FAIR TRADING COMMISSION

CONSULTATION PAPER

The Barbados Light & Power Company Limited (BL&P) Fuel Hedging Application

Document No.: FTC/URD/CONBL&P/2020-01 **Date of Issue: November 9, 2020**

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DOCUMENT TITLE: Consultation Paper on the Barbados Light & Power Company Limited Application for Approval of Implementation of Fuel Hedging Programme and to Apply the Results and Costs of Hedging to the Calculation of the Fuel Clause Adjustment

ANTECEDENT DOCUMENTS

Document Number	Description	Date
FTC/UR/DECCHFCA/2016-4	The Application by the BL&P for Approval to Apply the Results and Costs of Hedging to the Calculation of the Fuel Clause Adjustment	December 29, 2016

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SECTION 1 - PURPOSE OF CONSULTATION

The Barbados Light and Power Company Limited (BL&P) has indicated to the Fair Trading Commission (the Commission) that it intends to implement a fuel hedging programme. The utility is therefore requesting approval from the Commission to implement said hedging programme and apply the results and administration fees of this programme to the calculation of the Fuel Clause Adjustment (FCA). While the utility does not require the approval of the Commission to engage in a fuel hedge programme, it does require the regulator's permission to pass the related results and costs to the consumer. The utility has indicated that it will not engage in fuel hedging without the approval to pass the related costs and results onto the consumer.

Barbados National Oil Company Limited (BNOCL) is the sole company in Barbados that is authorised to import fuel. Consequently, without the cooperation of BNOCL, the BL&P is unable to undertake any physical fuel hedging. The utility has indicated that, while it pursues the opportunity to enter into a physical hedge, it intends to implement a financial hedge programme, with the goal of achieving fuel price certainty for up to 90% of its Heavy Fuel Oil (HFO) volumes. Using this methodology, any gains or losses that result from the fuel hedge contracts will be included in the calculation of the monthly FCA. The aim of this fuel hedge programme is to take advantage of the current favourable fuel price environment and to reduce the fluctuations in the fuel component of customers' bills.

The BL&P purchases fuel under contract with BNOCL, Sol (Barbados) Limited (Sol) and Rubis West Indies Limited (Rubis); BNOCL supplies HFO, Sol supplies Aviation Jet Fuel (Av Jet) and Rubis supplies diesel fuel.

Prices of HFO are linked to the New York Harbor Residual Fuel #6 index. The BL&P uses approximately 250,000 tons of fuel each year. For the year 2019, the cost of fossil fuel purchased was 266 million Barbados dollars and the four year average of the cost of fuel is apportioned as follows:

HFO – 57% of cost

Av jet – 39% cost

Diesel – 4% of cost

The cost of fuel is passed through to the customer via the FCA. The fluctuation in the FCA is therefore reflective of the changes in the price of fuel on the international market.

On two previous occasions, February 2, 2015 and March 29, 2016, the BL&P submitted applications to the Commission seeking permission to pass on the results and costs of its proposed fuel hedging programme to consumers. The applications were rejected in the first instance due to a lack of information and in the second instance due to insufficient evidence to substantiate the BL&P's assertion that the Barbadian public was willing to pay for the reduced volatility in fuel prices. As a result, the Commission disagreed that the associated costs and results should be passed on to consumers.

This Application again seeks to use hedging to reduce the BL&P's exposure to fuel cost volatility, as well as to lock in the current low oil price. It is also intended that the administration fees and the profit or loss arising from hedging will be applied to the actual cost of the purchased fuel and hence the FCA.

This consultation paper is intended, therefore, to solicit comments on:

- Whether the BL&P should be allowed to apply the profit/loss resulting from the fuel hedging programme to the calculation of the FCA.
- Whether the BL&P should be allowed to apply administration fees associated with the fuel hedging programme to the calculation of the FCA.

The Commission encourages the widest possible participation in this consultation process.

CONSULTATION PROCESS

This consultative document includes a series of specific topics and questions upon which comments may be made. If it is considered appropriate, respondents may wish to address other aspects of the consultation, which the Commission has not specifically addressed. Failure to address all topics will in no way reduce the consideration given to the entire response. Commercially sensitive material should be clearly marked as such and included in an annex to the response.

Responses to Consultation Paper

The Commission invites and encourages written responses in the form of views or comments on the matters discussed from all interested parties including BL&P, other licensed operators, Government ministries, non-governmental organisations (NGO'S), consumer representatives, consumers and businesses.

The Consultation period will begin on, Monday November 9, 2020 and end on Friday December 4, 2020, **at 4:00 p.m**. Given a number of constraints, there will be no extension of this consultation period. All written submissions should be submitted by this deadline. The Commission is under no obligation to consider comments received after 4:00 p.m. on December 4, 2020. The Consultation Paper may be accessed on the Commission's website, http://www.ftc.gov.bb

Respondents to the Consultation may submit responses in electronic format. Email responses should be forwarded to info@ftc.gov.bb, prepared as Microsoft Word or PDF documents and attached to an email cover letter. Responses may also be faxed to the Commission at (246) 424-0300. Mailed or hand delivered responses should be addressed to the Chief Executive Officer at:

Fair Trading Commission
Good Hope
Green Hill
St. Michael
BB12003
BARBADOS

Confidentiality

The Commission is of the view that this consultation is largely of a general nature. The Commission expects to receive views from a wide cross section of stakeholders and believes that views and comments received should be shared as widely as possible with all respondents.

Respondents should therefore ensure that they indicate clearly to the Commission any response or part of a response that they consider to contain confidential or proprietary information. Respondents should refer to the provisions of Section 11 of the Fair Trading Commission Act, CAP. 326B in this regard.

Analysis of Responses

The Commission expects, in most consultations, to receive a range of views. Through its decision, the Commission will seek to explain the basis for its judgments and, where it deems appropriate, give the reasons why it agrees with certain opinions and disagrees with others. Instances may arise where analysis of new evidence presented to the Commission will cause it to modify its view stated in this paper. In the interests of transparency and accountability, the reasons for such modifications will be set out and, where the Commission disagrees with major responses or points that were commonly made, it will provide justification.

SECTION 2 – LEGISLATIVE FRAMEWORK

Under Section 4(3)(a) of the Fair Trading Commission Act, CAP. 326B (FTCA), the Commission is responsible for establishing principles for arriving at the rates to be charged by service providers. The Commission also has this duty under Section 3(1)(a) of the Utilities Regulation Act, CAP. 282 (URA), which states:

> *"The functions of the Commission under this Act are, in relation to service providers, to*
>
> (a) *Establish principles for arriving at the rates to be charged"*.

In accordance with Section 2 of the FTCA and the URA, "principles" means the formula, methodology or framework for determining a rate for a utility service.

Additionally, Section 2 of the URA states that "rates" include

(a) "Every rate, fare, toll, charge, rental or other compensation of a service provider;

(b) A rule, practice, measurement, classification or contract of a service provider relating to a rate; and

(c) A schedule or tariff respecting a rate;"

By virtue of Section 16 of the URA, where the Commission has not fixed a period of time in accordance with Section 15(1), the Commission may, on its own initiative or upon an application by a service provider or consumer, review the rates, principles and standards of service for the supply of a utility service. In light of this provision, the BL&P has correctly filed an Application with the Commission for approval to apply the results and costs of hedging to the calculation of the FCA.

On October 11, 2013, the Commission issued its Decision on its own Motion to Review the FCA, pursuant to Section 16 of the URA. The FCA is approved by the Commission as a principle or formula that the BL&P is permitted to use to pass through the cost of fuel used to generate electricity for use by its customers.

By virtue of Section 36 of the FTCA, the Commission may, on application or on its own motion, review and vary or rescind any decision or order made by it and, where

under the URA a hearing is required before any decision or order is made, such decision or order shall not be altered, suspended or revoked without a hearing.

Essentially, the Application filed by the BL&P, if successful, could result in the alteration of the FCA formula as previously approved by the Commission.

SECTION 3 – CURRENT MARKET ISSUES

Energy prices are volatile. This volatility is a reflection of how participants in the market adjust to new information from physical energy markets and/or markets in energy-related financial derivatives. The price volatility is an indication of the level of uncertainty, or risk, in the market.

This uncertainty is generated as a result of unexpected changes in weather, political regimes, global economic shocks, and countless other factors which impact energy markets on a continual basis. Market participants get the information randomly or not at all, and it is the dissemination of this information that causes current assessments of future prices and the range in which prices will trade to change.

Volatility is used as a measure of price uncertainty. The historical levels of fuel volatility noted by the applicant has been as follows:

- HFO in the United States Gulf Coast (USGC), ranging from 20% to 71% since 2014.
- Avjet ranging, annually, between 20% to 52% since 2002.
- Diesel in the USGC volatility from 12.5% to 46.5% since 2012.[1]

The implications of this energy price volatility can been seen in Figure 1 which displays the historical performance of oil prices alongside the price of oil on the international market.

This uncertainty and volatility of oil prices directly affect the consumer in Barbados, since these are costs that are passed on through the FCA. Specifically, current prices are not expected to remain low over the medium to long term.

Consumers the world over would prefer not to be subjected to price spikes, nor to be exposed to unexpected changes in their fuel bill, as it impacts their ability to budget adequately[2]. Considerations, therefore, should be given to how these could be

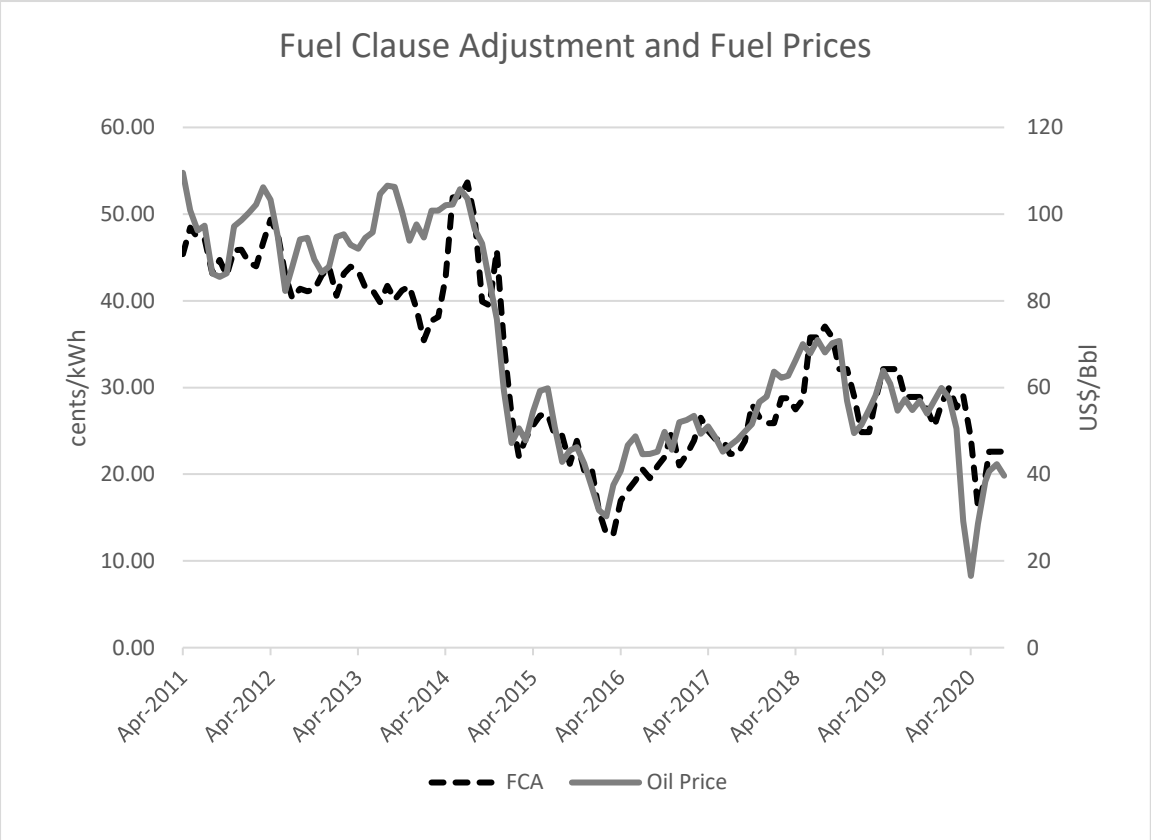
[1] Affidavit

[2] https://www.iisd.org/sites/default/files/publications/how-to-respond-when-prices-go-up-indonesia.pdf Accessed July 5, 2020

eliminated or at least minimised. The BL&P has stated that their customers value price stability, and has supported this by the submission of the results of their annual customer satisfaction survey. In that survey, the BL&P polled 500 customers, 83% of whom indicated that the price of electricity is one of the major determinants of the level of customer satisfaction[3].

Figure 1 displays the historic volatility of oil prices and its effect on the FCA.

Figure 1 - Historic Fuel Clause Adjustment and Fuel Prices[4]



The paragraphs below describe some of the current issues affecting the price of oil.

World Health Crisis – Novel Coronavirus Pandemic

The world is currently experiencing the effects of the Novel Coronavirus or COVID-19 pandemic, which first appeared in Wuhan Province in China in December 2019 and

[3] BL&P Service Quality Performance Residential Survey Summary: An Overview of Customers' Perception of BLPC Service Quality Performance, August 2017

[4] https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=RWTC&f=M Accessed October 13, 2020

has spread globally. The virus has infected over nineteen million people worldwide, caused a significant number of deaths and these numbers continue to rise. Barbados has not been left untouched, with both confirmed cases and deaths (as of November 4, 2020, 239 and 7 respectively)[5].

This health crisis has resulted in a significant global economic downturn. It has affected the majority of industries, with one of the hardest hit being tourism and travel. Persons have been limited by various shelter-in-place/stay-at-home orders, with many unable to work away from home. Consequently, supply chain disruptions have meant that manufacturing plants have remained idle, planes have been grounded, and cruise ships remain in ports around the world. Additionally, on the demand side, the economy has slowed, businesses have shuttered and there have been significant increases in unemployment. As a result, businesses have delayed investments amid the growing uncertainty. Here in Barbados, an unprecedented number of persons applied for unemployment benefits from the National Insurance Scheme over a two-month period (over 24,000 persons). Those businesses with insufficient cash to sustain them for extended periods of time could be faced with permanent closure, just one indication of the local effect on the economy. As a result, businesses and families alike cut back on spending, as fears surrounding further job losses loom, deepening the economic downturn.

The effect on supply and demand and the resulting economic downturn has contributed to a reduction in consumption, including those products related to travel and manufacturing, like oil. This has therefore contributed to the fall in oil prices observed in the first four to five months of 2020.

International Oil Prices

At the beginning of the year, the price of Brent Crude oil was US$67 per barrel[6]. Since then, the price of the commodity has been significantly impacted by the COVID-19

[5] https://gisbarbados.gov.bb/blog/covid-19-update-one-more-case-today/ Accessed November 5, 2020

[6] https://countryeconomy.com/raw-materials/brent?dr=2020-01 Accessed May 19, 2020

pandemic. On March 31, 2020, the price of oil was US$20 per barrel, moving to US$28 per barrel on April 3, 2020[7]. The price of oil continues to fluctuate, as at May 19, 2020, US West Texas Intermediate (WTI) crude futures for July CLc1[8] were down US 13 cents, or 0.4%, at US$31.83 a barrel. This reflects the volatility that is a usual attribute of oil prices. Further evidence of this can be seen with prices that have risen in late April, early May, with benchmarks climbing to above $30 for the first time in May. However, a bleak economic outlook from the US Federal Reserve is expected to put downward pressure on oil prices[9].

In addition to the prevailing health pandemic, there have been other drivers affecting oil prices, especially the breakdown in negotiations between the Organisation of Petroleum Exporting Countries (OPEC) and its allies. This, it is believed, will have a long lasting effect on the downward price of oil.

There was no agreement on the proposal in March 2020 to cut oil production by 1.5 million barrels per day for the second quarter of 2020 and as a result, Saudi Arabia, the world's largest oil exporter, boosted its production to its full capacity of 12.3 million barrels per day, and offered a 20 percent discount in key markets. This resulted in an immediate drop of more than 30 percent in oil prices. The benchmark West Texas Intermediate (WTI) crude oil price fell to US$22.39 per barrel in the intraday session on March 20, 2020, less than half of the price at the beginning of the month. Overall, crude oil prices have fallen by 65 percent between January and April 2020, with Brent crude oil prices averaging US$23 per barrel in April, a multi-decade low[10].

In April 2020, OPEC+[11] reached a new production arrangement, agreeing to cuts of 9.7 million barrels per day in May and June 2020 with Russia and Saudi Arabia each

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[7] BL&P Application

[8] CLc1 is the ticker symbol for trading crude oil futures. C1 refers to the contract month, with c1 being the current month. https://www.thebalance.com/trading-crude-oil-futures-809351

[9] https://www.reuters.com/article/us-global-oil-idUSKBN22W021 Accessed May 19, 2020

[10] https://www.worldbank.org/en/region/mena/brief/coping-with-a-dual-shock-coronavirus-covid-19-and-oil-prices Accessed June 28, 2020

[11] OPEC+ includes the members of OPEC as well as 10 additional oil exporting countries. This group was formed in 2016 with the additional countries being Russian, Azerbaijan, Bahrain, Brunei, Kazakhstan, Malaysia, Mexico, Oman, South Sudan and Sudan.

reducing production to 8.5 million barrels per day (mb/d)[12]. The agreement also sees further reductions to 7.7 mb/d from July 2020 to December 2020 and 5.8 mb/d from January 2021 to April 2022[13].

On June 28, 2020, the price of Brent crude rose 30 US cents to US $41.32 per barrel (bbl) and US crude CLc1 rose 44 US cents to $38.93/bbl. Gains have however been tempered by the increase in COVID-19 cases, following fears of a second wave of the pandemic.[14]

Based on the aforementioned agreement, the outlook was that oil prices were expected to average US$35/bbl in 2020, recovering to US$42/bbl[15] in 2021. This compares with the October forecast of US$58/bbl and US$59/bbl[16]. This downward revision is indicative of the weak demand due to COVID-19, and is supported by the excess inventory that currently exists.

These are projections, however, and as such the weight applied to the likelihood of their outcome is subject to some degree of risk. Slower than expected recovery from the pandemic, higher production due to non-compliant oil producers and a longer and deeper recession than anticipated can all result in even lower oil prices. Alternatively, higher prices can be driven by weaker investment in new production, or the shutdown of some oil wells, thereby reducing future oil production. However, there has already been some rebounding in the price of the commodity, with many countries seeking to reopen businesses and attempts being made to restart economies.

[12] Mb/d - Millions barrels / day
[13] Monday May 18, Barbados Business Authority The Problem with Oil by Peter Nagle Accessed May 20, 2020
[14] https://uk.reuters.com/article/uk-global-oil/oil-rises-on-improving-economic-data-but-virus-case-jump-caps-gains-idUKKBN24001D, Accessed June 28, 2020
[15] bbl - barrels
[16] Monday May 18, Barbados Business Authority The Problem with Oil by Peter Nagle Accessed May 20, 2020

SECTION 4 – FUEL HEDGING

Regulated utility companies often use financial instruments to manage the risks that they encounter. These risks include commodity price risk, specifically the chance of a negative financial impact due to the variation in the price of a commodity. A fuel hedge is one such instrument and can be used as either a physical hedge or financial hedge. Physical hedges relate to the physical delivery of the commodity and involve the company entering into large oil contracts when oil prices are low, with the expectation that prices will rise in the future. A financial hedge is a paper transaction and involves the company entering into a financial contract with a third party using various hedging strategies.

Depending on the aim of a company's risk management strategy, varying hedging methods can be implemented, often with the overarching goal of achieving the objectives in the most economical way for the end consumer. These strategies often include the use of derivatives, used for speculating and hedging purposes.

Derivatives are securities that move in terms of one or more underlying assets - options, swaps, futures and forward contracts are common derivatives. In this instance, the fuel commodity is the underlying asset. The value of the derivative is based on an agreed-upon, underlying financial asset, index or security.

Futures contracts are firm commitments to make delivery or accept delivery of a specified quantity and quality of a commodity during a specific month in the future at a price agreed upon at the time the transaction is agreed. Only a small number of contracts traded each year result in actual delivery of the underlying commodity. Instead, buyers will sell their contracts and sellers will buy back their contract, before the contracts mature, thus offsetting their futures position. The difference between the initial purchase or sale price and the price of the offsetting transaction represents the realised profit or loss. The attributes of a futures contract (traded in standardised units, in a highly visible, extremely competitive continuous open auction) allows for an accurate picture of the market.

Most market participants choose to buy or sell their physical supplies through existing channels, using futures or options to manage price risk and liquidating their positions before delivery.

An option is a contract which provides the contract buyer with the right, but not the obligation, to purchase or sell a particular amount of a specific commodity (or the financial equivalent thereof), on or before a specific date or period of time at an agreed price. A swap refers to an exchange of one financial instrument for another between the parties concerned. A forward contract is an informal agreement, traded through a broker-dealer network, to buy and sell specified assets, at a specified price at a certain future date.

With respect to derivatives, all contract terms are standardised except the price at which deliver occurs. Price is determined via trading. After a deal is agreed, the exchange clearinghouse steps in to become the seller to all buyers and the buyer to all sellers. Since the exchange is now party to the transaction, the clearinghouse requires collateral in the form of a performance bond on every open contract. Failure to maintain this collateral results in the liquidation of the position.

Swaps, futures, options and collars can all be used as part of a hedge programme. In terms of designing a hedge strategy, the various combinations are limitless. The use of swaps and options are financial hedges, since there is no expected exchange of fuel involved in these transactions.

Hedging allows a market participant to lock in prices and margins in advance and reduces the potential for unanticipated loss.

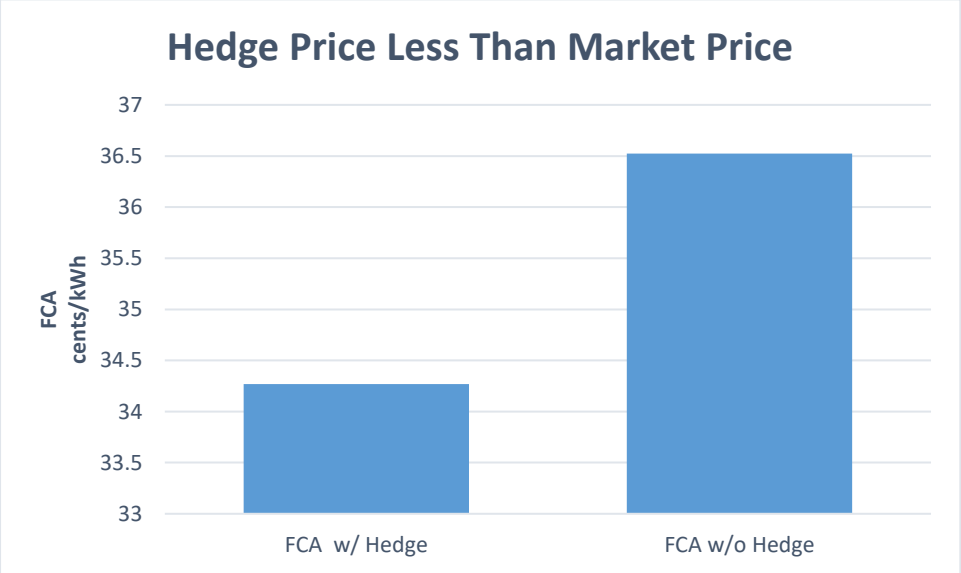
Hedging also reduces exposure to price risk by shifting that risk to those with opposite risk profiles or to investors who are willing to accept the risk in exchange for a profit opportunity. Hedging with futures eliminates the risk of fluctuating prices, but also means limiting the opportunity for future profits should prices move favourably. Hedging involves establishing a position in the futures market or options market that is equal and opposite to a position at risk in the physical market.

The purpose of the hedge is to avoid the risk of adverse market moves resulting in major losses. Because the cash and futures markets do not have a perfect relationship, there is no such thing as a perfect hedge, thus there will always be some profit or loss. However, an imperfect hedge can be a much better alternative than no hedge at all in a potentially volatile market.

What would a hedge look like

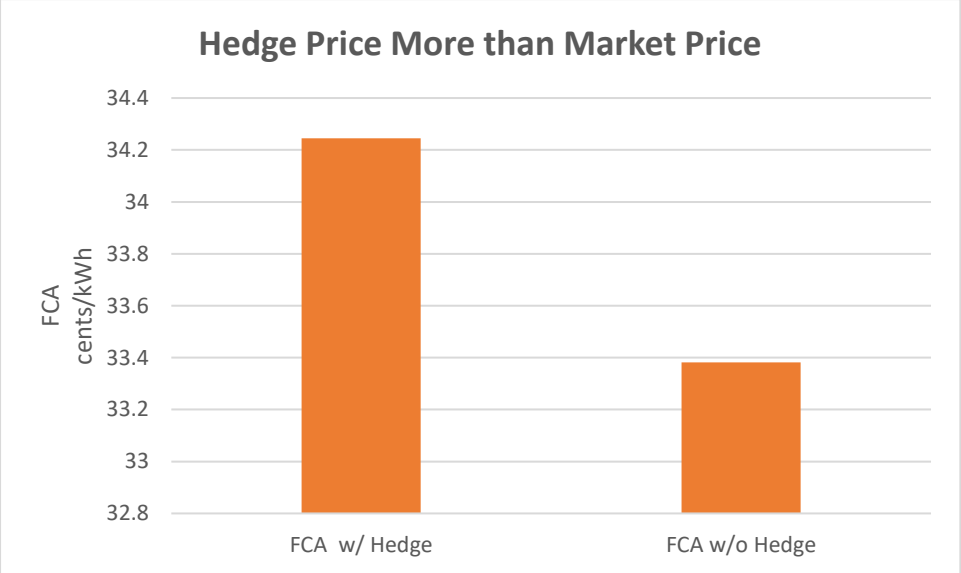
The BL&P has provided simulated data showing two examples of hedge results using a fixed price swap transaction, with hedge price of US$30/bbl, for 140,000 barrels.

In a situation where the market price rises above the hedge price, in this example by 20%, the hedge programme sees a gain which partially offsets the price of fuel. This gain is fed into the determination of the FCA, which is calculated at 34.269 cents/kWh. This is 6.2% lower than the FCA had the utility not hedged resulting in the consumer having lower electricity bills.



Comparatively, where the market price is lower than the hedge price, in this example by 6.7%, the hedge programme would experience a loss which would then be expected

to be included in the price of fuel. This results in an FCA of 34.245 cents/kWh, 2.6% higher than if the utility had not hedged.



Note that these simulations include the annual administrative costs that are estimated to be incurred (BDS$720,000). The analysis of relative performance of a hedge programme must include both an assessment of the hedge gains or losses along with any hedge related costs (referred to by the utility as administration costs) that are incurred. These simulations also assume that the correct hedge decisions had been made.

Administration costs are the cost of providing the following services:

- Crafting of risk management policies /governance, communication protocols, and reporting requirements;
- Analysis of hedging strategies and the collection of data to support this activity;
- Effectiveness testing for all hedging instruments;
- Performing hedge transactions;
- Provision of ongoing and ad hoc reports as required;
- Provision of settlement services with hedge counterparties and BL&P;

- Reporting on the effectiveness of the programme and advising on modifications where necessary; and
- Any other tasks as required by the utility where necessary and appropriate.

The cost of the 2020 Fuel Hedge programme was estimated, based on bids provided by the competitive quotations received during the 2016 Fuel Hedge Programme application process, with a 5% mark up to allow for any inflationary increases. The BL&P first ascertained if the companies which provided the previous bids still provided the services that had been initially quoted for.

The cost of financing margin calls is not included in the administration costs[17].

Hedge Outcomes

Hedge outcomes should fall within tolerances except where market conditions are more extreme than design standards or when the hedge ratios have reached the maximum under the utility's policies.

Outcomes that fall within tolerances carry the assumption of prudence barring material irregularities. For outcomes that fall outside of tolerances, utilities will need to demonstrate extreme market conditions or constraints of the maximum hedge accumulation to show prudence.

CONSULTATION ISSUE 1

What are your views regarding the utility entering into a hedge programme in order to reduce the level of variation in your electricity bills and overall lock in lower electricity bills?

[17] A margin call refers to a broker's demand that a customer deposit additional money or securities into the account so that it is brought up to the minimum value, known as the maintenance margin.

CONSULTATION ISSUE 2

The benefits or costs of hedging relate to the potential losses or gains that might occur as a result of the transaction, in addition to the hedge related costs that are borne during the fuel hedge programme. The BL&P is requesting that these benefits/losses be passed on to the consumer, and the company is unwilling to enter into a hedge programme otherwise.

Using the simulations above as a guide, what percentage of these losses, costs included, or benefits, do you think the customer should pay, in order that they can enjoy more stable prices?

Advantages and Disadvantages of Hedging

As with any financial strategy, there are advantages and disadvantages.

Cons:

- A poorly executed or ill-timed hedge could result in an FCA that is significantly higher than the FCA would have been if the utility had not hedged. For example, a hedge can prevent the consumer from benefiting from falling oil prices.
- Costs must be incurred to implement and administer a hedging programme, which, at the lowest level, increase the FCA rates, even if minimally. The BL&P has indicated that these administrative costs would be approximately BDS$720,000 per year and while they have not yet engaged the services of an investment management firm, it is their stated intention to seek quotations from the market should they receive approval from the Commission to hedge. At that point, an in-depth examination of the hedge costs will be undertaken by the Commission.

Pros:

- As of May 2020, the FCA has been relatively low and, based on the outlook for fuel prices, is expected to remain low into 2021. Based on the decisions that have been made by the major oil producers, some recovery is expected within the medium term. A properly executed hedge could protect the customer from very high FCA rates should the price of oil increase sharply.

- A hedge is a tool that helps the utility company manage the price risk. Currently, given that the utility does not hedge, there is an implicit assumption that the stakeholders are willing to accept the risk of the high price volatility and resulting fluctuations in the market along with any extreme price rises.

Economic Effectiveness

In addition to considerations of the hedge outcomes, there must also be consideration given to the implementation costs and management effort in the selection of a hedge strategy. The avoidance of losses must be weighed against the cost of implementing the programme. As noted before, the utility's aim is to hedge up to 90% of Bunker C fuel. The utility intends on the approval of the programme, to engage the services of an experienced risk management professional . The costs of hedging relate to the cost of buying the hedge instruments and the costs related to the investment management. The investment management functions include:

- The provision of advice on appropriate risk and controls,
- oversight on the hedging strategy and hedge execution and
- the provision of market intelligence to inform the hedging strategy.

Some additional cost of the hedging programme would relate to the internal company resources which would be required to provide the necessary governance of the hedging programme[18]. This would entail:

- the establishment of a risk policy by the BL&P;
- the establishment of a hedge committee which includes representatives from the BL&P and stakeholders; and
- ensuring the BL&P personnel have necessary risk management training.

The cost of the hedging programme provided (BDS$720,000) is an estimate only and covers the above noted functions.

The utility currently has no experience in hedging but the company intends that with the appropriate technical and operational training by the risk management professional, that it will, in approximately a year's time, be in a position to independently perform the investment manager's role, similar to what is currently done in other utility companies, such as St. Lucia Electricity Services Limited (LUCELEC)[19]. The utility does not anticipate that the cost attributed to the internal company resources to manage the hedging programme will be significant, and is not included in the initial hedge administration cost of $720,000. These would instead be incorporated as part of BLPC's normal operational costs. The BL&P does not anticipate that it will require a full time internal team to manage the hedge programme at this time. In the medium term, the responsibility of managing the programme internally will be incorporated into already existing job functions.

Speculation

The aim of speculation is to try to make a profit from the change in price of a commodity, even if the investor has no physical risk. This however, is not the goal of

[18] Affidavit

[19] LUCELEC started a Hedging Pilot Programme in 2009, and advanced to a fully fledged hedging programme in 2010 following the successful execution of the pilot. https://lucelec.com/content/lucelec's-fuel-price-hedging-programme. Accessed October 14, 2020

hedging which is focused on the reduction of risk or volatility associated in the commodity's change in price. In evaluating the outcome of the hedge therefore, one must consider the net effect of the gain or loss on the physical position plus the gain or loss on the hedging tool.

Determination of Level of the Hedge

The level of the hedge (BL&P has stated that they desire to hedge up to 90% of their HFO fuel volumes) should be determined based on the objectives of the hedge programme, which would be stated clearly at the outset. Using their 2019 fuel consumption as a guide, the company would have hedged up to $114.5 million of its fuel purchase. An example of how this may work relates to the typical price distribution of the commodity, considering the potential price outcomes. In general, while the range of potential prices might be very wide, it is more probable for the market to experience prices closer to the lower end of the range. The actual shape of this distribution curve at any point in time will depend on the prevailing volatility. The decision of the utility is driven by the price points at which it is most comfortable on the curve, and this will also affect the potential gains and losses.

In times of rising oil prices, hedging could provide some protection. While hedging losses are a potential outcome of a hedging programme, they generally occur in times of falling oil prices. Customers derive greater value from upside cost mitigation than they do from hedge losses, since the protection against high fuel prices allows for better financial management. On the flip side, hedge losses generated by the consumer paying for fuel at a higher price than the market is partially mitigated.

CONSULTATION ISSUE 3

What is the maximum level of hedged fuel volume you are comfortable with? Give reasons why.

CONSULTATION ISSUE 4

In recognition that hedge losses do occur, if the hedge programme is implemented, what percentage of the hedge losses are you prepared to accept?

Smoothing

The utility company has been utilising the smoothing technique to reduce some of the impact of price volatility for the consumer. However, this technique cannot protect the customer from price spikes, it merely buffers the impact of price hikes by spreading such over several billing periods.

It can be argued that by implementing this practice, the utility is essential performing the same function as a hedge programme, by sharing limited levels of price risk, but in this case redistributing the price differential back to the consumer or the utility over several billing periods. There is some level of opportunity cost borne by the two parties because at any point in time, the relevant party might be carrying more than the actual FCA cost.

The utility has expressed that it intends to continue this practice in conjunction with an fuel hedge programme, as it provides further flexibility in reducing the impact of hedge losses on the consumer.

CONSULTATION ISSUE 5

What is your opinion on the utility continuing the practice of smoothing alongside a fuel hedge programme?

Proposed Hedge Equation

BL&P has indicated its intention to hedge up to 90 percent of its HFO once market conditions are favourable.

Any gains and losses from the hedge programme will be matched against fuel purchase prices from BL&P's fuel suppliers and incorporated into the calculation of the monthly FCA. Additionally, any costs associated with the programme will also form part of the calculation of the monthly Fuel Clause Adjustment (FCA).

The existing formula for the FCA is:

Equation 1:

$$FCA_n = \frac{\sum_i (Fuel\ Cost_{n-1} . \frac{THR^i_{n-1}}{AHR^i_{n-1}}) + Purchased\ Power_{n-1}}{Energy\ Generation_{n-1} . (1 - Aux_{n-1}) . (1 - losses)} [BD\$/kWh]$$

Where:

FCA_n =	FCA for each month other than February
Energy $Generation_{n-1}$ =	Energy generated in the previous month
Aux_{n-1} =	Auxiliary consumption as a % of total generation in the previous month
Losses =	System losses as a % of total generation calculated based on a 12-month running average
Fuel $cost_{n-1}$ =	Fuel cost in previous month including cumulative under/over recovery
Purchase $Power_{n-1}$ =	Purchase power from renewable sources in the previous month
i =	Generation plant/unit
BD$/kWh =	Barbados dollars per kilowatt hour
AHR^i_{n-1} =	Actual Heat Rate for generation plant/unit i, for month n-1
THR^i_{n-1} =	Target Heat Rate for generation plant/unit i, for month n-1

During any discussion related to the amendment of the FCA, the Commission must ensure that the equation that is used to determine the transference of fuel cost from the utility to the consumer is a transparent one. In Equation 1, the calculation currently being used by the Commission, the FCA is determined by dividing the cost of fuel

purchased by the energy generated, taking account of technical and commercial losses and auxiliary losses. In the numerator, the cost of the energy purchased from distributed energy generators is included through the purchased power component of the equation. In the denominator, the energy generated from RE sources is not expressly stated. This calls for a revision of the equation at ~~his~~ this juncture to ensure that the inputs of the equation are clear and transparent.

The proposed equation therefore is provided in below Equation 2.

Equation 2:

$$FCA_n = \frac{\sum_i (Fuel\ Cost_{n-1} . \frac{THR^i_{n-1}}{AHR^i_{n-1}}) + Purchased\ Power\ Cost_{n-1} + Admin\ Costs}{\sum_j Energy\ Generation_{n-1} . (1 - Aux^j_{n-1}) . (1 - losses^j_{n-1})} [BD\$ /kWh]$$

Where:

FCA_n =	FCA for each month other than February
Energy $Generation_{n-1}$ =	Energy generated in the previous month
Aux_{n-1} =	Auxiliary consumption as a % of total generation in the previous month
Losses =	System losses as a % of total generation calculated based on a 12-month running average
Fuel $cost_{n-1}$ =	Fuel cost in previous month including cumulative under/over recovery
Purchase $Power_{n-1}$ =	Cost of Purchase power from renewable sources in the previous month
Purchase Power $Energy_{n-1}$ =	Purchase power from renewable sources in the previous month
i =	Thermal Generation plant/unit

BD$/kWh =	Barbados dollars per kilowatt hour
j =	Generation plant/unit (Thermal and RE, including purchased energy)
AHR^{i}_{n-1} =	Actual Heat Rate for generation plant/unit i, for month n-1
THR^{i}_{n-1} =	Target Heat Rate for generation plant/unit i, for month n-1

It would therefore be Equation 2 that is amended to account for the inclusion of any administration costs related to the proposed fuel hedging programme.

CONSULTATION ISSUE 6

What are your views on the composition and structure of the FCA equation?

SECTION 5 – REGULATORY FRAMEWORK OF ANY PROPOSED HEDGE PROGRAMME

Hedging is a generally accepted business practice. As such, any programme of this nature should be undertaken as part of a well-articulated business process.

Prudence Risk

Prudence Risk is a necessary component of economic regulation. This refers to the risk incurred by regulated utilities that cost may be recoverable from ratepayers since they have been deemed to be imprudent. Prudence risk is reasonable and necessary to protect ratepayers because regulated utilities operate in monopoly markets where there are no competitive checks and balances.

The development of a regulatory policy which defines a framework and assessment criteria for this utility's hedge strategies would provide greater clarity as to fair and predictable prudence standards. Furthermore, establishing a process by which the utility would articulate its risk management strategies to the regulator and establishing reporting requirements to facilitate regulatory review of the execution of those strategies would foster better outcomes for both the utility and ratepayers. Additionally, the establishment of a policy at the outset of the programme reduces the need for after-the-fact prudence reviews.

In addition to defining prudence standards, the policy would therefore set out the reporting requirements, and facilitate regulatory reviews. Prudence standards would include strategy formation and execution, with the resulting data being used to file periodic reports which summarise risk metrics and hedge responses.

Monitoring Hedge Performance

In the field of risk management, the quantification of statistical parameters, in particular price volatility, to measure risk and design effective hedging strategies is key. These tools are used to monitor risk and make hedging decisions in support of the strategy that has been chosen. A requirement by the regulator that these risks are quantified, monitored and reported should form part of the regulatory framework.

This is especially important given that the area of hedging is not part of the core competency of the utility.

One of the primary tools for the monitoring and measurement of risk is the use of Value at Risk (VaR). This allows the utility and the regulator to determine the risk of breaching cost boundaries or hedge loss boundaries.

Proposed Risk Management

The affidavits provided by the utility include the proposal of establishment of policies and procedures to facilitate the successful implementation of a hedging programme. This includes:

- the establishment of an Executive Risk Management Committee, sometimes called an Investment Committee and
- Governing Policy.

The Governing Policy addresses the philosophy, framework and delegation of authorities necessary to govern the activities related to the utility's fuel risk management program. A formal document of Risk Management or Investment Policies and Procedures will be established to provide definition to the programme and will address the following items:

- Delegation of Authorities
- Multisector stakeholder roles
- Standards of Conduct
- Risk Management/Investment Philosophy
- Permissible Activities and Instruments
- Quantification of Positions and Exposures
- Management and Control and
- Monthly or quarterly analysis of the effectiveness of the hedging strategies.

The utility proposes to contract the services of an experienced risk management professional to provide guidance in the development of a fuel hedge programme in order to achieve its objectives.

The documentation of guidelines allows the BL&P's risk management team (including their professionals) to work within a well-managed structure. It also allows the regulator to assess the programme for regulatory prudence related to any costs that must be passed on to the consumer. Should the application be approved, it will be prudent to consider a written risk-management policy which includes the above noted documentation which describes the hedging programme to be filed with the Commission. This policy could be recommended to include the mandate below:

- The types of trades that are approved;
- The commodities that are approved for hedging, including the quantity and timeframe limits; and
- The hedging tools that are approved for use.

CONSULTATION ISSUE 7

Would the inclusion of a regulatory framework increase your confidence in a fuel hedging programme? Please provide reasons for your response.
What would you like to see included in such a regulatory framework? Please provide any comments.

CONSULTATION ISSUE 8

Would the inclusion of a risk management/investment management plan increase your consumer confidence in a fuel hedging programme?

SECTION 6 - SUMMARY OF CONSULTATION ISSUES

CONSULTATION ISSUE 1

What are your views regarding the utility entering into a hedge programme in order to reduce the level of variation in your electricity bills and overall lock in lower electricity bills?

CONSULTATION ISSUE 2

The benefits or costs of hedging relate to the potential losses or gains that might occur as a result of the transaction, in addition to the administration costs that are borne during the fuel hedge programme. The BL&P is requesting that these benefits/losses be passed on to the consumer, and the company is unwilling to enter into a hedge programme otherwise.

Using the simulations above as a guide, what percentage of these losses, costs included, or benefits, do you think the customer should pay, in order that they can enjoy more stable prices?

CONSULTATION ISSUE 3

What is the maximum level of hedged fuel volume you are comfortable with? Give reasons why.

CONSULTATION ISSUE 4

In recognition that hedge losses do occur, if the hedge programme is implemented, what percentage of the hedge losses are you prepared to accept?

CONSULTATION ISSUE 5

What is your opinion on the utility continuing the practice of smoothing alongside a fuel hedge programme?

CONSULTATION ISSUE 6

What are your views on the composition and structure of the FCA equation?

CONSULTATION ISSUE 7

Would the inclusion of a regulatory framework increase your confidence in a fuel hedging programme? Please provide reasons for your response.
What would you like to see included in such a regulatory framework? Please provide any comments.

CONSULTATION ISSUE 8

Would the inclusion of a risk management/investment management plan increase your consumer confidence in a fuel hedging programme?

SECTION 7 – ISSUES CONFERENCE

(i) In exercise of its powers under Rule 34(2) of the Utilities Regulation (Procedural) Rules, 2003 *(as amended),* the Commission held a Procedural and Issues Conference on Friday, June 5, 2020 ('Conference'). The Applicant, Barbados Light & Power Company Limited, participated, as well as Intervenors CARITEL, the Barbados Renewable Energy Association ('BREA') and The Ministry of Energy & Water Resources. Commission staff also participated. Commissioner Ruan Martinez presided over the Conference. The purpose of having this Conference was to better manage the prompt hearing of the Application by:

(i) Settling a list of issues to be determined by the Commission in hearing the Application;

(ii) Setting timelines for the filing of submissions on the issues and for the issue of interrogatories or responses to those submissions or interrogatories;

(iii) Dealing with the hearing in a just and expeditious manner.

In accordance with Rule 34(6) on June 15, 2020, the Commission issued Procedural Order # 2 identifying the list of issues to be determined in this matter.

The following is the list of issues to be determined by the Commission in this proceeding:

(a) The desirability of fuel hedging, including:

i. What are the stated objectives of the Fuel Hedging Strategy?
ii. What is the context for a Fuel Hedging Programme including
    - What is the geo-political environment relevant to this strategy and

- How will the Barbados National Energy Policy mandate to achieve 100 percent renewable energy by 2030 impact the proposed fuel hedging programme?

iii. What is the proposed method of hedging – physical or financial – and why was this method selected?

(b) The risk of the proposed hedging programme, considering:

i. The target price and level of hedging, including justification for proposal to hedge up to 90 percent of HFO;

ii. The risk to consumers, including an assessment of the risk of hedging vs. likely benefit to consumers, as well as competence and volatility concerns; and

iii. The administrative costs, including but not limited to cost of administrator and method of selecting the administrator.

(c) Whether the Applicant should be permitted to recover the costs of the fuel hedging programme via the Fuel Clause Adjustment, including:

i. The appropriateness of recovery through the FCA, any alternative methods of recovery and relative benefits;

ii. The formulation of the FCA; and

iii. Regulatory oversight and governance concerns, including:

- The implementation of a hedging policy and
- How the programme, if approved, would be monitored by the Commission over time.

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