crude oil) into BC – especially in 2017, 2018, and 2019. The limitations on import capacity are an important part of the explanation for the increase in the difference between the BC refining margin and refining margins in other Western Canada provinces but are not the only explanation.[14]

The issue of Trans Mountain Pipeline ("TMPL") allocation and its contribution to higher wholesale prices in BC since 2015 has been addressed by market players in addition to

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[7] Kahwaty Report, Section IV B.
[8] Kahwaty Presentation, p. 24; Kahwaty Report, Section IV E.
[9] Kahwaty Report, pp. 38-42, 85; Kahwaty Presentation, p. 12; Kahwaty Supplemental Report, pp. 15-17.
[10] Imperial Oil Responses to Questionnaire, BCUC Inquiry into Gasoline and Diesel Prices in BC, Exhibit C8-2, June 27, 2019, p. 3.
[11] Suncor Energy Final Submission, BCUC Inquiry into Gasoline and Diesel Prices in BC, August 8, 2019, p. 3.
[12] Suncor Additional Intervener Evidence, BCUC Inquiry into Gasoline and Diesel Prices in BC, Exhibit C2-15, September 24, 2019, p. 3.
[13] Kahwaty Supplemental Report, p. 14.
[14] My response to question 1.2 is not meant to be a comprehensive summary of all the possible explanations to the refinery margin trends which have been offered during this Inquiry.

being addressed in my evidence. For example, Imperial Oil's response to BCUC's initial questionnaire mentions that "as a result of pipeline apportionment on the Trans-Mountain Pipeline, Imperial has…increased the amount of refined products it ships to British Columbia by rail and marine vessel, which are typically more expensive means of transportation than transportation by pipeline."[15] Additionally, Suncor's Final Argument in this inquiry states:

> Several interveners provided testimony regarding the logistical constraints affecting Vancouver in particular as a result of capacity limitations on the TMPL: expanding rail facilities, finding storage for rail cars, access to the local market (i.e., getting from storage to a terminal to serve the local market). All of these constraints add to the cost of doing business in Vancouver… The TMPL is the only pipeline that carries petroleum products from Alberta to the interior of BC and Vancouver. TMPL is oversubscribed and under apportionment. Changes in 2015 to the allocation process for acquiring pipeline space have resulted in less refined products being shipped on TMPL. Market economics favour shipping crude over refined petroleum products, which, in conjunction with the purchase by crude shippers of additional pipeline space in the secondary market and the revised allocation methodology, has diluted the share of line space allocable to refined product shippers. This means that refined product shippers are required to move their products using more expensive transportation, such as rail and truck.[16]

As I stated in my Supplemental Report, the use of the TMPL to import refined products into BC for local consumption was greater in 2015 than in any of the prior seven years and has fallen by about half since then.[17] This is shown in **Figure 3** below, which is reproduced from the Kahwaty Presentation.[18] **Figure 4,** which is reproduced from the Kahwaty Report,[19] shows the overall downward trend of the TMPL quarterly throughput allocated to refined products since 2015.

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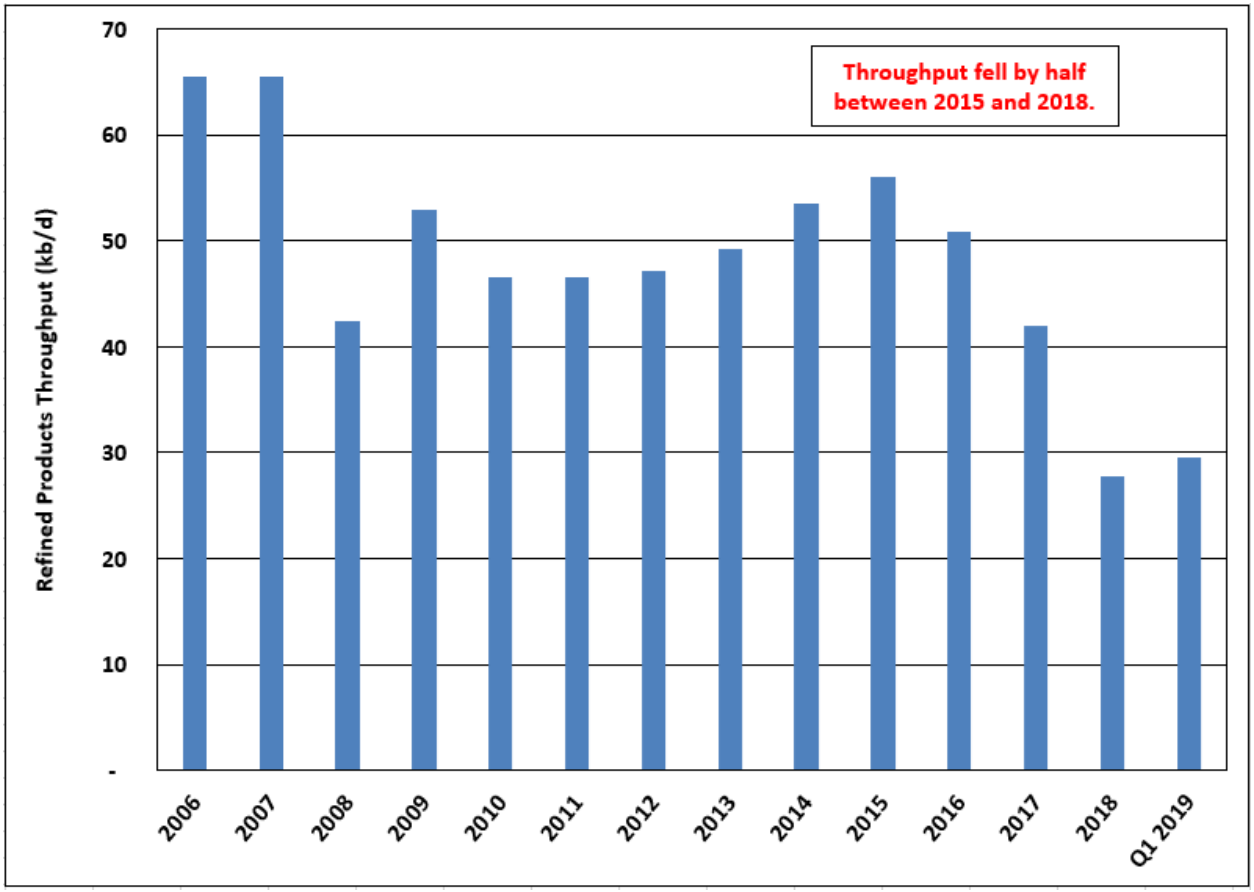
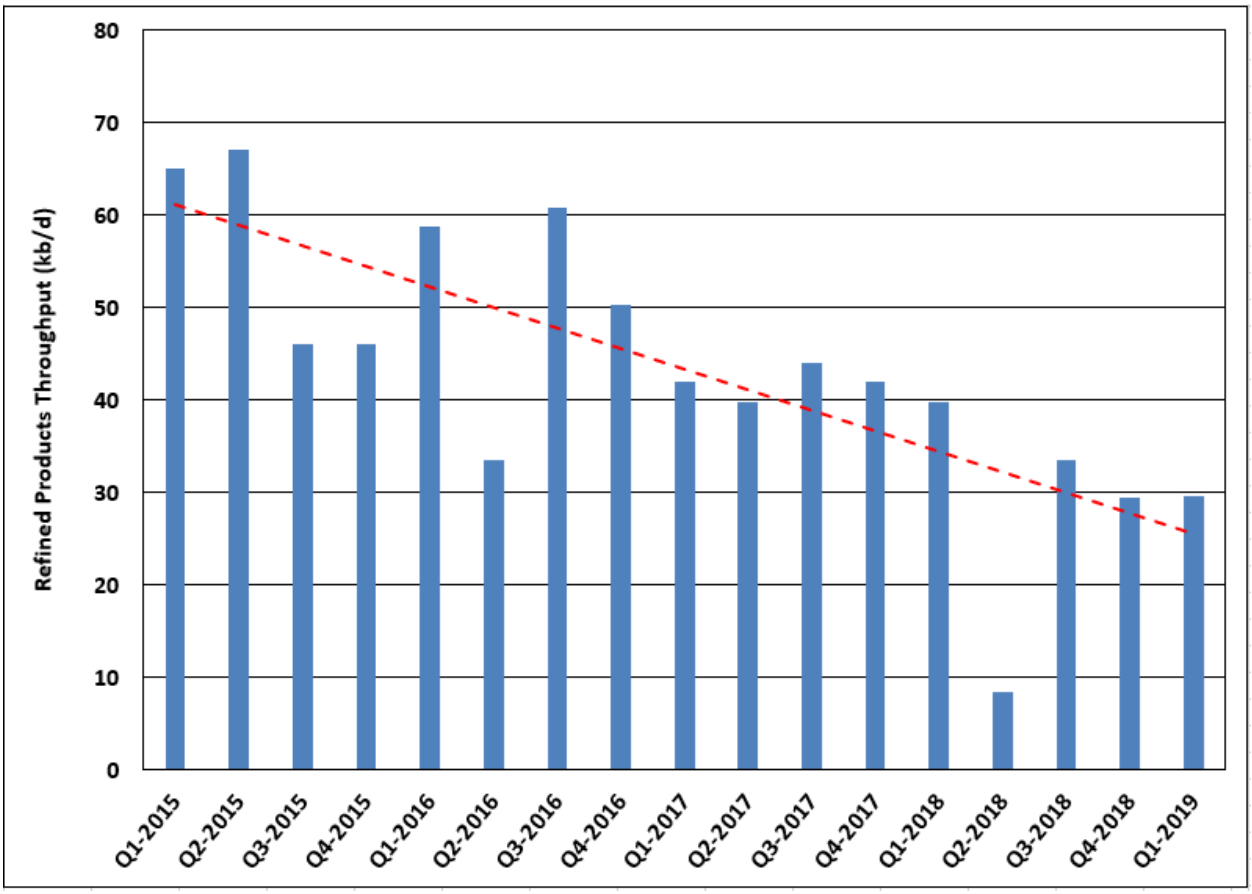
[15] Imperial Oil Responses to Questionnaire, June 27, 2019, BCUC Inquiry into Gasoline and Diesel Prices in BC, Exhibit C8-2, p. 5.
[16] Suncor Final Submission, BCUC Inquiry into Gasoline and Diesel Prices in BC, August 8, 2019 p. 7.
[17] Kahwaty Supplemental Report, ¶ 28.
[18] Kahwaty Presentation, p. 12.
[19] Kahwaty Report, Figure 17.

Figure 3
Reproduction of Figure from Kahwaty Presentation, Slide 12
Trans Mountain Pipeline Throughput Allocated to Refined Products
2006 – Q1 2019



Sources: Government of Canada – Pipeline Throughput and Capacity Data - Trans Mountain Pipeline, available at https://open.canada.ca/data/en/dataset/dc343c43-a592-4a27-8ee7-c77df56afb34; "Pipeline Profiles: Trans Mountain," National Energy Board, September 2018, available at https://www.nebone.gc.ca/nrg/ntgrtd/pplnprtl/pplnprfls/crdl/trnsmntn-eng.html?=undefined&wbdisable=true.

Figure 4
Reproduction of Kahwaty Report Figure 17
Trans Mountain Pipeline Average Quarterly Throughput Allocated to Refined Products
2015 – 2019



Note: The red dashed line is a simple linear trend line across all data points.

Sources: Government of Canada – Pipeline Throughput and Capacity Data - Trans Mountain Pipeline, available at https://open.canada.ca/data/en/dataset/dc343c43-a592-4a27-8ee7-c77df56afb34; "Pipeline Profiles: Trans Mountain," National Energy Board, September 2018, available at https://www.nebone.gc.ca/nrg/ntgrtd/pplnprtl/pplnprfls/crdl/trnsmntn-eng.html?=undefined&wbdisable=true.

As lower-cost products are removed from the market due to pipeline constraints, BC is forced to rely on ever more expensive alternative sources of supply to meet provincial demand. Other Western Canada provinces have not faced these same pipeline constraints. As discussed in the Kahwaty Supplemental Report, Alberta is a large (net) exporter of both crude oil and refined products, and thus is not reliant on pipeline or other sources of transportation to import product to meet demand for gasoline and diesel in the province.[20] Like Alberta, Saskatchewan produces a surplus of refined products. Further, according to the National Energy Board, "[a]ll of the gasoline consumed in Saskatchewan is refined within the province."[21] Thus, Saskatchewan is also not reliant on imports to meet the provincial demand for gasoline and diesel.

Like BC, Manitoba is a net importer of gasoline and diesel and is reliant on pipeline transportation to meet demand for refined products in its province. Indeed, there are no refineries in Manitoba, so all gasoline and diesel consumed in the province must be imported from outside sources.[22] However, unlike BC, Manitoba has not faced pipeline constraints in meeting its demand for refined products. Refined products from Alberta are transported to Manitoba on Line 1 of the Enbridge Mainline. Line 1 of the Enbridge Mainline has only been apportioned in eight months since the start of 2015.[23] In comparison, the TMPL has been apportioned every month since at least January 2018 and was frequently apportioned before then as well.[24]

The reduced ability of BC refiners and wholesalers to access crude oil and refined products via a low-cost pipeline transportation since 2015 is an important part of the explanation of the increasing difference between wholesale prices and refining margins between BC and Alberta, Saskatchewan, and Manitoba. In recent years, BC has been forced to rely on ever more expensive alternative sources of supply to meet provincial demand whereas the other Western Canadian provinces have not.[25]

<u>Response to Question 2.1</u>

There is no economic interpretation of the intercept in the regression equation put forth as an example ("+20.801"). Instead, an intercept parameter is a standard part of most regression analyses that must be included if the regression is to be valid statistically. The same is true for the other regressions reported in Kahwaty Supplemental Report, pp. 23–35. Regression models are developed to understand the relationship between

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[20] Kahwaty Supplemental Report, ¶ 22.
[21] Canada Energy Regulator – Provincial and Territorial Energy Profiles, Saskatchewan, available at https://www.cer-rec.gc.ca/nrg/ntgrtd/mrkt/nrgsstmprfls/sk-eng.html.
[22] Kahwaty Supplemental Report, ¶ 24.
[23] Kahwaty Supplemental Report, ¶ 26.
[24] Kahwaty Supplemental Report, ¶ 26.
[25] The limits on the availability of pipeline capacity to import refined products is exacerbated by demand growth in BC relative to other provinces. Vehicle registrations in BC increased 8.0 percent between 2015 and 2018, while vehicle registrations increased only 2.1 percent, 2.2 percent, and 5.5 percent in Saskatchewan, Alberta, and Manitoba respectively, over the same time period. Kahwaty Report, Figure 36; Road Motor Vehicle Registrations, by Type of Vehicle," Statistics Canada, available at https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=2310006701.

the dependent variable and one or more independent variables, and the omission of an intercept term in a regression model causes statistical concerns related to the estimation of that relationship.

The necessity to include the intercept in a regression model, along with the fact that in most cases the intercept has no meaningful interpretation regarding the relationship between the dependent and independent variables, is discussed in most introductory econometric textbooks. For example, Woolridge (2016),

> The intercept β_0 in [the] equation [$\hat{Y} = \beta_0 + \beta_1 * X_1 + \beta_2 * X_2$] is the predicted value of Y when $X_1 = 0$ and $X_2 = 0$. Sometimes, setting X_1 and X_2 both equal to zero is an interesting scenario; in other cases, it will not make sense. Nevertheless, the intercept is always needed to obtain a prediction of Y from the OLS [Ordinary Least Squares] regression line….
>
> [Take, for example an] OLS regression line to predict college GPA [*colGPA*] from high school GPA [*hsGPA*] and [an] achievement test score [*ACT*]:
>
> $$colGPA = 1.29 + .453*hsGPA + .0094*ACT$$
>
> How do we interpret this equation? First, the intercept 1.29 is the predicted college GPA if *hsGPA* and *ACT* are both set as zero. Since no one who attends college has either a zero high school GPA or a zero on the achievement test, the intercept in this equation is not, by itself, meaningful.
>
> More interesting estimates are the slope coefficients on *hsGPA* and *ACT*. As expected, there is a positive partial relationship between *colGPA* and *hsGPA*: Holding *ACT* fixed, another point on *hsGPA* is associated with .453 of a point on the college GPA, or almost half a point.[26]

A similar discussion is provided in Gujarati (2003) in which the author provided a hypothetical example measuring the relationship between weekly family consumption expenditure and weekly family income with the following result [Weekly Family Consumption Expenditure] = 24.4545 + 0.509*[Weekly Family Income]. The author outlines the problem with interpreting the intercept term in this context:

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[26] Wooldridge, Jeffrey M., Introductory Econometrics A Modern Approach, Cengage Learning, 6th Edition, 2016, p. 66.

> "The value of $\hat{\beta}_1$ [24.4545], which is the intercept of the line, indicates the average level of weekly consumption expenditure when weekly income is zero. However, this is a mechanical interpretation of the intercept term. In regression analysis such literal interpretation of the intercept term may not be always meaningful, although in the present example it can be argued that a family without any income (because of unemployment, layoff, etc.) might maintain some minimum level of consumption expenditure either by borrowing or dissaving. But in general one has to use common sense in interpreting the intercept term, for very often the sample range of X values may not include zero as one of the observed values."[27]

Caffo (2015) points out that trying to interpret the intercept when 0 is not included in the estimation sample of the independent variable is not appropriate.

> [A regression] model [such as $Y_i = \beta_0 + \beta_1 X_i$] allows us to attach statistical interpretations to our parameters. Let's start with the intercept; β_0 represents the expected value of the response when the predictor is 0. We can show this as:
>
> $$E[Y \mid X = 0] = \beta_0 + \beta_1 \times 0$$
>
> Note, the intercept isn't always of interest. For example, when X = 0 is impossible or far outside of the range of data. Take as a specific instance, when X is blood pressure, no one is interested in studying blood pressure's impact on anything for values near 0.[28]

This is the situation with regard to the regression equation addressed in this question.

Figure 5 is a reproduction of Kahwaty Supplemental Report Figure 12.

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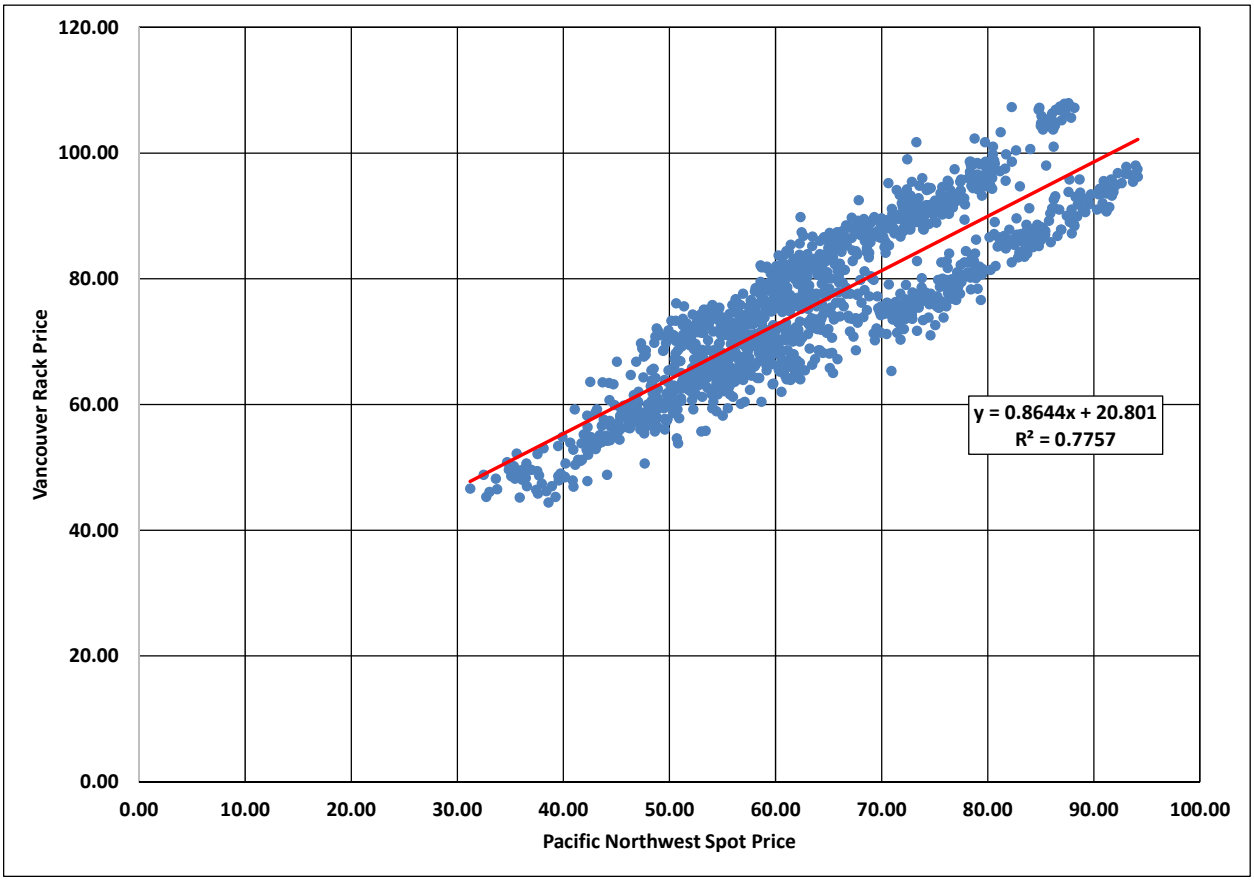
[27] Gujarati, Damodar N., Basic Econometrics, 4th Edition, McGraw-Hill, 2003, pp. 88-90.
[28] Caffo, Brian, Regression Models for Data Science in R, Lean Publishing, 2015, p. 28.

Figure 5
Reproduction of Kahwaty Supplemental Report Figure 12
Relationship between Regular Unleaded Gasoline Prices
Vancouver Rack and Pacific Northwest Spot Prices
Cents Per Litre, January 2014 – August 2019



Note: Pacific Northwest spot prices are Sub-Octane Unleaded Regular Full Day Average prices as reported by OPIS.

Source: Gasoline and Diesel Spot Pricing Data, OPIS, for more information see https://www.opisnet.com/about/methodology/#Refined-Spot; Kent Petroleum Price Data, Kent Group Ltd., available at https://charting.kentgroupltd.com/; "Canada / U.S. Foreign Exchange Rate," FRED Economic Research, available at https://fred.stlouisfed.org/series/DEXCAUS.

There are no zero or near zero PNW spot prices. The lowest spot price for the PNW is over 30 cents per litre, which is well above 0. The 20.801 intercept, therefore, does not have any meaningful economic interpretation.

<u>Response to Question 3.1 – 3.2</u>

Questions 3.1 and 3.2 relate to marginal sources of supply and ask specific questions, for example, regarding the time frame necessary for a supply source to be considered

the marginal source of supply. These questions imply a focus by the Commission on a literal unit of supply as being the marginal unit to which pricing is tied instead of using the marginal source of supply in the way that concept is understood by economists. Below I explain what the concept of the marginal source of supply means in economic analysis and apply it to the study of gasoline and diesel markets.

Economists use models to study markets, including the models of supply and demand. Economic models simplify the real world to gain a better understanding of complex behaviours. Varian (2010) in his seminal microeconomics textbook offers the following description of economic models.

> Economics proceeds by developing models of social phenomena. By a model we mean a simplified representation of reality. The emphasis here is on the word "simple." Think about how useless a map on a one-to-one scale would be. The same is true of an economic model that attempts to describe every aspect of reality. A model's power stems from the elimination of irrelevant details, which allows the economist to focus on the essential features of the economic reality he or she is attempting to understand.[29]

The models of supply and demand are highly stylized, but even so, they offer insights into market processes and outcomes. In the Kahwaty Report I discussed the basic concepts of supply and demand, along with the idea of marginal supply, to provide some context regarding how equilibrium wholesale gasoline market prices could be reached in BC. The marginal unit of supply is not a unit the market participants are necessarily aware of but rather is a concept used by economists to understand market behavior, especially how market prices change over time. Markets adjust to changes in supply and demand conditions, and these adjustments include increases or decreases in prices. Prices adjust by moving in the direction of what economists call "equilibrium prices". In the Kahwaty Report, I used the common concept that equilibrium prices are set by market forces, and one such market force is the marginal supply source.

The model of supply and demand and the price movements it predicts are simplifications of the day-to-day operating and pricing decisions made in the BC wholesale gasoline and diesel markets. I elaborate upon this point in paragraph 37 of my supplemental report as well.

> Markets like those for wholesale gasoline and diesel are in a constant state of flux, which economists call "disequilibrium". Changes in supply and demand conditions occur regularly....The economic analysis of

[29] Varian, Hal, Intermediate Microeconomics: A Modern Approach, Eighth Edition, W.W. Norton & Company, 2010, pp. 1-2.

> wholesale pricing based on the cost of the marginal barrel should not be viewed as a precise calculation that market participants make daily but rather as indicating the dynamics driving price in one direction or another. Unlike financial instruments where arbitrage can occur nearly instantaneously, arbitrage across gasoline markets may play out over time as firms make production, purchase, and shipping decisions.[30]

The discussion was put forth to bring into focus how the BC and PNW gasoline markets interact and generally discuss how the BC market adjusts to different economic forces and events. An analysis that described all the factors, considered by all the market participants, at any given point in time, that move the gasoline and diesel markets toward new equilibria is impossible to prepare.

The wholesale prices for gasoline and diesel change often – typically daily – as they react to changes in supply and demand. Some market factors tend to push prices up, others tend to push prices down. Some adjustments occur more rapidly than others depending upon the nature of the forces to which the markets are reacting. Market prices move in the direction of the equilibrium price, but may not ever achieve that price because, as the adjustment process occurs, other changes in supply or demand yield a new equilibrium price, leading to further pressure for price adjustments. The marginal source of supply – and the costs of that source of supply – are one factor that impact the equilibrium price in the market, and as the marginal source of supply changes, so too does the pricing pressure that flows from the marginal supply source.

Parkland's evidence is that it sets its rack prices by considering several factors, including the prices posted by local competitors and how much supply Parkland has on hand.[31] There are an interminable number of scenarios that may lead Parkland to change its rack price. The following is an illustrative hypothetical example of one of many plausible scenarios regarding how Parkland's wholesale prices might be set under a specific set of circumstances at a given point in time.

Suppose one of Parkland's competitors is extremely short of supply and raises its price. The retail stations supplied by this competitor may have to raise their prices to consumers, pushing more business to gas stations supplied by Parkland and increasing the demand for Parkland supplied product, leading Parkland to raise its rack price. As prices rise, given the short supply, more expensive sources of gasoline become viable

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[30] Supplemental Report of Henry J. Kahwaty, Ph.D., An Inquiry into Gasoline and Diesel Prices in British Columbia Project No. 1599007, September 23, 2019, p. 19, available at https://www.bcuc.com/Documents/Proceedings/2019/DOC_54619_C5-9-ParklandOralWorkshop-DrKahwatySlides.pdf.

[31] Parkland Final Argument, BCUC Inquiry into Gasoline and Diesel Prices in BC, August 8, 2019 pp. 45-47.

options. It is not difficult to imagine a supply-constrained Parkland competitor arranging to have gasoline shipped from the PNW to Vancouver and increasing its rack price in response to increased supply cost. The competitor's price increase will likely be factored into Parkland's rack price; despite the fact that Parkland is not at that time importing gasoline from the PNW and may not even be aware of PNW spot prices and/or current PNW to BC transportation costs. Parkland's pricing behaviour was changed despite it not considering these factors.

The wholesale gasoline market is always in flux and moving towards an equilibrium price. In the example above, with a shortage in Vancouver, without the availability of gasoline being shipped in from the PNW, wholesale prices would have been expected to move even higher, so the PNW supplied gasoline had a limiting effect on hypothetical Vancouver rack prices, including Parkland's.

In this type of model, the marginal unit of supply, the theoretical "last unit purchased" as a market reaches equilibrium, is not a unit the market participants are necessarily aware of, it is a concept used by economists to understand market behaviour. In addition, the rate at which the wholesale gasoline market will reach a new equilibrium following, for example, a supply shock will vary depending on a number of factors specific to the market at that time.

Market participants also think of market pricing in terms of marginal supply sources, as was described in testimony during the hearing. A business meeting the needs of its customers that needs additional supply will search for the least expensive sources of supply to it, which can be thought of as the marginal supply source. There is no reason to expect that the price paid by a single market participant, based on what they consider a marginal supply source, will become the single determinant of an actual market price charged by that firm or the market as a whole. Below I summarize published research that describes how marginal supply sources are used and factor into pricing during actual supply shocks in the gasoline market. These materials show how the forces of supply and demand, and the market constraints that flow from the marginal supply source, affect pricing in gasoline markets over time.

In 2004, the U.S. Federal Trade Commission (the "FTC", one of the two federal competition agencies in the United States) published an extensive report, presented to the U.S. House of Representatives, which reviewed several investigations undertaken by the FTC that analyzed "unusual" spikes in retail gasoline prices across the country. The purpose of these investigations was to "examine whether any such movements might result from anticompetitive conduct[.]"[32] While not necessarily the primary focus of

[32] Kovacic, William E., "Market Forces, Anticompetitive Activity, and Gasoline Prices: FTC Initiatives to Protect Competitive Markets," Federal Trade Commission, July 15, 2004, pp. 15-16, available at

the report, the events detailed in the FTC's report are illustrative nonetheless and provide concrete examples of how market forces respond to various supply shocks.

One such example from 2003 focused on a particularly significant power outage that affected four refineries in Ontario. Based on a review of the data available, the FTC staff concluded that imports which would typically have been shipped to the U.S. were instead diverted to Canada in order to quell the lack of supply resulting from the outage. Around the time of the initial outage and for approximately 2 months after, a rack price parity persisted between the Toronto and Buffalo rack. This parity essentially acted as a signal to Canadian suppliers indicating they should divert their shipments to Ontario. Once the effects of the outage were no longer an issue the parity ceased to persist.

> [On August 14, 2003 a] blackout further affected the Northeast, temporarily shutting down seven refineries. While the blackout appeared to have little immediate impact on U.S. retail gasoline prices, the reduction in supply from four refineries in Ontario, Canada, whose operations were hampered by the power outage, significantly affected the price of gasoline in Ontario. Typically, the Northeastern states receive significant gasoline imports from Canada. Throughout much of August, however, wholesale prices in Toronto exceeded wholesale prices in Buffalo by approximately 25 cents per gallon, a sign that Canada was shipping less product into the Northeast. FTC staff confirmed a sizeable drop in exports of gasoline from Canada to the Northeast in August 2003. By the end of September, rack prices in Toronto and Buffalo had returned to rough equality, and imports from Canada returned to their usual level.[33]

The same FTC report detailed another case in which a pipeline connecting El Paso, Texas and Phoenix, Arizona ruptured causing a significant supply shock to the city of Phoenix and more broadly the state of Arizona. As outlined by the FTC staff, prices rose, which had the dual effect of lessening consumers' demand for gasoline and further incentivizing suppliers to divert supply to the affected area. The high prices persisted for approximately one month until a temporary fix for the pipeline was implemented. FTC staff noted that in the interim high prices attracted additional suppliers and once enough supply had been diverted, prices in Arizona fell.

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https://www.ftc.gov/sites/default/files/documents/public_statements/prepared-statement-federal-trade-commission-market-forces-anticompetitive-activity-and-gasoline/040715gaspricetestimony.pdf.

[33] Kovacic, William E., "Market Forces, Anticompetitive Activity, and Gasoline Prices: FTC Initiatives to Protect Competitive Markets," Federal Trade Commission, July 15, 2004, pp. 19-20, available at https://www.ftc.gov/sites/default/files/documents/public_statements/prepared-statement-federal-trade-commission-market-forces-anticompetitive-activity-and-gasoline/040715gaspricetestimony.pdf.

> The average price of a gallon of regular gasoline in Phoenix rose from $1.52 during the first week in August to a peak of $2.11 in late August. Several sources caused these price movements. Most gasoline sold in Phoenix comes from West Coast refineries. A pipeline from Texas also brings gasoline to the Phoenix area, but it usually operates at capacity. The marginal supply comes from the West Coast....
>
> On July 30, 2003, Kinder Morgan's El Paso-to-Phoenix pipeline ruptured between Tucson and Phoenix. On August 8, Kinder Morgan shut down the pipeline, after its efforts to repair the rupture failed. This disruption immediately reduced the volume of gasoline delivered to Phoenix by 30 percent, and most of Arizona immediately became much more dependent on shipments from California for its gasoline supplies. Retail prices in Phoenix increased during the week immediately following the August 8 pipeline shutdown (the week ending August 16) to levels higher than predicted by historical relationships....
>
> On August 24, Kinder Morgan opened a temporary by-pass of the pipeline section affected by the rupture, and prices quickly fell. The average price of regular gasoline began to drop immediately. By the end of August, gasoline prices in the Phoenix area were falling. They continued to drop through September and October....
>
> Marked price increases in the wake of a sudden, severe drop in supply are a normal market reaction. Because gasoline is so important to consumers, a large price increase may be required to reduce quantity demanded so that it is equal to available supply. Price increases in turn attract additional supplies, which should then cause prices to decline. This response occurred in the Kinder Morgan rupture.[34]

A 2015 article published by the U.S. Energy Information Administration describes a case like that in Toronto during which a fire at a refinery in California resulted in a severe supply shock. For several months after the initial fire, imports from various sources across the world were diverted in order to supply the state. Once supply conditions were sufficient and back to normal levels, these imports dropped off significantly.

> West Coast spot gasoline prices typically trade at a premium to prices in other regions of the country because of the region's unique product

[34] Kovacic, William E., "Market Forces, Anticompetitive Activity, and Gasoline Prices: FTC Initiatives to Protect Competitive Markets," Federal Trade Commission, July 15, 2004, pp. 17-18, available at https://www.ftc.gov/sites/default/files/documents/public_statements/prepared-statement-federal-trade-commission-market-forces-anticompetitive-activity-and-gasoline/040715gaspricetestimony.pdf.

> specifications and relative isolation from other domestic and international markets. As a result, West Coast gasoline markets are primarily supplied by in-region production, and prices react more quickly and strongly during times of local supply shortages....
>
> [T]he West Coast retail price premium compared with the national average has been elevated since the February 18 explosion and fire at ExxonMobil's Torrance refinery in southern California.... Several weeks after the Torrance outage, West Coast gasoline imports more than tripled, and averaged 81,000 b/d from March 27 through June 26. Monthly data through April (the latest available) show California total gasoline imports coming from South Korea, Singapore, Japan, and Taiwan in Asia as well as Sweden, the United Kingdom, Italy, and the Netherlands in Europe. For the week ending July 3, West Coast gasoline imports dropped to zero and trade press reports indicate that cargos bound for California have been delayed. Buying may have also slowed in late June as the arbitrage window narrowed, meaning that fewer shipments are on the way to the West Coast.[35]

In addition to a review of the published research on this topic, I have performed an econometric analysis of wholesale gasoline prices in Washington State and Vancouver. This is to highlight pricing dynamics and price adjustments in the market to show the impact of the marginal supply source on market prices. The econometric analysis was performed using the "natural experiment" discussed in my testimony related to the Prince George natural gas pipeline fire on October 9, 2018.[36] As noted in my original report submitted to the BCUC, the fire resulted from a rupture in the pipeline in a rural area and caused the closure of the pipeline and also a nearby pipeline as a safety precaution.[37] Many of the West Coast refineries rely on natural gas supplied from this pipeline as a source of power and steam for their operations. At least three Washington State refineries (Marathon Oil, Royal Dutch Shell, and Phillips 66) were forced to reduce refinery production due to the Prince George fire.[38] These output reductions resulted in

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[35] "This Week in Petroleum," U.S. Energy Information Administration, July 15, 2015, available at https://www.eia.gov/petroleum/weekly/archive/2015/150715/includes/analysis_print.php.

[36] This event is described on Slide 19 of the Kahwaty Presentation, July 17, 2019. The unexpected outage caused by this fire is independent of supply and demand conditions that affect wholesale gasoline price formation and, as a result, provides a reasonable natural experiment to study. See, e.g., Coleman, Mary & James Langenfeld, "Natural Experiment Analysis in Antitrust Analysis," in Issues in Competition Law and Policy, Wayne Dale Collins, et al, eds., American Bar Association, 2008, pp. 743-772.

[37] Marino, David and Rachel Adams-Heard, "Gas Flows Resume After Canada Pipe Rupture Hits Oil Refiners," Bloomberg, October 10, 2018, available at https://www.bloomberg.com/news/articles/2018-10-10/gas-line-breakforces-northwest-u-s-refiners-to-curb-production.

[38] "Update 2 – A Third Washington Refinery Curbs Operations After Natgas Pipe Fire," Reuters¸ October 11, 2018, available at https://www.reuters.com/article/refinery-operations-andeavor-anacortes/update-2-a-thirdwashington-refinery-curbs-operations-after-natgas-pipe-fire-idUSL2N1WR1F5.

increases in the prices for refined fuels across the West Coast. According to Bloomberg, wholesale gasoline prices in Portland, Oregon, rose 19 cents (U.S.) per gallon and San Francisco prices rose 5 cents (U.S.).[39] Gasoline price increases were also reported in the Metro-Vancouver area shortly after the pipeline fire.[40]

The results of the econometric analysis illustrate that the price impact of this adverse supply shock in Vancouver and Washington State was short lived. This was also addressed in my testimony, but I provide more detail here to examine more closely the timing of market adjustments and the interplay between the PNW and Vancouver markets. The unexpected pipeline outage in British Columbia affected prices in Washington State, and these two markets are integrated. The integration mechanism is the movement of gasoline and diesel between the two areas in response to changes in the relative prices between them.

The econometric strategy is to estimate the effects of the Prince George fire on Vancouver wholesale gasoline prices as well as on those in Washington State.[41] The analysis is done using daily changes in prices[42] and is based on daily observations over the period January 1, 2014, to September 18, 2019. The regression model regresses the daily change in wholesale gasoline prices in Washington State and Vancouver against the daily change in WTI crude oil prices and a set of dummy variables that estimate the daily price effect in each region following the Prince George fire. More formally, the estimated regression model is:[43]

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[39] Marino, David and Rachel Adams-Heard, "Gas Flows Resume After Canada Pipe Rupture Hits Oil Refiners," Bloomberg, October 10, 2018, available at https://www.bloomberg.com/news/articles/2018-10-10/gas-line-breakforces-northwest-u-s-refiners-to-curb-production.

[40] "Pricey at the pump: Gas prices on the rise in Metro Vancouver," CBC News, March 17, 2019, available at https://www.cbc.ca/news/canada/british-columbia/pricey-at-the-pump-gas-prices-on-the-rise-in-metro-vancouver-1.5060242.

[41] Vancouver and Washington State wholesale gasoline prices are from OPIS; the Washington price is an average of the Anacortes and Seattle racks prices.

[42] This is the recognized best-practice econometric approach when time-series data (such as these prices) are trending and nonstationary. That is, it is statistically more appropriate to analyze prices in "first-differences" (such as daily price changes) rather than "levels" if the first-differenced prices are stationary but those in levels are not. Doing so minimizes the finding of spurious relationships among variables. Briefly, a time-series is said to be "stationary" if its basic statistical properties such as the mean and variance are constant over time. Data that violate the stationarity conditions are called "nonstationary" (i.e., they have a "unit root") and often exhibit upward or downward trends without reversion to a constant mean. There is a large economics and econometrics literature regarding time-series issues such as stationarity and related topics, however, a detailed discussion is beyond the scope of this report. For an in-depth treatment of these issues, see, e.g., Wooldridge, Jeffrey M., Introductory Econometrics: A Modern Approach, Cengage Learning, 6th Edition, 2016, Chapter 11 ("Further Issues in Using OLS with Time Series Data") and Chapter 18 ("Advanced Time Series Topics"); Gujarati, Damodar, Basic Econometrics, 4th Edition, McGraw-Hill, 2003, Chapter 21 ("Time Series Econometrics: Some Basic Concepts"); and Enders, Walter, Applied Econometric Time Series, John Wiley & Sons, Inc., 2nd Edition, 2004, Chapter 2 ("Stationary Time-Series Models").

[43] A random effects (RE) panel data model is estimated. The presence of highly insignificant regional fixed effects (FE), which is what is found, is consistent with these two regions being in an integrated

$$\Delta P_{it} = \hat{\beta}_0 + \hat{\beta}_1 \Delta C_{t-1} + \hat{\beta}_2 D_{it}$$

The dependent variable (ΔP_{it}) represents the change in the wholesale gasoline price on day *t* in region *i* (*i* = Vancouver and Washington State). The first explanatory variable (ΔC_{t-1}) represents the change in the previous day's WTI oil price and is the same for both regions. The second explanatory variable (D_{it}) represents a dummy variable for the Prince George fire in each region (*i*) for each day (*t*) following it. Different daily price effects are tested for over the first 21 days following the fire.[44] It is these estimated daily coefficients that estimate the price changes in each region following this unexpected adverse supply shock.

Table 1 presents the regression results. The grey-shaded coefficients are individually statistically significant. The daily change in the previous day's WTI prices has a positive and very significant effect on the daily change in wholesale gasoline prices, and it is estimated quite precisely. Of interest are the estimated coefficients on the daily dummy variables in the 21-day window examined for each region. On Days 2 and 3 after the Prince George fire, both Vancouver and Washington State had positive and statistically significant wholesale gasoline price increases while on Day 5 there was a negative and significant price decrease in both regions. In Vancouver, this was enough to completely reverse the Days 2 and 3 price increases so that by Day 5 following the Prince George fire, wholesale gasoline prices in Vancouver had returned to their October 9, 2018 level. In Washington State, wholesale gasoline prices returned to their October 9, 2018, level by Day 17 (November 1, 2018), one day after the Prince George pipeline was fully repaired on October 31, 2018.

Note that the price movements detailed in Table 1 are not in lockstep with each other. They do, however, generally move in similar ways. Overall, **Table 1** shows an example where market adjustments play out over time as supply and demand changes impact market prices. Wholesale markets for refined products do not fully adjust to supply or demand shocks immediately following the shock but rather adjust over time as market participants make changes in their production and supply decisions.

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market. That is, there is no systematic pricing difference over time in wholesale gasoline prices between Vancouver and Washington State. Moreover, essentially the same econometric results are found whether using the RE or FE estimation technique.

[44] The model tests for significant daily price changes for 21 days following the Prince George fire. This includes October 31, 2018, when the pipeline was fully repaired (Day 16 after the fire) as well as the following 5 business days (Day 21 is November 7, 2018). Day 1 is defined as the first day after the fire with Day 0 being the date of the fire (October 9, 2018). When OPIS does not report price data for a given day, it is dropped prior to estimation.

Table 1
Prince George Fire Event Study
Vancouver and Washington Rack Prices
January 1, 2014 - September 18, 2019

Observations	2,840

Explanatory Variables	Coefficient	t-Statistic
Constant	0.0121	0.565
Δ WTI Price	0.657***	28.00

Vancouver Wholesale Daily Gasoline Price Changes

Days Since PG Fire	Date	Coefficient	t-Statistic	Cumulative Price Δ (CAD cents/litre)
0	9-Oct-18	-0.0175	-0.0154	--
1	10-Oct-18	-0.960	-0.844	-0.960
2	11-Oct-18	4.157***	3.652	3.197
3	12-Oct-18	3.446***	3.027	6.643
4	15-Oct-18	-1.745	-1.534	4.898
5	16-Oct-18	-6.249***	-5.493	-1.351
6	17-Oct-18	1.844	1.621	
7	18-Oct-18	-1.127	-0.990	
8	19-Oct-18	-1.360	-1.196	
9	22-Oct-18	-0.393	-0.346	
10	23-Oct-18	-1.244	-1.094	
11	24-Oct-18	-0.959	-0.842	
12	25-Oct-18	-0.331	-0.291	
13	26-Oct-18	0.442	0.389	
14	29-Oct-18	1.765	1.551	
15	30-Oct-18	0.447	0.392	
16	31-Oct-18	-0.103	-0.0907	
17	1-Nov-18	-1.304	-1.146	
18	2-Nov-18	-2.617**	-2.299	
19	5-Nov-18	-0.839	-0.738	
20	6-Nov-18	-0.461	-0.405	
21	7-Nov-18	1.720	1.512	

Washington Wholesale Daily Gasoline Price Changes

Days Since PG Fire	Date	Coefficient	t-Statistic	Cumulative Price Δ (CAD cents/litre)
0	9-Oct-18	0.0120	0.0106	--
1	10-Oct-18	-0.170	-0.150	-0.170
2	11-Oct-18	4.300***	3.778	4.13
3	12-Oct-18	2.880**	2.530	7.01
4	15-Oct-18	-1.106	-0.972	5.904
5	16-Oct-18	-5.617***	-4.937	0.287
6	17-Oct-18	1.297	1.140	1.584
7	18-Oct-18	0.319	0.280	1.903
8	19-Oct-18	-0.108	-0.0949	1.795
9	22-Oct-18	0.164	0.144	1.959
10	23-Oct-18	-0.788	-0.692	1.171
11	24-Oct-18	-0.881	-0.774	0.29
12	25-Oct-18	0.351	0.308	0.641
13	26-Oct-18	-0.0945	-0.0831	0.5465
14	29-Oct-18	0.0496	0.0436	0.5961
15	30-Oct-18	-0.359	-0.316	0.2371
16	31-Oct-18	-0.0699	-0.0615	0.1672
17	1-Nov-18	-1.158	-1.017	-0.9908
18	2-Nov-18	-1.253	-1.101	
19	5-Nov-18	-0.839	-0.737	
20	6-Nov-18	-0.560	-0.492	
21	7-Nov-18	-0.0331	-0.0291	

Notes: 1. Statistical Significance Indicators

a. *** = Statistically Significant at the .01% level.

b. ** = Statistically Significant at the .05% level.

c. * = Statistically Significant at the .10% level.

2. Vancouver rack prices are average unleaded prices as reported by OPIS.

3. Washington rack prices are the average rack price for CBOB Ethanol 10% regular RVP 9.0 gasoline across branded and unbranded variants for the Anacortes and Seattle racks.

Sources: Gasoline and Diesel Rack Pricing Data, OPIS, for more information see https://www.opisnet.com/about/rack-pricing-coverage-city/; "Canada / U.S. Foreign Exchange Rate," FRED Economic Research, available at https://fred.stlouisfed.org/series/DEXCAUS.

Response to Question 4.1

Prince Edward Island, New Brunswick, and Nova Scotia have implemented wholesale and retail gasoline price regulations. To understand the applicability of the regulation in

the provinces to the present Inquiry, it is important to understand the goals of that regulation and to relate those goals to the problems identified by the Commission regarding BC.

BC Concerns

The Commission has expressed concerns regarding the exercise of market power in wholesale markets.[45] For the purposes of answering this question, I assume this to be correct and take the Commission's wholesale market concern as a given.

The Commission does not find cartel conduct at the retail level or evidence of retail market power being exercised:

> **The Panel finds there is no evidence to suggest that collusion among the retail operators exists nor is their evidence of cartel behaviour. The Panel also finds that while there is an opportunity for effective market control, there is no evidence of market power being exercised.** On the contrary, it seems clear that service stations keep a close eye on the activity of competitors and react quickly to any price changes either up or down in the marketplace.[46]

Regarding the opportunity or potential for effective market control over the retail market, the Commission recognizes that there are many players active at the retail level but is concerned that wholesale market concentration may impact the retail market:

> As outlined in Table 9, there are multiple players in BC that operate within the retail end of the business. This, it can be argued, serves to dilute the concentration of market power that can be exerted by the larger refiner marketers that operate within the market. However, the point can be also be made that a significant number of these independent players are tied by brand to the 5 major refiner-marketers and along with dealer-controlled stations, are reliant on these refiner-marketers for supply. Since the rack price which for the most part is controlled by the five Oil Companies is a major part of the retail price at the pump and the brand agreements tie a large number of retailers to these major refiner-marketers, the closeness of these relationships cannot be ignored. **Accordingly, in spite of concentration levels within the retail market being low, the Panel finds the relationship of most dealers to the refiner-marketer may still have an impact on there being a**

[45] BCUC Report, p. 105 ("The Panel then made the finding that the wholesale market is not truly competitive. Therefore, it appears that the 'invisible hand' of an oligopoly may actually nudge prices in a way that is biased upward.").
[46] BCUC Report, p. 96 (emphasis in original).

> **fully competitive market**. Moreover, refiner-marketers have direct control over pricing in 33.6 percent of BC's retail stations which is significantly higher than the average in Canada. **Therefore, the Panel finds that while the impact of this cannot be quantified, this relationship increases the opportunity for effective market control.**[47]

In the Kahwaty Supplemental Report, I addressed whether direct control over pricing in 33.6 percent of BC's retail stations is sufficient to raise retail-level competition concerns and other issues regarding retail market concentration. The structure of the retail market does not support a finding of market power at the retail stage of the chain of production and distribution for gasoline and diesel in BC.

Given the structure of the retail market and the Commission's finding that there is no cartel conduct or evidence of market power being exercised at retail, the Commission's market power concerns relate to the wholesale level of the market, not the retail level. If there are no market power concerns regarding the retail level of the supply chain, then controlling retail market power cannot justify retail price regulation. Wholesale regulation is sufficient to control the market power found by the Commission. The Commission proposes wholesale price regulation because of its wholesale market power concerns but cannot cite to market power concerns to support retail price regulation.

Regulation in Prince Edward Island, Nova Scotia, and New Brunswick

The Maritime provinces regulate both retail and wholesale prices. On the retail side, Prince Edward Island and Nova Scotia regulate minimum and maximum gasoline prices, and New Brunswick regulates maximum gasoline prices but not minimum gasoline prices. These retail price regulations, however, are not due to retail market power concerns.

Prince Edward Island, New Brunswick, and Nova Scotia all implemented price regulations at least in part to reduce pump price volatility. The Government of New Brunswick states on its website that "[t]he main purposes of price regulation [of petroleum products] are to reduce daily pump price volatility and to reassure consumers that regulated prices are based on a transparent and non-discretionary formula."[48] Similarly, the Government of Nova Scotia states on its website that "[r]egulations protect you [the consumer] from frequent price changes [on gasoline and diesel]."[49] A report on petroleum product pricing from the Prince Edward Island Auditor General states that the

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[47] BCUC Report, p. 93 (emphasis in original).

[48] Government of New Brunswick, Canada – Low and Stable Energy Prices, available at https://www2.gnb.ca/content/gnb/en/departments/erd/energy/content/energy_blueprint/content/prices.html.

[49] Government of Nova Scotia, Canada – Gasoline and Diesel Pricing, available at https://beta.novascotia.ca/gasoline-and-diesel-pricing.

Prince Edward Island Regulatory and Appeals Commission "sets petroleum prices semi-monthly, but also has an interruption policy to allow for price changes to one or more of the petroleum products in times of extreme volatility in the market."[50] As I discussed in the Kahwaty Supplemental Report, price volatility is not typically viewed as a sign of retail market power, and limiting such volatility is not justified as a means to control retail market power.

Prince Edward Island and Nova Scotia use minimum price floors to protect small retailers.[51] Protecting small retailers from larger, low-priced retailers like Costco is not a policy goal outlined for this Inquiry, and indeed if the concern in this Inquiry is over prices being too high, limiting the ability of larger retailers to pursue a low-price strategy would be contrary to the Inquiry's goals.

My analysis of whether there is a need to regulate pricing at both the wholesale and retail levels of the industry is based on market power concerns. There is no market-power-based justification for regulation at retail. That does not mean that there can be no retail regulation that responds to other concerns (e.g., health and safety, avoiding the closure of rural or low volume sites).

[50] "Petroleum Product Pricing: Prince Edward Island Regulatory and Appeals Commission," Prince Edward Island Auditor General, 2018, p. 14.
[51] BCUC Report, p. 15.