NOTIFICATION OF THE BARBADOS LIGHT & POWER COMPANY LIMITED (BLPC) TO THE FAIR TRADING COMMISSION OF ITS INTENTION TO IMPLEMENT A FUEL HEDGING PROGRAMME AND APPLICATION BY THE BLPC FOR APPROVAL TO APPLY THE RESULTS AND COSTS OF HEDGING TO THE CALCULATION OF THE FUEL CLAUSE ADJUSTMENT PURSUANT TO SECTION 16 OF THE UTILITIES REGULATION ACT, CAP 282 OF THE LAWS OF BARBADOS

EXECUTIVE SUMMARY

1. The Barbados Light & Power Company Limited (BLPC) would like to implement a fuel hedging programme to reduce the fluctuations in the fuel component of customers' bills and to take advantage of the current favorable fuel price environment.

2. Barbados National Oil Company Limited (BNOCL) has responsibility for fuel importation into Barbados therefore a hedge on the price of fuel is the only type of hedging activity available to BLPC at this time.

3. A fuel hedging programme would allow BLPC to enter into a financial arrangement with a third party to hedge 80% of its Heavy Fuel Oil consumption volumes. Once market conditions are favorable, the BLPC will consider hedging up to 90% of its Heavy Fuel Oil consumption volumes.

4. The BLPC intends that the gains and losses from the hedging programme will be matched against fuel purchase prices from BNOCL and along with any other costs associated with the programme to form part of the calculation of the monthly Fuel Clause Adjustment (FCA).

5. Emera Energy Services, an affiliate based in Nova Scotia Canada has been identified to function as agent for BLPC to execute the hedging programme. The cost of its administrative services is estimated at BDS$600,000 annually.

6. The BLPC therefore gives notice to the Fair Trading Commission (Commission) that it intends to implement a fuel hedging programme as proposed in this Application.

7. The BLPC hereby seeks approval from the Commission to apply the settlement arising from the hedging programme and the associated costs to the calculation of the Fuel Clause Adjustment.

A. APPLICATION

8. The BLPC hereby notifies the Commission of its intention to implement a fuel hedging programme. By virtue of this, pursuant to Section 16 of the Utilities Regulation Act, Cap 282 (URA) of the Laws of Barbados, the BLPC therefore seeks approval from the Fair Trading Commission (Commission) for the results arising from a fixed price swap along with administrative costs incurred with our hedging programme to be applied to and form part of the calculation of the Fuel Clause Adjustment.

9. Rule 25 of the Utilities Regulation (Procedural) Rules, 2003 (the Rules) provides for these proceedings to be commenced by the filing of an Application.

B. CONCISE STATEMENT OF FACTS (Rules 26 of the Rules)

10. The BLPC is a vertically integrated electric utility company which was established on May 6, 1955 and incorporated on December 30, 1986 under the **Companies Act,** Cap 308 of the Laws of Barbados and has its registered office at Garrison Hill, St. Michael, Barbados. Pursuant to the Electric Light & Power Order, No. 3, set out in the Third Schedule of the **Electric Light and Power Act,** Cap 278 of the Laws of Barbados, the BLPC was granted the right to supply energy for all public and private purposes for a period of forty-two years from August 1, 1986.

11. The Applicant is a wholly owned subsidiary of Emera Caribbean Inc. (the holding company). The holding company is a public company listed on the Barbados Stock Exchange.

12. The Applicant's electricity system is comprised of three (3) generating plants and 16 substations. The generating plants use a mix of technologies including steam, diesel and gas turbines to produce electricity. The Company has an installed mix of base load and peaking plant to meet the demand of electricity customers. The Company's

low speed diesel generators, the first two of which were installed in 1982, achieve high efficiency, and operate reliably on Heavy Fuel Oil (HFO).

13. Dramatic increases in international oil prices over the last seven years, combined with the subsidy being removed from diesel in Barbados, has resulted in significant fluctuations in the price of electricity in Barbados.

14. The BLPC purchases fuel under a contract with BNOCL, with prices linked to New York (NY) Harbor Residual Fuel No.6 2.2% index.

15. The Company uses approximately 250,000 tons of fuel each year:
    - Heavy fuel oil (≈75% of cost)
    - Av jet (≈21% of cost)
    - Diesel (≈4% of cost)

16. The Fuel Clause Adjustment (FCA) is approved by the Commission as a principle or formula that the BLPC is permitted to use to pass through the cost of fuel used to generate electricity for use by its customers. Fuel purchases are a "pass through" cost that is applied equally to all customer groups through the FCA charge. Fluctuations in the FCA are influenced mainly by movements in the purchase price of fuel.

17. BLPC is permitted by the Commission, as part of the FCA calculation, to employ a smoothing technique to reduce the impact on customers where there are significant fluctuations in the FCA from one month to the next. Notwithstanding BLPC's efforts to smooth fuel costs, customers are still, to some degree, exposed to the vagaries of the fuel market and do experience the volatility in fuel costs through the Fuel Clause Adjustment.

18. Global oil prices have declined from a high of US$133 per barrel in July 2008 to around US$32 per barrel in February 2016. The fall in oil prices is reflected in lower purchase cost of fuel from our main supplier, the BNOCL. Fuel accounts for more than 50% of customers' electricity bills and therefore as the cost of fuel declines, customers will experience a commensurate decrease in their electricity bills.

19. The current low oil prices are welcomed but are unlikely to remain at this low level indefinitely. In fact, the U.S, Energy Information Administration projects oil prices to rebound strongly in the coming months. The price of Brent oil has already moved from a low of US$28.82 per barrel in February 11, 2016 to US$39.01 per barrel on March 7, 2016 an increase in price of over 35% in a few days.

20. Timing is an important consideration in hedging. Prudence dictates that the BLPC seek to implement a fuel hedging programme at this time to reduce the volatility of the FCA and to take advantage of the current favourable fuel price environment.

21. BLPC contemplates hedging 80% of its Heavy Fuel Oil consumption volumes, but based on market condition may hedge different volumes up to 90% of its Heavy Fuel Oil consumption volumes.

22. The BLPC requests that the gains and losses from the hedging programme will be matched against fuel purchase prices from suppliers and along with any other costs associated with the programme to form part of the calculation of the monthly Fuel Clause Adjustment (FCA). The BLPC therefore proposes the following revised FCA formula:

$$FCA_n = \frac{Fuel\ Cost_{n-1} + AdminCost_{n-1}}{Energy\ Generation_{n-1} * (1 - Aus_{n-1}) * (1 - losses)} \left[\frac{BD\$}{kWh}\right]$$

Where:

FCA_n =Fuel Clause Adjustments for the current month n
$Energy\ Generation_{n-1}$= Energy generated in previous month
Aus_{n-1}=Auxiliary consumption as a percentage of total generation in previous month
$losses$= System losses as a percentage 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 and **gains/losses from fuel hedge** in the previous month.
$AdminCost_{n-1}$= Administrative costs of hedging programme in the previous month

23. On December 3, 2014 BLPC sent correspondence to the Commission on its proposed fuel hedging strategy programme and sought approval to implement such an arrangement. The primary reason for wishing to implement the hedging programme at that time is because the BLPC anticipated that the programme would be of significant benefit to electricity customers as it would have allowed for better management of the volatility in the Fuel Clause Adjustment and provide for a more stable and predictable price of electricity.

24. By letter dated December 17, 2014 the Commission determined that the BLPC does not require approval from the Commission to enter into a hedging programme but advised that if BLPC intends to apply the results of the hedging programme to the calculation of the FCA or any other rate the BLPC would be required to make an Application to the Commission in accordance with Section 16 of the URA.

25. On February 2, 2015, BLPC made a formal Application to the FTC for approval to implement a Fuel Hedging Programme and to apply the results and associated costs of the programme to the calculation of the FCA.

26. The BLPC received correspondence from the FTC dated March 17, 2015 advising that the Commission would only consider the Application if actual results and costs from at least two hedging transactions are submitted by May 19, 2015. BLPC explained during a meeting with the FTC on March 18, 2015 and in subsequent correspondence dated March 26, 2015 and May 11, 2015 that conducting hedging transactions outside of the FCA mechanism would negate the objective of fuel hedging and would provide no meaningful results to inform the Application.

27. The BLPC further indicated to the FTC that it would be unable to satisfy the request of submitting actual results and costs from two or more hedging transactions by May 19, 2015.

28. The FTC advised in correspondence dated June 25, 2015 that the Application to implement a fuel hedging programme and apply the results and costs to the calculation of the FCA was rejected given the inability of BLPC to supply the FTC with actual results and costs from more than two hedging transactions outside of the FCA mechanism.

29. The BLPC considers the implementation of a fuel hedging programme would be beneficial to electricity customers and hereby reapplies to the Commission for approval to apply the settlement arising from the hedging programme and the associated costs to the calculation of the FCA. The BLPC further submits that the associated costs and any settlement arising from a fuel hedging program are legitimate costs that ought to be passed through the FCA.

C. GROUNDS FOR THE APPLICATION

30. Section 16 of the URA provides that 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.

31. Section 2 of the URA defines "principles" as "the formula, methodology or framework for determining a rate for a utility service." In keeping with this definition, the FCA is deemed a formula for the purposes of the URA.

32. Section 2 of the URA further sets out that the term "rates" includes every rate, fare, toll, charge, rental or other compensation of a service provider; a rule, practice, measurement, classification or contract of a service provider relating to a rate; and a schedule of tariff respecting a rate.

33. The BLPC's Application may result in the alteration of the FCA formula or any other rate and therefore this Application, made pursuant to Section 16 of the URA, forms the statutory basis on which the Commission may act in relation to granting our request.

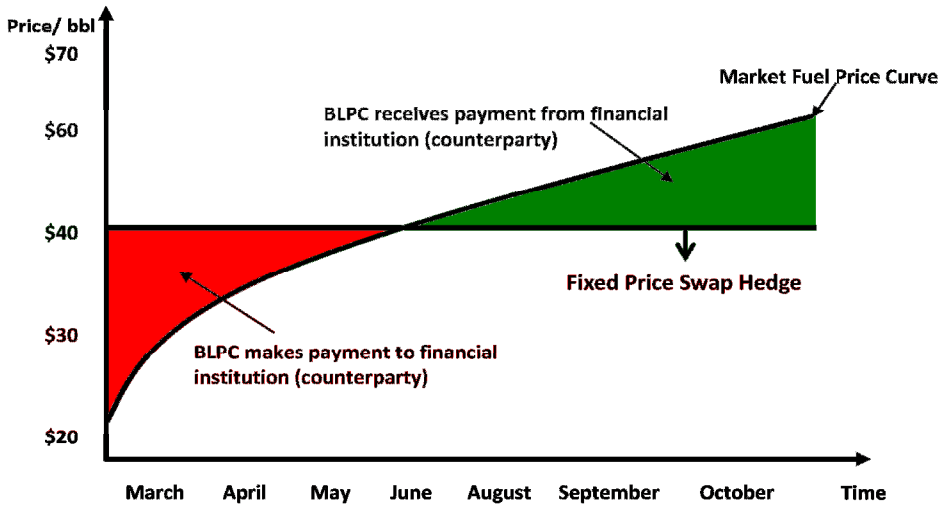
A Synopsis of how the Fuel Hedging Programme would work

34. Hedging can be conducted for either the physical delivery of fuel or the price of fuel. However, given that BNOCL is the supplier of fuel into the country, the implementation of any hedging programme by BLPC would have to be a financial rather than a physical fuel hedge. The programme would allow BLPC to enter into a

financial arrangement with a third party to achieve fuel price certainty for specific volumes of fuel.

35. BLPC will continue to purchase fuel from BNOCL at the market rate and enter into a fixed price swap contract with third parties at a targeted hedge price. Realized gains and losses from the hedge will be matched against fuel purchase prices from BNOCL in the calculation of the monthly Fuel Clause Adjustment.

Figure 1



36. BLPC would pay its supplier BNOCL at the contracted rate for fuel purchases and enter into a fixed price swap with financial institutions/counterparties to pay a fixed price, for example US$40 per barrel, for a portion of the fuel purchases.

37. This means in instances when the underlying market price increases above the hedge price in our example of US$40 per barrel (see green area in Figure: 1), BLPC will receive a payment for the difference in the hedge price and the market price. The converse occurs in the event market prices fall below the hedge price of US$40 (see red area in Figure: 1), BLPC would make payment to counterparties for the amount of the price difference.

38. Figure 2 depicts examples of a fixed price swap transacted at a hedge price of US$40 per barrel for volumes of 88,547 barrels while the market price of fuel fluctuates above and below the hedge price.

Figure 2: Examples of Possible Monthly Outcomes

Hedge Price is LESS than Floating/Market Price	Hedge Price is GREATER than Floating/Market Price
▪ Hedge Price:US$40 per barrel ▪ Floating/Market Price:US$48 per barrel ▪ Monthly Hedged Volumes:88,547 barrels ▪ Financial institutions/counterparties pays BLPC the difference between the floating market price and the hedged price multiplied by the volumes hedged for that month. ▪ Financial institutions/counterparties pays BLPC: (US$40 - US$48)*88,547=US$708,376 (BDS$1,416,752) ▪ The US$708,374 payment BLPC receives from the counterparties would be used to offset the cost of the physical fuel purchased from BNOCL.	▪ Hedge Price:US$40 per barrel ▪ Floating/Market Price:US$38 per barrel ▪ Monthly Hedged Volumes:88,547 barrels ▪ BLPC will pay the financial institutions/counterparties the difference between the floating market price and the hedged price multiplied by the volumes hedged for that month. ▪ Financial institutions/counterparties pays BLPC: (US$38 - US$40)*88,547=-US$177,094 (BDS$354,188) ▪ The US$354,188 payment BLPC makes to counterparties would be offset by the lower physical cost of the fuel purchased from BNOCL.

39. In the example, where the hedge price is less than the market price, BLPC would receive the difference between the market price and the hedge price from counterparties. The gains received ($1,416,752) would be used to offset the cost of the physical fuel purchased from BNOCL and incorporated into the calculation of the monthly fuel clause adjustment as depicted in Figure 3.

40. In the example where the hedge price is greater than the market price, BLPC would pay the difference between the market price and the hedge price to counterparties.

FIGURE: 3 Monthly Fuel Clause Adjustment Calculation Examples

	Hedge Price is LESS than Floating/Market Price		Hedge Price is GREATER than Floating/Market Price	
Gross Generation for month (GWh)	84.07		84.07	
Auxiliaries for month (GWh)	3.50		3.50	
Net Generation for month(GWh)	80.56		80.56	
Losses (12 month average)	6.72%		6.72%	
Net Generation adjusted for losses for the month (GWh)		75.147		75.147
Fuel cost for the month (BDS $'000s)	$19,603.8		$17,754.7	
Add Purchased Power for the month (BDS $'000s)	$388.47		$337.80	
Add under/(less over) recovered at month (BDS $'000s)	($170.5)		($170.5)	
***Less* Fuel Hedge settlement contribution for month (BDS $'000s)**	**($1,416.8)**		**$354.2**	
Add Fuel Hedge Administrative costs for month (BDS $'000s)	**$50.0**		**$50.0**	
Total Fuel & Purchased Power for the month (BDS $' 000s)		$18,455.0		$18,326.3
Calculated Fuel Clause Adjustment for month – Unsmoothed (Cents/kWh)		**24.559**		**24.387**
Fuel Clause Adjustment without fuel hedge (Cents/kWh)		*26.377*		23.849

41. The payment ($354,188) made by BLPC to the counterparties will be incorporated into the calculation of the monthly Fuel Clause Adjustment as depicted in Figure 3.

42. All realized gains and losses from the hedge along with the administrative costs associated with the hedging programme will be incorporated into the calculation of the monthly Fuel Clause Adjustment.

43. In the example where the hedge price is less than the market price, the FCA is calculated at $0.245 instead of $0.263 per kWh with no hedge in place. While in the example where the hedge price is greater than the market price, the FCA is calculated at $0.243 instead of $0.238 without the hedge. The variability of the FCA from month to month is reduced considerably with the adoption of the fuel hedging mechanism.

44. Global oil prices are currently at their lowest in recent years but are unlikely to remain at the current low levels indefinitely. BLPC considers the use of a hedging mechanism at this time would reduce fluctuations in the fuel component of customers' bills and allow customers to benefit from the current favorable lower fuel price environment.

45. BLPC had discussions with a number of institutions on their hedging products and has decided to engage Emera Energy Services, an affiliate based in Nova Scotia Canada, to function as agent for BLPC to execute the hedging programme. Emera Energy is well positioned to manage the programme due to their market access and experience in providing hedging services to other Emera affiliates in the Caribbean.

46. It is BLPC's intention to contract Emera Energy Services as an agent for BLPC to enter into hedging contracts with counterparties for up to 90% of BLPC's Heavy Fuel Oil consumption volumes.

47. A fixed price swap hedge was recommended by all counterparties and Emera Energy Services as a prime hedging instrument to achieve BLPC's price stability objective.

48. A fixed Price Swap mechanism is currently being utilized in Grand Bahama Power Company (GBPC) and St. Lucia Electricity Services.

49. HFO accounts for approximately 75% of BLPC's total fuel cost and is considered the appropriate fuel price exposure to hedge against. Initial analysis indicates that NY

Harbor 1% Fuel Oil is highly correlated with BLPC's purchase prices from BNOCL and therefore may be a suitable underlying index for hedging HFO's price exposure.

50. BLPC has targeted early 2016 to commence the hedging programme in order to take advantage of the current environment. BLPC will obtain quotations for NY Harbor 1% Fuel Oil or another appropriate index and execute a hedge up to a maximum of 90% of fuel volumes once the forward price falls below the targeted hedge price.

51. There is zero initial cash outlay directly involved in transacting the hedging programme; however there is an estimated BDS$600,000 annual administrative cost associated with engaging Emera Energy Services to manage the programme on the behalf of BLPC.

52. Emera Energy Services has assisted Grand Bahama Power Company (GBPC) in implementing a similar hedging programme.

D. NATURE OF ORDER BEING SOUGHT

53. The BLPC requests that the results arising from the price swaps, along with associated costs incurred with the hedging programme, be applied to and form part of the calculation of the Fuel Clause Adjustment or any other rate as determined appropriate by the Commission.