FAIR TRADING COMMISSION

BARBADOS **NO. 0002/09**

FAIR TRADING COMMISSION

IN THE MATTER of the Utilities Regulation Act, CAP. 282 of the Laws of Barbados;

IN THE MATTER of the Utilities Regulation (Procedural) Rules, 2003;

AND IN THE MATTER of the Application by the Barbados Light & Power Company Limited (the Applicant) for a review of electricity rates pursuant to Section 16 of the Utilities Regulation Act, CAP. 282 of the Laws of Barbados;

APPLICANT
The Barbados Light & Power Company Limited

INTERVENORS
Barbados Association of Retired Persons (BARP) in association with Public Counsel
Barbados Small Business Association (BSBA) in association with Public Counsel
Barbados Association of Non Governmental Organisations (BANGO)
Barbados Consumers Research Organisation, Inc. (BARCRO)
Dr. Roland Clarke
Mr. Errol E. Niles, Attorney-at-Law
Mr. Douglas B. Trotman, Attorney-at-Law
CANBAR Technical Services Ltd.

BEFORE:

Sir Neville Nicholls	Chairman
Mr. Andrew Brathwaite	Commissioner
Mr. Gregory Hazzard	Commissioner
Mr. Alfred Knight	Commissioner
Mr. Andrew Willoughby	Commissioner

DECISION AND ORDER

PART ONE – EXECUTIVE SUMMARY

On May 8, 2009 the Barbados Light & Power Company Limited submitted an application for a review of its electricity rates. The Application was accompanied by Affidavits of the Applicant's witnesses; employees, Mr. Peter Williams, Mr. Hutson Best, Mr. Mark King and Mr. Stephen Worme and expert witnesses, Mr. Robert Camfield and Mr. Michael O'Sheasy.

The Commission was asked to approve a Rate Base computed by the Applicant at $544,198,726 and a capital structure of Debt 35% and Equity 65% in addition to a 10.48% Rate of Return on Rate Base. The Commission was also asked to approve a Revenue Requirement of $502,238,415 and to replace existing tariffs with new tariffs which should come into effect from October 1, 2009.

In its Memorandum on Proposed Tariffs, the Applicant proposed the introduction of a new Time-of-Use (TOU) Tariff, a Renewable Energy Rider and an Interruptible Service Rider. The Commission determined that these pilot programmes would not be dealt with during the rate review process but in a separate public consultation.

The Applicant further requested that the existing Standards of Service be retained pending a decision by the Commission on its review of the Standards of Service and that the Commission grant any such further Order or other relief as may be warranted.

After examining the information placed before it and additional information requested, and cross-examination of all of the witnesses by both the Commission itself and the Intervenors, the Commission approves the rate base of $544,198,726 and the Applicant's use of a capital structure of Debt 35% and Equity 65%.

The Commission assessed that the operating expenses were prudently incurred. However, the Commission denies the requested rate of return of 10.48% and grants a rate of return of 10.00%. Consequently, the Commission rejects the Applicant's

proposed revenue requirement of $502,238,415 and determines that a revenue requirement of $499,165,291 is appropriate.

The Commission orders the Applicant to resubmit its tariff schedule based on the determinations described later in this summary.

The Commission considered the Applicant's request to use a capital structure that differs from the actual capital structure of the test year. In view of the fact that the 78.56% share of equity in the Applicant's actual capital structure is high compared to other regulated regional companies (the average capital structure of most electricity utilities in the Caribbean between 2004 and 2006 was 36% debt and 64% equity), the Commission believes that a hypothetical/notional capital structure with a lower percentage of equity should be used for rate making purposes. Since the cost of equity is higher than the cost of debt this would reduce the cost of capital and ultimately the rate of return which would provide some benefits to consumers. The Commission therefore approves the Applicant's use of a capital structure of Debt 35% and Equity 65% in the determination of its cost of capital.

The Commission, in determining an appropriate rate of return for the Applicant, examined the methodology, assumptions and recommendations in the document entitled "Study of the Cost of Capital and Rate of Return Recommendation" prepared by the Applicant's expert witness Mr. Robert Camfield. The Applicant's Weighted Average Cost of Capital (WACC) was also examined in order to determine the appropriateness of the 10.48% rate of return. The Commission is of the view that the Applicant's Study overstated the sovereignty risk and small size risk for Barbados and believes that these should be reduced in deriving the cost of equity. The Commission will allow the Applicant a rate of return of 10.00%.

The Commission examined the Applicant's operating and maintenance expenses to determine if the expenditure was necessary to provide the service, whether the expenses were actually incurred and whether the amount of expenditure was

reasonable. After examination of these expenses the Commission determines that the Applicant has established the reasonableness and prudence of expenditure including operating and maintenance expenses.

The Commission examined the revenue requirement which is made up of the operating income plus the operating expenses, depreciation and taxes. Having examined these issues and having determined that the allowed rate of return should be 10.00% the Commission rejects the Applicant's proposed revenue requirement of $502,238,415 and approves a revenue requirement of $499,165,291. Therefore, the requested additional revenue of $28,221,603 was reduced to $25,148,480 for the test year.

Cost is determined at all stages of the supply chain from generation through to billing. A cost of service (COS) study was undertaken by the Applicant to estimate the actual cost of providing electricity service to its various customer classes. The results of the study were used to allocate the revenue requirement and allow the Applicant to set rates to recover costs. In considering the Applicant's embedded and marginal cost studies, the formulation of the models and key assumptions, the Commission determines that the approach and methodology adopted by the Applicant are acceptable. In the COS study the Applicant assigned rates of return for Domestic Service and General Service classes that are below the overall requested rate of return; rates of return for Secondary Voltage Power and Large Power classes that are above the Applicant's overall requested rate of return; and zero rate of return for the Street Lighting class. The Commission accepts the measures taken by the Applicant to minimise billing impacts and is satisfied that the proposed rates have moved closer to marginal and embedded costs.

The Commission considered the Applicant's rate design objectives and philosophy as well as the appropriateness of the proposed rate of return and revenue allocations for different customer classes. The analysis showed that, among other things, the Applicant sought to encourage energy conservation by its customers, minimise the impact of any rate increase on the lower usage Domestic Service (DS) and General

Service (GS) customers without unduly overburdening higher usage customers and to move the DS tariff towards its true cost of service. The Applicant sought to maintain an inclining block structure for both the customer charge and base energy charge of the DS tariff, introduce a similar structure in the General Service and Employee tariff schedules and adjust the rates for the Secondary Voltage Power (SVP) and Large Power (LP) customers so that the demand and energy charge more closely match the cost of providing the service.

The Commission accepts the Applicant's proposal of an inclining block structure for the DS, GS and Employee class. The Commission believes that the inclining block structure increases the incentive to conserve energy since it provides the opportunity to mitigate the effect of the rate increase by reducing consumption. However, in order to capture a larger number of low usage and low income customers, the Commission has determined that the Applicant should adjust the first block from 0-100kWh to 0-150kWh for the customer charge and the base energy charge of the Domestic Service class. Approximately 14,000 more customers would be included in this band for the purpose of calculating the customer charge. With respect to the energy charge, all customers who use over 100kWh would pay for the next 50 kWh at the rate of $0.150/kWh + VAT instead of the proposed $0.176/kWh + VAT.

The Commission has considered the Applicant's information pertaining to the GS customers and accepts the rate structure proposed by the Applicant.

The Commission is not convinced that the existing ratchet billing of the demand charge for SVP and LP customers promotes efficient use of electricity. In practical terms ratchet billing, where the customer pays a monthly demand charge based on the highest demand of the past 11 months, may in some instances operate to reduce the incentive to conserve electricity which is counter to the Applicant's stated rate design objectives. The Commission determines therefore that the Applicant should remove the use of ratchet billing from the demand charge and adjust the demand and/or energy charge accordingly. This will allow the SVP and LP customers' bills to be reflective of

the peak KVA demand for each month. The Commission appreciates that the implementation of this will require adjustment to the Applicant's billing system and will consult with the Applicant on the timely implementation of this particular change.

The Commission notes that based on the Applicant's rate design and billing impact information some SVP and LP customers will incur significant increases. To this end, the Commission directs the Applicant to revise its rate design so that the determined reduction in the revenue requirement is shared among the SVP and LP classes. Having earlier determined that there should be a widening of the first block of the DS class from 0-100kWh to 0-150kWh for the customer charge and basic energy charge, a portion of the reduction in the revenue requirement was taken out by the Commission for the DS class. The Commission therefore determines that the resulting balance of the reduced revenue requirement should be allocated between the LP and SVP in a 60:40 ratio. The Commission recognises too that SVP and LP customers may mitigate the impact of a rate increase by choosing to utilise electricity management options and manage their maximum demand through corrective measures including load shifting. At Appendix 2, a reservation by Commissioner Brathwaite pertaining to these two classes is recorded.

The Commission approves the Applicant's proposal to transfer the 2.64 cents per kWh of fuel cost from the Base Energy rate to the Fuel Clause Adjustment (FCA). The Commission is of the view that having all fuel cost collected through one mechanism, the Fuel Clause Adjustment, will provide customers with more transparency on the cost of electricity service.

The Commission determines that the proposed Employee rate is unduly discriminatory. The Applicant proposed that its employees who use up to 500 kWh pay an energy charge of 8 cents per kWh whereas DS customers who use 0-100 kWh pay 15 cents. Similarly the Applicant proposed that DS customers who use 101-500 kWh should pay an energy charge of 17.6 cents per kWh. In light of this, the Commission determines that the Employee rate energy charge should have four blocks:

i) 0 – 150kWh
ii) 151 - 500kWh
iii) 501 - 1500kWh
iv) Over 1500kWh

The rate offered to Employees for the first two blocks should be 20% less than the early payment discounted rate for DS customers in corresponding blocks. The rates of the remaining two blocks will be the same as those proposed by the Applicant.

The Commission accepts the Applicant's proposed Street Lighting rates. The Commission appreciates that street lighting is considered a public service and is satisfied that the proposed 0% rate of return for this service has moved in a positive direction from the negative 5.42% rate of return at the current rates.

The Commission accepts the Applicant's proposed Service charges which include charges for installation and special events. The Commission is satisfied that the new service charges are much closer to the underlying unit costs than current service charges.

The Commission orders that within two weeks of issuance of this Decision and Order the Barbados Light & Power Co. Ltd shall submit revised rate schedules K1 to K5 taking into consideration the determinations above. The Commission will make these revised schedules public. The Applicant shall also at that time submit detailed tables showing proof of revenue. The Commission hereby orders that all new tariffs will come into effect on bills issued from March 1, 2010.

The Applicant shall continue to submit annual regulatory reports to the Commission on or before May 31st of each year.

PART TWO – BACKGROUND

THE APPLICATION

1. Pursuant to Rule 57(1) of the Utilities Regulation (Procedural) Rules, 2003 (the Rules) and by letter dated September 5, 2008, the Applicant notified the Commission of its plan to file an Application for a review of the existing electricity rates. On May 8, 2009, the Applicant filed its Rate Review Application pursuant to Section 16 of the Utilities Regulation Act, CAP. 282 of the laws of Barbados (URA) and Rule 60 of the Rules.

2. By said letter the specific nature of the Order applied for by the Applicant is as follows :-

   (a) The Rate Base as computed by the Applicant and calculated to be $544,198,726 be approved;

   (b) The proposed capital structure of Debt of 35% and Equity of 65% used by the Applicant in the determination of its Rate of Return be approved;

   (c) The Rate of Return on Rate Base of 10.48% be approved;

   (d) The Revenue Requirement of $502,238,415 be approved;

   (e) The Existing Tariffs be replaced by the Proposed Tariffs details of which are described at Schedules K-1 to K-11.

   (f) The proposed Tariffs come into effect from October 1, 2009.

   (g) The existing Standards of Service be retained pending a decision by the Commission on its review of the Standards of Service;

   (h) Such further Order or other relief as may be warranted.

3. The Application was accompanied by the Affidavits of Mr. Peter Williams, Mr. Hutson Best, Mr. Robert Camfield (expert witness), Mr. Mark King, Mr. Michael O'Sheasy (expert witness) and Mr. Stephen Worme.

STATUTORY POWERS AND RESPONSIBILITIES

4. The Commission is a statutory body established by the Fair Trading Commission Act, CAP. 326B (FTCA) of the Laws of Barbados whose functions are *inter alia* to administer the URA and the Rules.

5. The provisions of the URA and the Rules governed the conduct of the proceedings.

6. The Commission's authority to set rates is derived from its statutory powers and functions as set out under Section 4(3) of the FTCA and Section 3(1) of the URA. Section 4(3) of the FTCA states, inter alia,:-

> "*The Commission shall, in the performance of its functions and in pursuance of the objectives set out in subsections (1) and (2),*
>
> *(a) establish principles for arriving at the rates to be charged by service providers;*
>
> *(b) set the maximum rates to be charged by service providers."*

These functions are mirrored in Section 3(1) of the URA.

7. The Application was made by the Applicant to the Commission pursuant to Section 16 of the URA and the Rules. Section 16 of the URA states 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."*

8. Section 15(4) of the URA further requires that in carrying out a review the Commission shall hold a hearing in accordance with Section 33 of the FTCA. Section 33 of the FTCA states, *inter alia*, that the hearing of the Commission shall take place in public.

9. By virtue of Section 5 of the FTCA, the Commission exercised its power to sit, hear and determine an Application of this nature and a panel of five (5) Commissioners presided over the proceedings at all times.

10. The pre-hearing process and procedures were governed by the Rules. Rule 4 enabled the Commission to issue procedural directions which governed the conduct of the proceedings. The various conferences held to facilitate the parties' involvement in the process were convened by virtue of Rules 34 and 35 of the Rules.

11. The Commission exercised its powers pursuant to Rule 19 of the Rules to hear expert witnesses during the hearing.

12. Under rate of return methodology, rate making involves three distinct steps:-

    (a) the determination of a utility company's annual revenue requirement recoverable from customers;
    (b) the allocation of the total costs of providing the service to each customer class or service; and
    (c) the creation of a rate design that will recover those costs.

13. Intrinsic in the process set out at paragraph 12 is the legally grounded concept of "fairness and reasonableness". Section 10 of the URA states inter alia, that:-

> "*Every rate made by the Commission shall be:*
>
> *(a) Fair and reasonable;"*

14. "Fairness and reasonableness" for the Commission in rate setting relates to the balance between the interest of the consumers and the interest of the utility company. Section 3(3) of the URA states that:-

> *"The Commission shall*
>
> *(a) protect the interests of consumers by ensuring that service providers supply to the public service that is safe, adequate, efficient and reasonable; and*
>
> *(b) hear and determine complaints by consumers regarding billings and the standards of service supplied."*

15. Further Section 3(2) (b) of the URA states that:

> *"In establishing the principles referred to in subsection 1(a) the Commission shall have regard to:-*
>
> *(b) ensuring that an efficient service provider will be able to finance its functions by earning a reasonable return on capital;"*

THE PRE-HEARING PROCEEDINGS – NOTICES, DIRECTIONS, ORDERS, CONFERENCES AND CONFIDENTIALITY HEARING

16. The Commission published a Notice on May 13, 2009 advising members of the public of the receipt of the Rate Review Application and inviting intervention by members of the public no later than June 25, 2009.

17. The Commission received letters of intervention from ten (10) persons, all of which were granted intervenor status. Mr. Olson Robertson, one of the Intervenors, indicated to the Commission at the Procedural Conference on August 7, 2009, his inability to continue to be a part of the process and obtained the Commission's leave to withdraw.

18. Intervenor, Sentinel Group Caribbean Ltd. also withdrew its intervention on October 7, 2009 since most of the issues that it was concerned with were not going to be dealt with at the Rate Review Hearing but during the Pilot Programme consultation.

19. Two Intervenors, the Barbados Association of Retired Persons and the Barbados Small Business Association, advised the Commission that they had sought the assistance of the Public Counsel to prepare and present their case.

20. The Intervenors that actively participated in the Rate Review hearing were as follows:-

    (a) Barbados Small Business Association (BSBA);
    (b) Barbados Association of Retired Persons (BARP);
    (c) Barbados Consumer Research Organisation, Inc. (BARCRO);
    (d) Canbar Technical Services Ltd.;
    (e) Barbados Association of Non Governmental Organisations (BANGO);
    (f) Mr. Douglas Trotman, Attorney-at-Law;
    (g) Dr. Roland Clarke; and
    (h) Mr. Errol Niles, Attorney-at-Law.

21. Pursuant to Rule 4 of the Rules, throughout the pre-hearing process, parties were issued with a total of four Procedural Directions and two Procedural Orders from the Commission. Procedural Directions No.1 guided the parties on the procedural elements of the hearing and Procedural Directions No.2 and Procedural Order No.2 guided the parties on the issues to be determined at the hearing. Procedural Directions No.3 guided the parties on applying for costs. Procedural Directions No.4 instructed the parties on various logistics of the hearing, the parties' order of appearance and the witnesses. No Procedural Orders were issued for Procedural Directions No.3 and No.4.

22. Following Procedural Directions No.1, the Commission convened a Procedural Conference on August 7, 2009 to assist in enhancing the parties' familiarity with the process. Arising out of the Conference, the Commission issued Procedural Order No.1 on August 13, 2009.

23. Pursuant to Rules 13 and 39 of the Rules, the Commission convened a Confidentiality Hearing on September 3, 2009 following a request from the Applicant for confidentiality of certain pages of the "*Barbados Light & Power Company Limited System Expansion Planning Study Volume 1: Generation Planning*" prepared by PB Power and dated December 2008. It was determined that redacted pages should be placed on the public record but that specific information would be held in confidence by the Commission.

24. By Procedural Directions No.2, the parties were invited to attend an Issues and Technical Conference on September 3, 2009 to identify issues and technical matters that would be considered in the Rate Review Hearing. No Technical Conference was held because no party identified any technical matters they wished explained. An Issues Conference was convened following which the parties agreed and the Commission ordered by Procedural Order No.2 dated September 23, 2009 that the issues to be considered and determined at the Rate Review Hearing would be:

I. Rate Base;
II. Capital Structure;
III. Rate of Return;
IV. Operation and Maintenance Expenses;
V. Revenue Requirement;
VI. Financial Forecasting;
VII. Fuel Clause Adjustment;
VIII. Cost of Service Study; and
IX. Rate Design.

25. The Commission further ordered in Procedural Order No.2 that the following matters would not be dealt with during the hearing:-

1. Pilot Programmes
2. Depreciation Policy
3. Standards of Service
4. Costs

Pilot Programmes

26. In Schedule K of its Memorandum on Proposed Tariffs, the Applicant proposed the introduction of a new Time-of-Use (TOU) Tariff and an Interruptible Service Rider and a Renewable Energy Rider. The Applicant proposed in its application that the TOU tariff as well as the two riders should be implemented on a pilot basis for a period of three years.

27. Section 3(2) of the URA seeks to ensure that service providers supply to the public, service that is safe, adequate, efficient and reasonable.

28. The concept of pilot programmes (that is, the initial testing of a product by a small group) as proposed by the Applicant, is one of the ways in which the Commission and the Applicant will be able to ensure that the service to be provided by the utility company is safe, adequate and reasonable for consumers at large.

29. The pilot programmes were not considered in the rate application hearing for two main reasons. Firstly, these programmes are being undertaken on a pilot research basis in order to gather information so that the Applicant may determine whether and how to fully implement the schemes. Secondly, the Applicant has not included the expenses or revenue relating to these pilot programmes in its submissions for the rate review. It was determined that these programmes would not bear upon the Commission's consideration of the rate application and would

not therefore factor into the Commission's determination of the Applicant's revenue requirement or rate base.

30. Notwithstanding the fact that it was determined that the Pilot Programmes were not an issue to be dealt with at the rate review hearing, the Commission nevertheless recognises its role in ensuring that sufficient consideration should be given to BL&P's programmes. The Commission's response to the Pilot Programmes is the subject of a separate public consultation.

Depreciation Policy

31. The depreciation policy and rates that the Applicant used were determined and approved by the Commission in its Decision issued on February 25, 2009. The Depreciation Decision approved the use of historic cost valuation of assets.

Standards of Service

32. In 2009 the Commission convened a public consultation in which it engaged the Applicant and other interested parties in reviewing its Standards of Service. This matter is still ongoing and was not for determination in this hearing.

Costs

33. The Commission determined that the issue of costs incidental to this proceeding would not be examined during the course of the rate review hearing and that it would only be considered at the conclusion of the hearing. Procedural Directions No.3 was later issued by the Panel in accordance with Rule 4 of the Rules, 2003 setting out general guidance on the issue of costs.

TEST YEAR

34. The selection of a test year is paramount in a utility rate application hearing. The test year usually reflects a 12-month period in which operating data is available and reflects as closely as possible the conditions that the utility is expected to encounter subsequent to the imposition of new rates.

35. The test period is typically based upon one of the following test year selections:-

1. Historical data;
2. Current data (partial historic and partial projected); or
3. Projected data.

36. The Commission considered all three approaches in making a determination as to the approach to be taken in selecting a test year.

37. A test year that includes projected data would require the Applicant to forecast revenues and expenses which may be challenging in the current world economic downturn.

38. The Commission considered that the historical data approach would be the most appropriate as it is one which would utilise historical financial statements for the entire period and be representative of the Applicant's expected normal operations with adjustments to the financial statements for known and measurable changes.

39. The Commission determined that the test year of 2008 using audited financial statements based on historical data would be appropriate and advised the Applicant to use such.

PART THREE – THE HEARING

THE EVIDENCE

40. The evidence consisted of sworn Affidavit evidence which was thoroughly cross-examined. During the pre-hearing process additional evidence was entered through exchange of numerous interrogatories, requests for information and filings of documents. The Commission considered all of the evidence before making its decision on the Application.

THE HEARING

41. On October 5, 2009, a Notice was published in the local newspapers announcing the rate review hearing (the hearing) which was convened from October 7, 2009 to October 23, 2009.

42. At the hearing all of the parties made Opening Submissions. The Applicant then called its six witnesses in the following order: Mr. Peter Williams, Mr. Hutson Best, Mr. Robert Camfield, Mr. Mark King, Mr. Michael O'Sheasy and Mr. Stephen Worme. The Commission accepted Mr. Robert Camfield and Mr. Michael O'Sheasy of Christensen Associates Energy Consulting LLC (CAEC) as the Applicant's expert witnesses. The witnesses were cross-examined by all of the Intervenors and the Commissioners.

43. Some parties delivered oral closing submissions which gave a summary of their arguments. Written closing submissions were filed with the Commission.

44. The Applicant was represented throughout the hearing by Sir Henry de B Forde QC, Attorney-at-Law in association with Mr. Ramon Alleyne, Attorney-at-Law, Ms. Debbie Fraser, Attorney-at-Law, Mrs. Nicola Berry, Attorney-at-Law, Ms. Sabrina Maynard, Legal Assistant and Ms. Richelle Connell, Legal Assistant of the firm Clarke Gittens Farmer.

45. The Barbados Small Business Association was represented by Mr. Eli Edwards, Public Counsel, Mr. Clyde Mascoll and Ms. Lynette Holder. The Barbados

Association of Retired Persons (BARP) was represented by Mr. Eli Edwards, Public Counsel, Mr. John Campbell, Mr. Jai Jebodhsingh and Mr. Lionel Moe. Barbados Consumers Research Organisation, Inc. (BARCRO) was represented by Mr. Malcolm Gibbs-Taitt and Mr. Carl Ince. CANBAR Technical Services Ltd. was represented by Mr. Mogens Toft. Barbados Association of Non Governmental Organisations (BANGO) was represented by Mr. Douglas Skeete, Mr. Chris Halsall and Mr. Roosevelt King. Mr. Douglas Trotman, Attorney-at-Law, Dr. Roland Clarke and Mr. Errol Niles, Attorney-at-Law appeared for themselves.

46. The Commission thanks the Intervenors for their contribution.

47. The Commission was assisted at the hearing by Ms. Peggy Griffith, Chief Executive Officer; Mrs. Sandra Sealy, Director of Utility Regulation; Mrs. Kim Griffith-Tang How, General Legal Counsel/Commission Secretary; Ms. Dava Leslie, Senior Legal Officer; Dr. Marsha Atherley-Ikechi, Utility Analyst; Mrs. Susanna Cooper-Corbin, Financial Analyst; Ms. Heather Waithe, Documentalist; Ms. Marisha Walcott, Research/Administrative Assistant; Ms. Hethie Parmesano, Consultant; Dr. Richard Hern, Consultant and Ms. Svetlana Schenbakova, Consultant.

BURDEN AND STANDARD OF PROOF

48. In order for the Commission to grant the relief that the Applicant is seeking in its Application, the burden and the standard of proof required to be met under the law must be discharged. Section 14 of the Utilities Regulation Act places the burden of proof on the Applicant to show that the proposed rates are fair and reasonable and in accordance with the principles established by the Commission. Furthermore, the hearing before the Commission is akin to a civil proceeding in a Court of Law. Therefore, the standard of proof in this instance would be the same as for a civil proceeding in a Court of Law.

49. Section 133 (1) of the Evidence Act, CAP. 121 of the Laws of Barbados provides that:

> *"In a civil proceeding, the Court shall find the case of a party proved if it is satisfied that the case has been proved on the balance of probabilities..."*

therefore the Commission must be satisfied that the Applicant's case has been proved on a balance of probabilities.

PART FOUR – ISSUES FOR DETERMINATION

RATE BASE

50. The Applicant proposed a rate base of $544,198,726 based on the utility plant in service in the 2008 test year including the cash working capital, materials, supplies and construction work in progress (CWIP) anticipated to be brought into service by the end of 2009.

51. Schedule C 1 provides the calculation of the rate base as shown below.

	$
A) Utility Plant in Service	
Cost of Plant	937,647,460
Accumulated Depreciation	(427,007,102)
	510,640,358
B) Construction work in progress (CWIP)	4,192,837
C) Total Net Plant	514,833,195
D) Current Asset and Liability Adjustment	
Cash Working Capital	12,892,572
Materials & Supplies and Prepayments	37,190,248
Customer Contributions for Work Not Yet Started	(1,634,684)
Accumulated Deferred Income Tax Liability	(19,082,605)
Total	29,365,531
Total Rate Base	544,198,726

52. The Applicant included CWIP of $4,192,837 out of a total cost of $76,922,241 which represents the amount of CWIP anticipated to be brought into service before the end of 2009. The Applicant advised that inclusion of CWIP was in accordance with principles of the Federal Energy Regulatory Commission (FERC).

Current Tax

53. In its Memorandum on Income Statement (Schedule D) the Applicant explains that current tax is the expected tax payable to the Commissioner of Inland Revenue based on the taxable income for the period, and is zero in the test year due to the investment allowances and manufacturing allowances claimed on fixed asset additions (see Schedule D-4 of the Application). The Applicant has tax losses of $63,782,020 at December 31, 2008 which are available to be carried forward and utilised to reduce taxable income in future periods.

Deferred Income Tax

54. Deferred income tax arises because Government allows accelerated depreciation in calculating taxable income, whereby higher allowances are claimed in the earlier years of the life of the assets and lower allowances in later years. In contrast, the corporation taxes reported in a company's financial statements are based on its accounting income which often reflects straight line depreciation of assets. The difference between the corporation tax based on the Applicant's accounting income and the corporation tax based on its taxable income is recorded in the financial statements as deferred tax expense and deferred tax liability.

55. The adjusted deferred tax expense in the test year is $3,028,538 as shown in Schedule D-1 of the Application (hereto annexed in Appendix 1). The adjusted accumulated deferred tax liability on the balance sheet is $19,082,605. The Applicant asserts at Schedule C that :

> "*The Company employs capital extensively and tax policy in the form of accelerated depreciation can produce significant non-investor provided cash flow benefits. As a consequence, the manner in which these benefits are captured within the regulatory process is important. The general view in this respect is that accumulated deferred income tax liabilities represent a source of interest free funds or loans supplied by the Government that the utility is free to use in support of the rate base investment. Therefore the rate base must be reduced by the accumulated*

deferred income tax liability, net of accumulated deferred income tax assets, to avoid the Company receiving a return on funds that are cost free".

Investment Tax credit (ITC)

56. The Investment tax credit (ITC) is a 20% investment allowance associated with the acquisition of plant and equipment. The Applicant's accounting policy is to defer this benefit and amortize it over the life of the asset. The effect of this, as confirmed by Mr. Best in his testimony, is to record a tax expense in the year of acquisition of the asset and to reverse this expense through credits to tax expense over the life of the asset. Schedule D-3 shows that the tax expense arising on ITCs claimed on the acquisition of assets during the test year was $1,387,507 while the amortization of ITCs deferred in previous years was $2,583,469. The net effect in the test year is a tax credit (i.e. a reduction in the tax expense) of $1,195,962 as shown in Appendix 1. The accumulated deferred ITCs on the balance sheet at December 31, 2008 totalled $26,761,041.

Manufacturing Tax Credit (MTC)

57. The deferred manufacturing tax credit is a 50% allowance associated with the construction of plant and equipment, which is earned over the related income tax life. This allowance increases by 50% the tax allowances that would otherwise be claimed on the asset in each year. The net effect of this in the test year is a deferred tax expense of $2,043,811 as shown in Appendix 1. The accumulated deferred MTCs at December 31, 2008 total $15,735,475.

58. Under the approach proposed by BL&P, the balances of accumulated deferred ITCs and MTCs are not deducted from the rate base; i.e., assets included in the rate base are stated at historic cost gross of tax credits. The Applicant is proposing to be allowed to earn a rate of return on these funds equal to the weighted average cost of capital using only debt and equity in the capital structure (10.61%).

59. In his Memorandum on rate base Mr. Best defines rate base as the value of utility plant financed by the Applicant and investors that is prudently incurred and "used and useful" in public service and is valued on the original or historic cost basis.

60. The Applicant submitted that its rate base was determined in accordance with sound regulatory principles and practice and that it had included in the rate base only the plant which is currently providing or is capable of providing electricity service to its customers. The Applicant has therefore excluded land which is no longer being used or was being held for speculative investment purposes.

61. The Applicant asserted that its operating performance was driven by prudent management based on the following:

(a) Stable, long-serving, highly trained and productive staff who have enabled the Applicant to consistently provide a reliable, safe and efficient service;

(b) The KEMA benchmark study report of February 2006 which shows that the Applicant has low electricity losses – measured as a percentage of net generation (from between 9% and 11% in 1983 to today's level of around 6%);

(c) The Applicant's system reliability which is rated among the highest in the region;

(d) The Applicant's generating capacity reserve margin which is below the average for its peer group of Caribbean electric utilities because of the comprehensive maintenance programme on its generating plant which ensures that it achieves high levels of plant availability.

62. Mr. Williams gave testimony that they had exercised prudence and reasonableness through the type of plant placed in service. Mr. Williams referred to the Applicant's waste heat recovery systems which allow heat from the exhaust of engines to be used to produce steam which is then used to drive small steam

turbines that produce electricity at no additional fuel cost. Mr. Williams explained that the Applicant intends to install plant that is efficient and which is of the lowest economic cost to the country such as medium speed diesels which would be able to operate on heavy fuel oil and be suitable for natural gas operation if and when it becomes available. The Applicant is considering a wider energy portfolio which includes renewable energy, and is working with Government on several projects in this regard.

Intervenors' Position

63. The Intervenors raised few concerns with regard to the "used and usefulness" of the current plant.

64. Mr. Douglas Skeete in his questioning of Mr. Williams enquired of the Applicant's corporation tax status and whether it had been paying corporation tax. Mr. Skeete stated:-

> "*And your investment tax credit, and your manufacturing tax credit and your tax losses would ensure that that did not happen. That is why you would not have paid corporation tax*."

65. Mr. Skeete further pointed out that these tax credits had put the company in a favourable position and therefore he queried the need for the request for the rate increase. Mr. Williams confirmed that the corporate tax rate for the Applicant is the same as other manufacturers at 15%.

66. Mr. Best later explained that taxes were paid between 1984 and 2004 but no tax liability arose for the subsequent years. He stated that the effective tax rate in the mid 1990's was above 40%, and with regards to the manufacturers tax credit that "*manufacturers were under a lot of stress in the mid 90's before the adjustment were made.*"

67. Dr. Clarke in his cross-examination of Mr. Worme sought to make the link between recovering cost from the rate base and the expense statement. In so doing Dr. Clarke pointed out that had the Applicant pursued the recommendations of a 2000 Demand Side Management (DSM) Study entitled *"Demand Side Management Study for The Barbados Light & Power Company and the Government of Barbados, DSM Strategy, Business Case and Preliminary Plan"* prepared by B.C. Hydro International Ltd. perhaps the revenue requirements today would be lower and so would the rate base. Mr. Clarke stated

> *"if the company had in fact implemented this study that according to their own study that all sectors would save in the range of 30%. And that further to that the capacity reductions would be 10% over 10 years".*

68. Mr. Worme explained that with DSM programmes there are a lot of theoretical gains that can be achieved but a lot of it depends on the participation of customers and the actual experience of the country. He suggested that:-

> "*while a study may indicate certain things it is not always possible to achieve what the study sets out or indicate what can be achieved. So it would be difficult to say where we would be today had we implemented more of these, but I would say to you that we have done some and we have achieved in my view some gains over the years.*"

The Commission's Findings

69. In assessing the rate base the Commission examined the used and usefulness of the assets and the prudence of the Company's investment. "Used and useful" has been defined to mean "*only plant currently providing or capable of providing utility service to the consuming public.*"

70. The Applicant has therefore correctly excluded from the rate base land which is no longer used in the course of business.

71. The Commission is of the opinion that with respect to the Demand Side Management Study one cannot simply quantify the benefits as the realities of implementation may be very different. The Commission understands that the Applicant has implemented some of the recommendations of the study. However, the Commission appreciates that considering the time which has elapsed since the writing of this DSM Study, implementation of all recommendations as suggested by Dr. Clarke in his closing statement may need to be re-evaluated.

72. Many Intervenors sought to compare the computed 7.72 % rate of return implicit in the 1983 Public Utilities Board's (PUB) Decision with the 10.48% which the Applicant is now requesting. Mr. Williams pointed out that the rate base in 1983 used reproduction cost new whereas the rate base for this application used historic cost; therefore such comparisons were not appropriate.

73. The Commission has reviewed the components of the rate base and is satisfied that, with the exception of CWIP, they represent plant that was providing service in the test year. The use of historic cost valuation was previously approved in the Commission's Depreciation Decision issued January 2009.

74. The Commission in reviewing the CWIP sought to verify that in the accounting treatment there is no duplicate recovery of CWIP and corresponding allowance for funds used during construction (AFUDC). In responding to the Commission's interrogatory on this Mr. Best advised that the Applicant did not continue to accrue interest during construction on the amounts of CWIP included in the rate base. He confirmed that the Applicant had not claimed depreciation on CWIP. Under cross-examination by Commissioner Braithwaite, Mr. Mark King confirmed that the assets related to the amount of $4,192,837 included in the rate base, as CWIP is utility plant that was either already in service or would be brought to service before the end of 2009.

75. Since there is no duplicate recovery of CWIP and AFUDC in the rate base, the Commission is satisfied that the Applicant's inclusion of CWIP expected to become operational by the end of 2009 in the rate base is acceptable in rate setting and conforms to FERC regulations.

Deferred Tax Expense and Accumulated Deferred Tax Liabilities

76. The Applicant's treatment of deferred tax is standard regulatory practice and is consistent with the 1983 PUB Decision which dealt extensively with this matter.

Accumulated Deferred Investment Tax Credits and Manufacturers Tax Credits

77. Investment tax credits and manufacturers tax credits (ITCs and MTCs) provide tax relief to the Applicant on a portion of the cost of the Applicant's investment. Unlike deferred tax liabilities, ITCs and MTCs result in permanent tax savings for the firm. The main purpose of the ITCs and MTCs is to provide an incentive for the Applicant to invest. The theory is that the reduction in taxes resulting from the ITCs and MTCs increases the prospective rate of return on qualified investments, making the project more desirable and thus increasing the volume of investment undertaken by the firm.

78. From a rate-making perspective, there are several different approaches that may be used but the regulator needs to decide how the benefits of the ITCs and MTCs are to be shared between the utility and its customers.

79. The Commission considers that the approach taken by the Applicant is an acceptable way of treating ITCs and MTCs in calculating the size of the rate base. By allowing the utility to explicitly earn a rate of return on the funds provided by the ITCs and MTCs, this approach gives the utility an incentive to invest in infrastructure, which may benefit the ratepayers in the long-term, while still returning the full tax benefit of the ITCs and MTCs to consumers over the life of the asset through the amortization of the deferred credits to reduce the tax expense.

80. **The Commission approves the Applicant's proposed rate base of $544,198,726.**

CAPITAL STRUCTURE

81. Capital structure refers to the type of financing used by a company to underwrite its physical capital and other assets. The Applicant sought approval of a capital structure of 35% debt and 65% equity to be used in the determination of its Rate of Return. The Applicant's witness Mr. Peter Williams advised that its current capital structure is approximately 20% debt and 80% equity. The Applicant further advised that it used a capital structure of 35% debt and 65% equity in the calculation of the WACC. The Applicant believes that its decision on the proposed structure is more reasonable for rate making purposes. Mr. Williams in his evidence stated that the KEMA benchmark study indicated that the average debt/equity ratio for the Caribbean utilities in 2006 was 36% debt/64% equity, which is very close to that being proposed by the Applicant.

82. The Applicant advised that if the Application had been submitted based on the existing debt levels it would have resulted in a higher rate of return. The Commission's NERA 2006 report was referenced by Mr. Peter Williams who noted that the report recognised the issue of the high equity and suggested that the Applicant should be asked to put forward a debt/equity ratio that was different from the existing one. He noted that "*while NERA had calculated on the basis of 75% equity/25% debt the company has gone a step beyond that in our Application*."

Intervenors' Position

83. Mr. Clyde Mascoll questioned Mr. Williams extensively regarding the reasons for using a different capital structure and the Applicant's ability to achieve the proposed 35/65 capital structure in the near future. Mr. Williams advised that while the Applicant was moving to increase its level of debt he could not determine when they would reach the "*magical number 35/65*."

84. Mr. Mascoll questioned whether the Applicant had any difficulty in raising foreign funds on the existing capital structure. In response Mr. Williams advised:

> *"We have had difficulties in the past; I would say we did not have any difficulties for the last investment, but there have been occasions, prior to the '83 rate hearing, we had significant difficulties in borrowing money and we were supported on that occasion when the rates were considered to be inadequate … We went to the World Bank and were able to borrow funds; but out of that we believe was certainly a significant effort to redress the issue of inadequate rate."*

96. Mr. Camfield referred to Schedule L2 Financial Forecast (Proposed rates) which shows that even with increased borrowing and investment the Applicant's debt/equity ratio will not reach 35/65. Mr. Camfield stated that "*I concur with the policy, it seems to balance risks. It appears to provide a basis to fund the capital providing with that we have adequate rate relief.*" He noted however that future events will make it "*more difficult or make it an easier burden for the company to implement its stated policy*."

97. In cross-examination of Mr. Camfield, Mr. Mascoll noted that increasing equity reduces capital risk and questioned why the Applicant would then be trying to increase debt which would effectively increase capital risk. Mr. Camfield responded that this was in the interest of retail consumers, because the overall weighted average cost of capital declines.

98. Dr. Roland Clarke queried whether the least cost solution is simply 100% debt as debt is the least expensive in terms of cost. However this suggestion was rejected by Mr. Camfield "*I really don't think Light & Power should use equity participation much less than 65%. I concur completely with 35/65% and would not want it to be less than say 62, 60%, something like that. That is because they are raising external capital to fund the physical capital that they need and that means that on the margin, as the equity participation becomes thinner, Light & Power will pay more for its debt.*"

The Commission's Findings

99. The Commission understands that the Applicant is seeking approval to use a capital structure that differs from the actual capital structure of the test year. Charles Phillips Jr. 1993 in his text *"The Regulation of Public Utilities"* recognises that there is no one proper or ideal capital structure and that it is a function of business risk and business judgement. It is noted that some regulatory commissions argue that as overall cost may be lower when the debt to equity ratio is higher they should base their cost of capital on an "ideal" or "typical" capital structure without regard to the actual capitalisation of the particular utility. Others argue that cost should be based on either the actual capital structure or the structure that is expected in the near future.

100. The NERA Regulatory Audit of the Barbados Light & Power Co. Ltd. 2006 Report which was prepared for the Fair Trading Commission holds similar views as it notes that, "*It is appropriate for a regulator to question the reasonableness of a utility's capital structure for ratemaking purposes."* It however agrees that there is a wide zone of reasonableness and the utility's management should be granted some discretion as to the type of capital raised.

101. The concept of a notional, hypothetical or theoretical capital structure for regulatory purposes was not one that appeared to be initially accepted by the Intervenors but as the hearing developed there was greater appreciation of it. It is important to make a distinction between the notional capital structure and the target capital structure because several Intervenors were particularly keen to understand at what point in the future the Applicant would achieve the proposed capital structure. Mr. Peter Williams was correct in clarifying that the debt/equity ratio of 35/65 mix is not a target that has to be reached at a particular point in time.

102. The Commission finds that the share of equity in the Applicant's actual capital structure is high compared with regulated international and regional companies. The Commission finds that a hypothetical capital structure should be used for

rate making purposes because it would provide some benefits to consumers through the reduced rate of return. The Commission is cognisant that the use of a capital structure for regulatory purposes that diverts from the Applicant's actual or forecasted capital structure is a concession to consumers.

103. The Commission is satisfied with the Applicant's adoption of a hypothetical capital structure of 35% debt and 65% equity. It also represents the average capital structure of electric utilities in the Caribbean in 2004 and 2006.

104. **The Commission approves the Applicant's use of a capital structure of Debt 35% and Equity 65% in the determination of its Cost of Capital.**

RATE OF RETURN

105. The Applicant has proposed a rate of return of 10.48% based on the Company's Weighted Average Cost of Capital (WACC). The WACC was derived in a "Study of the Cost of Capital and Rate of Return Recommendation" which was undertaken by the Applicant's expert witness Mr. Camfield. The associated cost of equity was 13.5% and the cost of debt was 5.25%.

106. In calculating the cost of equity at 13.5%, the Applicant utilised the capital asset pricing model (CAPM), discounted cash flows (DCF), risk premium analysis, and the realised market return.

107. The Applicant indicated that the proposed return on equity was similar to local market returns in 2007 and that its request was lower than returns achieved and/or approved for several regional utilities within the past few years. The Caribbean Electric Utilities Service Corporation (CARILEC) studies were cited to demonstrate this.

108. The Applicant contends that the calculated cost of equity is conservative as had it used the returns on equity for the test year, the cost of equity would have increased from 13.5% to 13.75%.

109. The cost of debt is based on the actual cost of debt using 2007 information. If the Applicant had used the test year data this would have increased its cost of debt from 5.25% to 5.46%.

110. The Applicant included customer security deposits as a component in the regulatory capital structure used to derive the WACC and argued that it is reasonable to do so as this is a source of capital for the Applicant. The Applicant has used 6.46% as the return for this element of capital instead of 8% which is the interest that it pays on customer deposits. Mr. Best and Mr. Camfield explained that the 6.46% is the net amount after withholding tax paid by the Applicant to the Government has been deducted.

111. The Applicant further included non-traditional elements such as a deferred investment tax credit and manufacturers tax credit as components in the regulatory capital structure used to derive the WACC which the Applicant contends has the effect of reducing the rate of return from 10.61% to 10.48%.

112. The Applicant asserted that the rate of return (6.07%) achieved in the test year represents a significant shortfall, is well below an acceptable rate of return and that its request for a 10.48% return on rate base is fair and reasonable.

Intervenors' Position

113. Some Intervenors argued against the Applicant's cost of capital study provided by Mr. Camfield of CAEC. They argued against the inclusion of the non-traditional elements of customer deposits, deferred investment tax credits and deferred manufacturers tax credit in the calculation of the rate of return.

114. It was however noted that if these components were removed from the calculation a higher weighted average cost of capital would result. As Mr. Mascoll noted "*…but I am caught between a rock and a hard place as I said. If I call for the removal of the deferred investment tax credit and the removal of the deferred manufacturers' allowance from the calculation at Table [T] and they are reallocated in*

accordance with the existing capital structure or the desired capital structure the rate of return goes up…"

115. Mr. Camfield explained that the inclusion of these components was in keeping with the intent of the Barbados tax policy that these should be an incentive to the Applicant. He further explained that this benefits the consumer in that it improves cash flow.

116. Mr. Mascoll raised the issue of risk in the calculation of the rate of return indicating that the Applicant did not carry a high level of risk since its foreign loans were guaranteed by the Government of Barbados. Mr. Camfield and Mr. Williams pointed out that not all loans are guaranteed and this was already reflected in the actual cost of debt.

117. Mr. Mascoll suggested the use of the end result doctrine which holds that the mechanics of establishing rate base and rate of return are of little consequence so long as the resultant revenues permit the Applicant to provide adequate and efficient service at reasonable rates. It was however submitted by the Applicant that this jurisdiction has established the fair rate of return principle as the basis for determining the rate of return, as seen in the 1983 PUB Decision.

118. Concerns were raised by some Intervenors as to why an increase in the rate of return was now being sought when the 7.72% rate of return implicit in the 1983 PUB decision has served the Applicant well up to this time. It was further suggested that the return may have been excessive at the time. Mr. Peter Williams explained that the two were not comparable since in the 1983 proceedings the Applicant's plant was valued at reproduction cost new. He advised that in this Application, the rate base is on a historic cost basis and that the reproduction cost is a lot higher now than it was then.

119. The Intervenors queried the Applicant on the absence of Caribbean companies in the samples used in the Cost of Capital (COC) Study. In his testimony, Mr. Williams indicated that the reason for selection of utility samples in North

America was that there are no comparable businesses like the Applicant in Barbados. Mr. Camfield also explained that the study could not draw upon, at a technical level, the capital market experience of utilities and companies in the Caribbean for purposes of capital valuation. He stated that the Caribbean exchanges effectively consist of the exchanges for Barbados, Jamaica and Trinidad and Tobago which have comparatively low levels of liquidity and shallow trading activity from which to estimate prospective market returns and risk premia.

120. Additionally he advised that the exchange listings contain few market-traded infrastructure entities from which to assemble a comparable risk utility sample which is necessary to ensure that the study results conform to the fair rate of return principles. He explained that the common stock trading experience of the Caribbean exchanges is unusually thin, which would impose special analytical procedures on the study.

The Commission's Findings

121. The Commission in determining an appropriate rate of return examined the methodology, assumptions and recommendations of the COC Study and checked the requested WACC in order to determine the appropriateness of the rate of return being requested. The WACC was further examined in relation to what is done in other jurisdictions.

122. The legislative authority used by the Commission for rate of return determination is Section 3(2) of the URA which states that in establishing the principles for arriving at the rates to be charged the Commission shall have regard to:-

> "*(c) the promotion of efficiency on the part of service providers;*
> *(d) ensuring that an efficient service provider will be able to finance its functions by earning a reasonable return on capital*."

123. This authority is consistent with the principles established in 1923 in ***Bluefield Water Works and Improvement Co. v. Public Service Commission of West Virginia 262 U.S. 679 (1923)*** when the court stated that:-

> *"The return should be reasonably sufficient to assure confidence in the financial soundness of the utility and should be adequate under efficient and economical management, to maintain and support its credit and enable it to raise the money necessary for the proper discharge of its public duties."*

124. The Commission is of the view that the cost of capital should reflect the rate of return that capital providers should earn by making investments in entities of similar risk which is in keeping with the principles laid down in the ***Federal Power Commission v Hope Natural Gas 320 U.S. 591 (1942).*** However when local comparators do not exist or do not provide sufficient data to permit reliable estimation of the cost of equity, it is standard regulatory practice to consider international capital market evidence, making adjustment for local conditions, as necessary.

125. There are many models available for establishing the cost of equity, but the most widely used method is the Capital Asset Pricing Model (CAPM). Conversely, the cost of debt reflects the actual interest rates being paid by the firm.

126. It is recognised that cost of equity cannot be precisely determined. The cost of equity can only be discerned through application of well-established methods which involve estimation of key parameters. The Applicant utilised four methods to determine the cost of equity. The methods include Discounted Cash Flow and the Capital asset pricing Model (CAPM), an assessment of realised Market Returns and Risk Premium analysis. The CAPM utilised a sample of U.S. and Canadian Utilities as well as a sample of low risk, small capitalisation non-utility U.S. companies. The cost of equity derived was adjusted for risks associated with size and sovereignty.

127. Size risk refers to the market perception that there is a greater risk for investments in small businesses than in large businesses.

128. Sovereignty risk refers to risk differences of financial assets sourced across various sovereign countries. Such risks as stated by the Applicant relate to the outstanding debt of public and private entities and common stock that are traded on local stock exchanges.

129. The Commission notes that there was extensive cross-examination pertaining to the level of country and size risk and its influence on the rate of the return.

130. The Applicant is wholly owned by Light & Power Holdings. The shareholder structure of Light & Power Holdings is 60% Barbados based and 40% by international investor C.I. Power Ltd. Greater consideration should have been given to this peculiar ownership structure in the analysis used to estimate the cost of capital from samples of US and Canadian utilities and a sample of low risk small capitalisation US non-utility companies. C.I. Power Ltd. may not be influenced by risk factors to the same extent as an investor without any particular knowledge of or ties to Barbados.

131. The Commission believes that while the various studies conducted on cost of capital refer to the illiquidity of the Barbados market, the studies did not make sufficient adjustment for conditions in Barbados and the peculiar ownership structure of the Applicant. In particular, the Commission determines that the sovereignty risk and small size risk are overstated.

132. The Commission believes that the Applicant as a monopoly company is a much safer investment in Barbados than a comparable entity which is subject to competition. The shares of the Applicant's holding company are generally in high demand and to the Commission's knowledge it has never had difficulty with a share issue since investment in the holding company is seen as safe and secure.

133. The Commission therefore concludes that the size risk premium and the sovereignty risk premium should be reduced in deriving the cost of equity. Based on this determination the cost of equity to be used in the calculation of the rate of return is 12.75% rather than 13.5%.

134. The Applicant is asking for a cost of debt of 5.25% despite updated evidence showing a higher test year cost of debt of 5.45%, and a cost of customer deposits of 6.46% rather than the correct cost of 8%. These may be viewed as concessions to the consumer.

135. In response to questioning from the Commission on the interest rate for customer security deposits Mr. Camfield suggested that it is common to find customer deposit policies in place for utility services across many regulatory jurisdictions and as such, outstanding balances of customer deposits constitute capital contributions to the Applicant. Mr. Camfield was of the view that the appropriate cost rate to be applied to the capital structure is the interest rate paid by the Applicant on the amounts outstanding.

136. The Commission however notes in a subsequent response to Commissioner Hazzard's query about the appropriate rate of interest for outstanding balances on customer deposits Mr. Camfield recommended that "*the interest rate on customer deposits held by utility service providers should be equal to the overall prime lending rate for commercial banks in Barbados*". He however noted that this is not the normal practice.

137. The Commission considers that the inclusion of customer deposits in the regulatory capital structure used to arrive at the WACC is acceptable for rate-making purposes. The Commission accepts the Applicant's use of the interest rate of 6.46% and the cost of debt of 5.25% in the calculation of cost of capital.

138. Likewise the Commission considers that the inclusion of deferred investment tax credits (ITCs) and manufacturers tax credit in the regulatory capital structure used to arrive at the WACC is acceptable for rate-making purposes. Once

deferred ITCs are included in the capital structure, they should be assigned a cost rate equal to the weighted average cost of capital based on all other sources of capital, namely debt, common equity and customer deposits.

139. **Having considered the evidence and made the adjustments identified above, and based on legal authority, judgment and analysis, the Commission will allow the Applicant a rate of return of 10.00%.**

OPERATION AND MAINTENANCE EXPENSES

140. Operating and Maintenance (O&M) expenses are recorded on an accrual basis and include operational expenses such as salaries and wages, maintenance, marketing, annual depreciation and taxes. The Applicant's operating expenses in the test year 2008, based on actual audited results amounted to $445,564,276 before taxes as detailed in the Schedule D1 of the Application and included as Appendix 1.

141. The Applicant's business is organised into the following departments: generation, distribution, customer services, marketing and corporate communications, information systems, finance, human resources and administration. Operating and maintenance costs are the costs incurred by these departments and are recorded on an accrual basis. The Applicant provided a schedule showing that adjustments were made for unusual expenses incurred in the test year. Taxes, comprising deferred taxes, investment tax credit and manufacturing tax credit have also been included.

142. Mr. Williams testified as to the major factors that drive the Applicant's costs. These include:

(i) The capital intensive nature of the business and as such the long term nature of the investment decisions;

(ii) Expenditure on plant maintenance related to the prime mover expense and the cost of replacement parts used in the generators and the transmission and distribution systems;

(iii) Material cost such as conductors, aluminium and copper;

(iv) Staffing and related costs which are reflective of the general market in Barbados.

143. Mr. Best testified that an annual budget based on sales growth is prepared and monthly variance meetings are held which are used to evaluate differences between budget figures and actual data, a method used to keep expenses under control.

144. The Applicant explained how the various costs were incurred, why they were necessary and that the underlying theme was always the promotion of efficiency. The Applicant also pointed out that adjustments were made where it was reasonable to do so.

145. The Applicant sought to prove that the O&M expenses in the test year were prudently incurred.

List of adjustments

Generation Department ($3,956,093)

146. The Applicant recognised certain costs incurred during the year as unusual and were therefore not likely to recur within the next five years. Accordingly, a normalisation adjustment of $3,882,093 million was made. A further adjustment for termination payments to employees was also made.

Information Systems ($78,970)

147. Expenses in the Information Systems department have been adjusted for termination payments to employees.

Finance Department **$199,982**

148. Bank and financing charges of $199,982 have been transferred from finance costs to operating and maintenance expenses for the purpose of determining recoverable expenses.

Administration **($170,808)**

149. The expenses associated with the Applicant's preparation for the rate review are captured under this head. The Applicant is proposing to spread the costs associated with this and the actual hearing over a five (5) year period. An amount of $912, 876 has been included in the test year representing one fifth of the Applicant's total estimated cost for preparing for the rate review of this Application. This would include the legal and consulting costs incurred by the Applicant in preparing its Application for a rate review and the associated hearing costs.

Rate review Expenses	$
Actual Expense incurred in 2008	1,078,033
less Adjustment for amortisation purposes	(165,157)
Adjustment rate review expenses	912,876

An additional amount of $5,650 representing membership fees was also deducted.

Marketing & Communications **($228,386)**

150. The Marketing & Communications department has responsibility for maintaining the Applicant's corporate image. This involves donations and covenants to recognised charities and organisations. Costs totalling $228,386 covering such payments during the year have been removed from the test year expenses.

151. The total O&M expenses after adjustments are $441,330,001. Adjustments made to the test year income statement also impacted taxes as below.

Taxation **$723,357**

152. The tax effect of the adjustments is reflected as an increase in the deferred tax expense.

Intervenors' Position

153. The Applicant was questioned on the various items of operating expenses identified in the income statement. The Applicant explained that generation supervision costs were high since well trained technical staff cannot be easily recruited as there is not a large pool of trained engineers on the island. The same explanation applied to operators' wages. Distribution expenses such as maintenance of overhead lines, trouble calls and system control were also queried. It was explained that general expenses increased with a growing customer base and it was important to maintain high standards of service.

154. Several Intervenors cross-examined the Applicant on its expenses related to meter reading, information technology and other administrative facilities.

155. On the cost of meter reading it was explained that meter reading is paid on a piece rate basis.

156. Several Intervenors wanted clarification on the Self Insurance Fund. The Applicant advised that the Fund is a Trust established in 1998 under the Insurance Act 1996-32 to allow the Applicant to self insure its transmission and distribution system, and to cover deductibles on its general insurance policies. This became necessary since the cost of commercial insurance had become prohibitively high in 1992 after Hurricane Andrew.

The Commission's Findings

157. In order to justify any expenditure, the Applicant must show that the expenditure was necessary to provide the service, the expense was actually incurred and the amount of the expenditure is reasonable. The Commission enquired into the steady upward trend in expenses as it related to generation

and distribution by asking the Financial Controller to give details of the large expenses and the initiatives considered as a means of reducing them.

158. The cost of maintaining payment facilities was raised by Commissioner Hazzard and it was explained that these facilities are retained primarily to accommodate customers and are critical to maintaining a high level of customer service.

159. Other aspects of cost that were queried by the Commission were those related to information technology and stores. It was explained that the information technology costs support the infrastructure of the Applicant in particular engineering, finance and Customer Information Systems. It was pointed out that the IT department was becoming more strategic, for example, facilitating the remote operation of the Seawell generating station.

160. The Commission accepts that stores expenses are high as the Applicant maintains up to $30 million of generation, transmission and distribution spares in stock. The use of just-in-time inventory methods was rejected by the Applicant in view of the distances from which items had to be shipped to Barbados because it was more cost effective to order economic quantities of spares.

161. The Applicant cited numerous ways in which its expense levels, reliability, system losses, rates and reserve margins compare favourably with other utilities in the region. The Applicant referred to the adjustments made to test year expenses which related to non-recurring events such as termination payments to employees and maintenance of generation prime movers.

162. The proposed amortisation of rate case expenses over five years was criticised by Intervenors, who argued that if the Applicant does not have a rate case after the fifth year, its rates will continue to include rate case expenses that were not actually incurred. The Commission is of the view that the inclusion of rate case expenses in the test year is appropriate and the amortising of rate case expenses

over five years provides the Applicant with the figure that it incorporates in its operating expenses. The Applicant uses the test year information as the basis for its revenue requirement and proposed rates. Once the Commission has made a determination on the rates under rate of return regulation there is no adjustment of rates until the next rate application even though the elements in the subsequent years may be different from that of the test year.

163. **The Commission therefore determines that the Applicant has established the reasonableness and prudence of operating and maintenance expenses.**

REVENUE REQUIREMENT

164. The Applicant is requesting that the revenue requirement for the test year 2008 calculated at $502,238,415 be approved. The Applicant claimed that only $474,016,811 would be attained on existing rates as shown in its Memorandum on Income Statement. The Applicant therefore asserted that it required an additional $28,221,603 in revenue to be collected through increased tariffs in order to achieve the required rate of return on rate base for the test year.

165. The Revenue Requirement is determined using the following rate making formula

Revenue Requirement =

Operating Income + Operating Expenses + Depreciation + Taxes

where the operating income is derived by the following formula:

Rate Base x Allowed Rate of Return = Operating Income

166. The proposed rate base is $544,198,726 while the proposed rate of return is 10.48%. The test year operating expenses, depreciation and taxes amount to $445,206,388.

167. The rate base and allowed rate of return, taxes and the operating expenses have been examined in earlier paragraphs.

168. In the Applicant's opening statement presented by its legal counsel the Applicant contended that:-

> *"Over the years, the Applicant has reinvested a significant portion of its earnings in the new plant and equipment to meet the then increasing demand for electricity and to improve the efficiency of the Applicant's operations. In fact, a review of the Applicant's distribution of net income between 1983 and 2009 shows that on average, 72% of the net income is reinvested, a remarkable rate by any measure."*

169. The Applicant reiterated the fact that it had not applied for a rate increase since 1983 and the additional $28,221,603 in revenue being requested through increased rates was essential in order to achieve the required rate of return on rate base for the test year. Mr. Best gave evidence that the revenue requirement was intended to provide an opportunity for the Applicant to recover its prudently incurred costs for providing utility services and to earn an appropriate return on invested capital, including a fair return on equity.

170. The Applicant indicated that according to the financial forecasts, revenue based on existing tariffs would be insufficient to meet the needs of the Applicant over the next five years. The Applicant contends that even when these forecasts are based on the proposed tariffs and projected growth, which improves the rate of return, there would still be a shortfall of the requested rate of return over the next five years.

Intervenors' Position

171. The Intervenors questioned the likely impact on the Applicant if the revenue being requested was not granted. The Applicant explained that the likely impact of not being allowed to earn the requested return would include (a) not being able to demonstrate to its lenders that it can earn sufficient revenues to repay loans and satisfy debt covenants (b) curtailment of capital investment such as

plant replacement programmes (c) degradation of service and (d) impairment of the fuel efficiency drive.

172. BANGO's representative Mr. Chris Halsall concentrated his questioning on the issue of revenue from poles insisting that the Applicant had failed to capitalise on revenue that could have been generated from the rental of poles to Cable & Wireless and TeleBarbados, at fair market value. His general contention was that had the Applicant been prudent in securing market value for pole revenue (rental) its requested revenue requirement would be approximately $1 million less. He also sought to ascertain whether TeleBarbados was being subsidised by the Applicant but the Applicant denied this.

173. The Applicant further indicated that the current pole rental rates were not designed to be a major source of revenue but to merely offset the expenses associated with such rental. The Applicant further indicated that the contracts were scheduled for renegotiation.

The Commission's Findings

174. The Commission considered whether the requested revenue requirement provides an opportunity for the Applicant to recover its prudently incurred costs for supplying utility services and to earn an appropriate return on invested capital, including a fair return on equity.

175. The Commission considered the Intervenor's position that additional revenue from pole rental would decrease the cost of service allocations. However, the Commission is of the view that any renegotiated price is not a known and measurable change. Therefore, no adjustments based on these revenues are appropriate for this rate setting exercise.

176. The Applicant provided the calculations quantifying the projected shortfall in a revised response to Interrogatory Series No.1, Question 88 submitted to the Commission on October 22, 2009 which is reproduced in Table 1.

Table 1
Short Fall in the Rate of Return: BL&P Calculations

	2009	2010	2011	2012	2013
Rate Base ($000)	550,871	555,864	699,428	781,877	789,017
Requested Rate of Return	10.48%	10.48%	10.48%	10.48%	10.48%
Operating Income ($000) Required	57,731	58,255	73,300	81,941	82,689
Operating Income as per financial forecast ($000)	29,628	45,467	43,295	39,390	47,112
Short Fall ($000)	-28,104	-12,787	-30,005	-42,551	-35,577
Rate of Return as per financial forecast	5.38%	8.18%	6.19%	5.04%	5.97%
Short Fall	**-5.10%**	**-2.30%**	**-4.29%**	**-5.44%**	**-4.51%**

Source: BL&P Revised Response to Interrogatories Series No.1 Question 88

177. These calculations assume the proposed rates are in effect in each year. The rate of return will fall short of the 10.48% starting from 2009. With the exception of 2010 and 2011, the rate of return is even below the rate of return of 6.07% calculated for the test year under existing rates.

178. The Commission understands however that one of the reasons for the observed short fall in the rate of return going forward is the growth in rate base. Mr. Best explained that the addition of new plant would be the primary driver of growth. The projected rate base of approximately $789 million in 2013 is substantially higher than the 2008 test year rate base of $544 million.

179. **The Commission having:-**

(a) reviewed and accepted the proposed rate base

(b) adjusted the rate of return from the requested 10.48% to 10.00%

(c) assessed the operating expenses to be prudently incurred

determines the revenue requirement to be $499,165,291. The requested additional revenue of $28,221,603 will be revised and reduced to $25,148,480 for the test year.

FINANCIAL FORECASTING

180. The Applicant stated that it prepares a budget and five-year financial forecast as part of its annual planning cycle. The forecast was prepared in accordance with the International Financial Reporting Standards and for the purpose of the rate application excludes donations and covenants.

181. The Applicant submitted that in preparing the financial forecast for the five-year period 2009 – 2013, it anticipates an environment in which there will be sales growth of 2.0% - 2.5%.

182. Two Five-Year Financial Forecasts have been prepared for the years 2009 through 2013, the first based on the existing rates and the second based on the proposed rates. The forecast based on existing rates shows that, in the absence of a rate increase, the Applicant's revenues would be insufficient to meet its financial needs and to maintain adequate electricity services.

183. The Applicant explained that its Capital Expansion Plan is largely driven by the retirement of plant. The Applicant stated that the goal of the capital expansion plant is to determine the least cost solution to providing the electricity service which meets specified levels of reliability. The Applicant plans to install medium speed diesels for future expansion primarily because these units will provide the greatest flexibility in the use of fuel. The Applicant intends to burn heavy fuel oils but these units can be reconfigured to burn natural gas if and when this becomes available.

Intervenors' Position

184. Throughout the hearing Intervenors queried at what point the Applicant would find itself in difficulty if the rate increase were not granted.

The Commission's Findings

185. The Commission acknowledges that under the existing rates, the financial forecasts provided by the Applicant show that it will start to incur losses in 2012.

Commissioner Knight questioned the rationale behind a high dividend payout in light of the declining income of the Applicant. Mr. Best responded by stating that, although the Applicant does not have a formal dividend policy, it has an obligation to maintain reasonably stable dividends. The Commission is of the view that the significant increase in the dividend payout ratio reflected in the financial forecasts may not be prudent.

186. Concerning the future financial health of the Applicant and its ability to borrow funds, the Commission believes that a key consideration is whether the Applicant is close to breaching any of its debt covenants. Mr. Best indicated that the Applicant must maintain minimum earnings coverage of 1.25 and a maximum gearing ratio (i.e. proportion of debt in the total capital structure) of 50%.

187. Based on the Applicant's Financial Forecast, the Commission is of the view that while the Applicant is not in danger of breaching its gearing ratio, the Applicant's earnings coverage will indeed deteriorate towards the minimum earnings coverage over the next five years.

188. **The Commission accepts the Financial Forecasting data for the purpose of the rate making process.**

FUEL CLAUSE ADJUSTMENT (FCA)

189. The Applicant proposes to shift the 2.64 cents per kWh of fuel cost from the base energy rate to the Fuel Clause Adjustment (FCA) as recommended in the Commission's "Fuel Adjustment Clause Findings Report 2006" which was prepared by Castalia Strategic Advisors. In this manner the full fuel cost will be collected through the Fuel Clause Adjustment. The Applicant has advised that fuel prices are beyond the Applicant's control and that changes in the price of fuel do not result in a gain or loss to the utility since the cost of the fuel used to produce electricity is passed through to customers by the fuel clause adjustment.

190. The Applicant's witness, Mr. Peter Williams stated that given the present fuel prices *"we estimate it would save around BBD$30M per year in fuel by being able to install the new equipment which will use not only less fuel but less costly fuel"* The Applicant explained that savings on fuel costs are automatically passed on to customers through the fuel clause adjustment.

Intervenors' Position

191. Mr. Mascoll and Mr. Campbell questioned whether a fuel clause adjustment was very common in the electricity industry, to which Mr. Williams advised that in countries where the utilities operate on fuel or diesel it is a common practice and certainly true within the Caribbean.

192. Several Intervenors contended that having a test year where fuel costs were high would see the Applicant seeking a higher revenue requirement than needed. Mr. Williams responded that fuel was *"not a factor in terms of our fundamental request for the O&M expenses and for return on our capital."*

193. Intervenor Toft was also concerned that the Applicant may be "making money" from the fuel clause adjustment.

194. Intervenors Mr. Toft and Mr. Trotman sought to ascertain whether the Applicant had investigated buying the fuel at the best possible price on the world market. Mr. Williams' response was: *"I cannot say whether we are buying at the best possible price. What I would say I hope the Government is acting in everyone's interest. We have as you might be aware, gone out to tender, we go to tender for fuels and the matter of the contract with BNOCL was subject of review by the Commission and indeed a court hearing and I wouldn't want to speak too much more about that. But we certainly in our efforts always want to procure the fuel at the best possible price."*

The Commission's Findings

195. The 1983 PUB Decision allowed the Applicant to recover fuel expenses through two mechanisms. One is the imposition of 2.64 cents per kWh charge in the base

energy charge and the other is the FCA which has been in operation since 1965. A 1985 decision amended the calculation of the FCA.

196. The discussion during the hearing centred more on whether the cost of fuel influences the revenue requirement and the prudent use of fuel in general rather than the substantive issue of the fuel clause adjustment and the proposed shifting of the 2.64 cents per kWh of fuel cost from the base energy charge to the FCA.

197. The Commission in 2006 retained consultants who among other things examined whether the fuel clause adjustment allowed the Applicant to earn additional revenue. Based on the analysis of the consultant's findings, the Commission advised in its "Fuel Adjustment Clause Findings Report that *"there was no evidence that the BL&P was systematically over recovering. The Commission is therefore of the view that there should be the continued inclusion of a fuel adjustment in the BL&P rate structure"*.

198. The Commission is of the view that having all of the fuel costs collected through one mechanism, the FCA, will provide customers with more transparency on the cost of electricity service and will be less confusing than having a portion of fuel costs in the base energy charge and the rest in the FCA.

199. The Commission was initially concerned that if all fuel costs are recovered in an adjustment factor, it was important that the adjustment factor be structured to take into account the fuel costs differences between customers served at primary and secondary voltage in order to avoid higher voltage customers subsidising lower voltage customers. However during cross-examination by the Commission the Applicant confirmed that it does not serve customers at the higher voltage transmission level. Additionally given the complexity that Mr. Worme described in voltage-differentiating the FCA and the small difference (2.3 percent) that would result between secondary and primary FCAs, the

Commission determined that no revision of the FCA formula to calculate a separate FCA factor for each voltage level of service would be required.

200. **The Commission approves the transfer of 2.64 cents per kWh of fuel cost from the base energy rate to the FCA.**

COST OF SERVICE STUDY

201. The Applicant submitted that the 2008 embedded cost-of-service study and the 2007-2008 load research are appropriate for determining what rate changes should be made to the existing tariff structure. The Applicant's stated overall objective is to assign costs fairly and equitably to all rate groups of customers. A marginal cost analysis was undertaken to assess the impact on the rate design at certain pricing points.

202. A cost of service (COS) study was undertaken to estimate the utility's actual cost of providing electricity service to its various customer classes. Cost is determined at all stages of the supply chain from generation through to billing. The results were used to allocate the revenue requirement and allow the Applicant to propose rates at a level to facilitate cost recovery.

203. The Applicant advised that most of its costs are joint or common and as such are incurred to serve all customers and rate groups. There are a number of standard allocation methods used within the electric industry that are generally accepted as reasonable. By adhering to the cost causation principle and applying the appropriate allocators the Applicant believes that the results of the study are fair and equitable.

204. Costs incurred may be categorised as (a) Demand related - based on peak demand kilovolt ampere (kVA), (b) Energy related – based upon kilowatt hours (kWh) and (c) Customer related – based upon the number of customers served.

205. Mr. O'Sheasy, the Applicant's expert witness explained the standard steps employed to produce the study. These included financial data compilation, functionalisation, levelisation, classification, assignment, and allocation. Local load research data was used to develop the rate group allocators. The number of customers and their respective demand and energy sales by level of service were analysed, as was the supply including losses for annual system energy and demands.

206. The Applicant stated that its proposed rates are based on unit costs and marginal costs at particular price points which provide the revenue requirement. The Applicant has further suggested that its Application addressed the interest of low income consumers by way of the inclining block energy and customer charge structures.

Intervenors' Position

207. Mr. Campbell asserted that Mr. O'Sheasy, the Applicant's expert witness had suggested that his method of apportioning indirect costs was the only way and questioned whether marginal cost would not have been an easier and more efficient way to allocate fuel and energy costs. Mr. O'Sheasy responded by stating that there are four to five ways but that in his opinion the method chosen was the best.

208. In response to cross-examination as to whether load factor (which effectively measures how a utility consumer or group uses the distribution system) was critical in allocating costs, Mr. O'Sheasy agreed but advised that it was not used directly, rather demand and energy were used which could be converted to load factor.

209. Mr. Mascoll enquired about the strengths and weaknesses of the methods used in the COS study. Mr. O'Sheasy intimated that he preferred a forecasted test year because "*you want to reflect the costs that you are going to incur when new rates go into effect*". Mr. O'Sheasy also did not have load survey data for the entire test

year (only October 8, 2007 to July 1, 2008 was available) but stated that the load and financial data were reliable.

210. Intervenors queried whether street lighting was expected to contribute to the rate of return and the rate base. In response Mr. O'Sheasy indicated that street lighting would not contribute to the rate of return but it is included in the rate base at $7 million and it is considered a public service.

211. The issue of the use of the value-of-service principle was raised. Mr. O'Sheasy gave evidence that value-of-service had never been observed to be factored into a cost of service study and he further stated that, as it pertains to rate design, prices are not based on the value of service in a regulated utility environment.

212. Intervenors Mr. Trotman and Mr. Mascoll cross-examined on line losses and the manner in which they were allocated in the cost of service study. The Applicant explained that these losses which accumulated over the network, varied with energy consumption and greater losses accrue to the domestic customers since they take electricity at lower voltages at the end of the distribution network.

The Commission's Findings

213. The Commission examined the approach and methodology adopted by the Applicant and its advisors in the embedded and marginal cost studies, the formulation of the models and the key assumptions.

214. The cost of service approach is used extensively within the regulated utility industries as the basis for rate setting and provides an empirical means to allow for the setting of rates that are reflective of cost. The Commission believes that the value-of-service principle is more subjective in nature and does not embrace the concept of cost of service. Instead it seeks to assign monetary worth to a service based on the output derived from the said service. The latter has not been shown to be the dominant driver in rate setting in other regulated jurisdictions.

215. The Commission accepts that energy and line losses are unavoidable in the delivery of electricity service. The Applicant's line losses were reported to be approximately 7.3% for the test year. The CARILEC study, undertaken by KEMA, has demonstrated that the Applicant's system energy line losses are lower than average and that the Applicant is one of the more efficient electric utilities in the Caribbean. Line losses are therefore not considered a significant issue.

216. It is widely recognised that embedded costs or marginal costs may be used to determine the class revenue requirements. The Applicant primarily used the embedded cost-of-service study. The Commission believes that marginal cost based allocation would produce more economically efficient rates where the relative rates among the classes, price elasticity and customer impact are factors. The Commission accepts the measures taken by the Applicant to minimise billing impacts. Additionally the Commission is satisfied that the proposed rates are moving towards both marginal and embedded costs.

217. The Applicant conducted load sampling of its customers to arrive at the load allocators for the study. The Commission accepts the proposed allocators, their associated assumptions and input data. The study is generally consistent with standard utility practice.

218. **The Commission accepts the Embedded Cost-of-Service Study and its use as the basis for the rate design.**

RATE DESIGN

219. The purpose and process of designing rates are guided by both financial and social objectives. Recovery of class revenue requirements, revenue stability, sending appropriate price signals, fair assignment of costs among customers within each class, economic efficiency and resource conservation are the conventional objectives.

220. The main purpose of the rate is to price utility service such that the utility recovers its prudently incurred costs of providing that service and earns a fair return on its investment.

221. The Applicant's proposed tariffs and terms and conditions of service for the Domestic Service (DS), General Service (GS), Secondary Voltage Power (SVP), Large Power (LP), Employee, Fuel Clause Adjustment (FCA), Street Lighting and Service Charges are given at Volume 2 of the Application Schedules K and K-1 to K-8.

222. The Applicant stated that the objectives of the rate design exercise were to:

(a) Offer fair rates;

(b) Consider the interest of low income earners;

(c) Improve parity ratios;

(d) Encourage energy conservation amongst its customers;

(e) Minimise the impact of any rate increase on the small DS and GS customers without unduly overburdening large customers;

(f) Rebalance the rates for DS customers so as to lessen the cross subsidisation by the SVP and LP customers and to have the DS tariff move towards its true cost of service;

(g) Maintain an inclining block structure for both the customer and energy charges in the Domestic Service tariff category and introduce a similar structure in the GS and Employee tariff categories; and

(h) Adjust the rates for the SVP and LP customers so that the demand and energy charges more closely match the cost of providing the service.

223. The Applicant is proposing to add a block to the existing inclining energy block structure for the Domestic class, and create three blocks for the Employee class and four blocks for the GS customers.

224. The Applicant is further proposing to change from the fixed monthly charge which is applicable to all DS and GS customers to a monthly customer service charge which is based on the usage level.

225. The Applicant stated that under the proposed rates the DS and GS classes will bear an increased portion of the revenue requirement while the LP customers will bear a reduced portion of the revenue requirement.

226. The cost of service study incorporates rates of return for DS and GS classes that are below the overall rate of return, rates of return for SVP and LP classes that are above the overall rate of return and zero rate of return for the street lighting class.

Intervenors' Position

227. There was extensive cross-examination by several Intervenors on the inclining block structure for the energy charge and customer charge for the DS and GS classes. The reasons given by Mr. Worme for the use of this structure were energy efficiency and keeping the rates low for low usage customers. Mr. Worme further indicated that the 15 cents per kWh is the unit cost derived from the COS study and that was used as the starting point for the inclining base energy charge structure. Mr. O'Sheasy further indicated that many modern utilities have moved to flat or inclining blocks.

228. In response to Mr. Niles and a proposal from Mr. Mascoll that a flat rate should be used for the customer charge, Mr. O'Sheasy explained that the proposed inclining domestic customer charge was innovative and that it is a fixed charge once customer usage remains in the same range.

229. Mr. Mascoll queried the amount of the customer charge for the first block of the DS class, its components and its applicability to different customers based on the age of the meter. Mr. O' Sheasy indicated that the $6 customer charge for the

first domestic block was arrived at by trying to strike a balance between the actual unit cost and the need to mitigate the impact on low usage consumers. Mr. O' Sheasy stated that higher usage customers would be charged higher customer charges as a means of subsidising lower usage customers.

230. Mr. Niles and Mr. Gibbs-Taitt questioned the Applicant on the average age of a meter and its attendant charge. The hearing was told that a meter may be between 0 to 18 years old and that the Applicant did not distinguish rates by the age of the meter. Mr. Mark King, Chief Operating Officer further explained that on average a customer will have a meter on his home for fifteen years and that after that period the meters are brought in for retesting and cleaning. The meters are then put back in service.

231. The Applicant advised that the cost of meters, meter reading, uncollectibles, customer service and billing all contributed to the customer charge.

232. Mr. Mascoll questioned Mr. Worme on marginal cost and economic efficiency stating that *"it is extremely difficult to understand why the hundred and first kilowatt of electricity used will be charged 17.6 cents, 2.6 cents more than the hundredth kilowatt of electricity used."* Mr. Worme's explanation for the increase was the promotion of energy efficiency and he noted that the inclining block rate structure is used worldwide in rate design. Mr. Worme stressed that it was energy efficiency and not economic efficiency that was being encouraged.

233. Several of the Intervenors were of the view that the first block (0-100 kWh) of the energy charge for DS customers was too narrow and there was cross-examination on the basis of the proposed range of the blocks. Intervenor Toft suggested that the first block should be "*closer to 200kWh*". He justified his position by pointing out that he has an elderly neighbour who has the basic electric amenities such as lights and a washing machine but cooks with gas yet her monthly electricity usage is typically between 170 to 194 kWh. He

considered it "extremely difficult" to remain under 100kWh per month. Mr. Mascoll recommended that the first block should be 0-150kWh.

234. BANGO in its cross-examination and closing statement submitted that the lower margin of 0-100 kWh was applied arbitrarily to create a convenient measure rather than a margin which takes the usage of the poorer householders into consideration and the likely impact any increase in rates will have. BANGO further submitted statistics related to the group classified as the working poor and stated that a kWh block structure should be classified on the basis of reasonable usage for low income customers that would ensure that the majority of low income households would be spared any impact.

235. BANGO was of the view that any increases contemplated for users below 250 kWh should instead be spread across households and businesses surpassing 250 kWh/month.

236. Mr. Worme indicated that the average usage of DS customers was approximately 250 kilowatts hours per month and cautioned that if the size of the first block were to be increased it would mean that the cost burden would be shifted to the consumers in the higher blocks who are already paying a higher rate than their cost of service.

237. Mr. Gibbs-Taitt's line of cross-examination focused on direct consumer impact and the additional effect the increase would have on the services and products that consumers purchase. Mr. Worme indicated that the Applicant considered the impact on consumers in arriving at the proposed rate design. The Applicant determined that the move to full cost-based rate design would require too great a price increase and thus opted to moderate the impact by moving partially to cost-based rates. Mr. Worme stated that in seeking to assess the potential impact the Applicant convened focus groups, interviewed individual consumers and held discussions with community groups.

238. Mr. King of BANGO also raised the issue of conservation by asking how it was incorporated in the proposed rates. The Applicant advised that the customer could realize reductions in the energy, customer charge and FCA components of their bills by reducing consumption.

239. Mr. Toft voiced his concerns about the impact of ratchet billing of the demand charge on small businesses. He argued that this type of billing was not fair as it bills a customer at the highest demand of the twelve consecutive months and that such billing only encouraged wastage. He indicated that he would prefer to see a small business pay for the peak demand recorded each month even if according to the Applicant the demand charge in the absence of ratchet billing is higher.

240. Some Intervenors questioned the timing of the Application for a rate increase in a period when Barbados like the rest of the world is faced with economic challenges.

The Commission's Findings

241. The Commission considered, among other things, the Applicant's rate design objectives and philosophy as well as the appropriateness of the proposed rate of return and revenue allocations for the different customer classes of service. The Commission considers that the Applicant's rate design objectives as set out in paragraph 222 are appropriate for Barbados and consistent with similar jurisdictions.

242. Reference was made by several Intervenors to the economic forecasts of recession and predictions that economic recovery for Barbados would not occur until 2011. The Commission is very much aware of the challenges being faced by Barbados and other countries at this time. However the Commission is equally aware that, especially at these times, it is important that Barbados maintains a

stable and reliable electricity service. The Applicant has submitted that the cost of operating and maintaining the utility plant has continued to increase and the Applicant has to make substantial investments to continue to provide safe and reliable service.

243. Under the URA the Commission must consider any Application for a rate increase. The URA sets out that an efficient service provider is allowed rates that will enable it to finance its operations and earn a fair rate of return.

244. The Commission is of the view that for the DS, GS and Employee classes, the inclining block structure increases the incentive to conserve energy for consumers with consumption in the higher-priced blocks, and gives them the ability to reduce the effect of the rate increase by reducing their consumption.

245. It is the Commission's view that the proposed inclining block customer charge is appropriate for limiting the bill increases of low usage/low income domestic customers. The Commission accepts the Applicant's proposal to use a rolling 12-month average for billing purposes.

246. In order to capture a larger number of low usage/low income customers, the Commission has determined that the Applicant should expand the first block from 0-100kWh to 0-150 kWh for the customer charge and the energy charge of the Domestic Service class. Approximately 14,000 more customers would be included in this block for the customer charge. However with respect to the energy charge, all customers who use over 100kWh would pay for the next 50 kWh at the rate of $0.150/kWh + VAT instead of the proposed $0.176/kWh + VAT.

247. The Commission has examined the Applicant's information, rates and billing impacts pertaining to the GS class of customers. The Commission accepts the GS rates as detailed in Schedule K-2 of the Application.

248. An issue raised during the hearing was the zero rate of return provided by the street light class. The Commission accepts that the Applicant does not earn a return on this investment but only seeks to recover the expenses associated with the provision of this service as it is a public service.

249. The Commission accepts the street light rates as detailed in Schedule K-7 of the Application.

250. The Commission sought information on what the demand charge would be without ratchet billing. In its response, the Applicant indicated that based on 2008 customer demand, if monthly demand billing was used the price per kVA would be 13.9% and 12.8% higher ($30.75 instead of $27.00, and $28.20 instead of $25.00 per kVA) than what is proposed for the SVP and LP tariffs respectively. This explanation was based on the Applicant achieving the same revenue requirement.

251. The Applicant further indicated that if the proposed demand charges were not changed but the billing of the demand charge was based upon monthly maximum demand, it would be necessary to increase the energy charge for SVP and LP customers by 1.5 and 1.1 cents per kWh, respectively to achieve the proposed revenue requirements.

252. The Applicant contends that both scenarios would result in an increase in the cost to customers with high load factors and a reduction in the cost to those with lower load factors which would send an undesirable price signal.

253. The Commission is not convinced that the ratchet billing for the demand charge promotes efficient use of electricity. In practical terms ratchet billing may in some instances operate to reduce the incentive to conserve electricity which is counter to the Applicant's stated rate design objectives.

254. **The Commission determines that the Applicant should not use ratchet billing for the calculation of the demand charge for the SVP and LP classes and allow**

those customers' bills to be reflective of the peak demand incurred for each month. The Applicant should adjust the demand charge and/or the energy charge accordingly. The Commission appreciates that the implementation of this will require adjustment to the Applicant's billing system and will consult with the Applicant on the timely implementation of this particular aspect of the tariff.

255. Some Intervenors implied that the lower proposed percentage revenue increases for SVP and LP classes and the proposed increase in demand charges and reduction in energy charges were measures designed to lure self-generators back to the grid. The Commission's view is that the lower increases for these classes and the changes in the structure of the SVP and LP tariffs are justified by the embedded and marginal costs studies.

256. With respect to SVP customers, the new rates as proposed by the Applicant represent an average increase of approximately 9.9%. A breakdown of this figure at Tables 4 and 5 at Schedule K of the Application reveals that about 14% of SVP customers are likely to realise reductions, of up to $1,000 per month while the remainder are expected to see increases of up to $4,000/month. Based on 2008 usage, 2.1% or 101 SVP customers will receive a bill increase of between 100–300%. Bill reductions would invariably be associated with high load factor customers. The reverse is true for lower load factor customers, who would now be required to pay a rate that is more representative of their demand cost.

257. The Commission notes that based on the Applicant's rate design and billing impact information, LP customers will experience an average increase of 3.1%. Tables 6 and 7 of Schedule K of the Application show that 33% of LP customers would receive a reduction in their bills, while 67% would experience increases in the same general range. It is anticipated that, based on 2008 usage, 2.8% or 5 LP customers would realise a 200%-500% increase and 3.3% or 6 customers in excess of 500%.

258. These SVP and LP customers are not without electricity management options and may choose to manage their maximum demand through the installation of corrective devices and load shifting but some of them may nonetheless experience significant increases.

259. **The Commission recognises that the determined rate of return of 10% represents a reduction of $3,073,124 of the revenue requirement. Having earlier determined that there should be a widening of the first block of the DS class from 0-100kWh to 0-150kWh for the customer charge and basic energy charge, a portion of the reduction in the revenue requirement was taken out by the Commission for the DS class. The Commission therefore determines that the resulting balance of the reduced revenue requirement should be allocated between the LP and SVP in a 60:40 ratio.**

Service Charges

260. The Applicant's proposed tariff schedule includes service charges for miscellaneous services not associated with monthly use of electricity. The Applicant has submitted evidence to show that the proposed service charges are much closer to the underlying unit costs than current service charges. The exceptions are "Shift Meter Below 200 Amps" and "Upgrade Service Below 200 Amps" which were increased but are still much lower than cost. The rationale for the proposed increases was queried by Commissioner Hazzard. Mr. Worme indicated that the proposed charges for these services were designed to keep charges for similar services comparable.

261. **The Commission accepts the Applicant's proposed service charges as detailed in Schedule K-8 of the Application.**

Employee Rates

262. The Applicant provided evidence at Schedule K and K-5, Volume 2 of its Application on the employee rate structure. The Applicant stated that the employee rate structure will change from a single rate for all energy used to an

inclining block rate structure of 3 blocks in order to encourage energy conservation. The rates for the first block of 0-500kWh was proposed at the existing rate of $0.08 per kWh and the rates for the upper two blocks will be equivalent to the two upper blocks for the DS Tariff less 10% which is equivalent to the early payment discount. Payments for the employee class are generally made through payroll deduction. The Applicant stated that the proposed rates will result in increases varying from 11% for employees using less than 500 kWh per month to over 40% for employees using in excess of 1,500 kWh per month.

Intervenors' Position

263. During his cross-examination of Mr. Stephen Worme, Intervenor, Mr. Douglas Trotman raised the issue of whether the employee rates proposed by the Applicant may be considered discriminatory. Mr. Worme explained that in his view it was not discriminatory because the employee rate is not just a flat rate of 8 cents per kWh but has an inclining block structure similar to the other customers and is comparable with the DS class.

264. The issue of how the employee rates are calculated was put to the expert witness Mr. Michael O'Sheasy by Mr. Clyde Mascoll. Mr. O'Sheasy admitted that the employee rate is a traditional benefit for the Applicant's employees. He stated that he believed that it was a part of the employee compensation package and that in his view, the credit risk of employees is less than that associated with a typical domestic customer.

265. Mr. Gibbs-Taitt was especially concerned that the employee class of customers, including the retired employees, may be subsidised by another class of customers.

266. With regard to the issue of subsidisation, Mr. O'Sheasy stated that a load research analysis was not done on the employee group as it would not be useful to conduct a load research on a portion or class of customers that is so small. He

went on to state that he believed that the employees have relatively good load shape because they understand the importance of energy efficiency.

The Commission's Findings

267. The Commission has a statutory duty to review rates, not only to ensure that they are consistent with allowed revenue requirements but also to determine that the rates are not unduly preferential or discriminatory.

268. Section 13 of the URA states that:-

> *"(1) No service provider shall supply or furnish to any person any utility service at rates which are unduly preferential or unduly discriminatory.*
>
> *(2) A service provider shall not*
>
> > *(a) in respect of a rate or a utility service, subject any person or locality, or a particular description of traffic, to any undue prejudice or undue disadvantage; or*
> >
> > *(b) extend to any person any agreement, rule, facility or privilege unless that agreement, rule, facility or privilege is regularly and uniformly extended to all persons under substantially similar circumstances and under conditions of service of the same description.*
>
> *(3) Notwithstanding subsections (1) and (2) a service provider may with the approval of the Commission supply a utility service to any charitable organisation or disadvantaged person at a reduced rate."*

269. In the 1983 PUB decision the Board considered whether the employee rates were discriminatory :

> *"In the Board's view it would be unduly preferential and discriminatory to permit the Company to continue to supply electricity to its employees at 3 cents per kWh. However, the Board recognises that some discount is in order and will order that the basic rate to be charged to employees will be 8 cents per kWh in addition to the fuel charge."*

270. The Commission considers that in the context of utility regulation there may be discrimination in the rates charged or rate differentials where a utility company sells the same service to the same type of customer at different prices. Persons in the Applicant's employee class would ordinarily be customers in the domestic service class. This essentially means that the employee class will be receiving the same level and quantum of service at substantially lower rates.

271. Notwithstanding this the Commission recognises that it is not unusual for businesses to grant to their employees concessions which are not available to other customers. The employee rate may be viewed as a concession to the Applicant's employees and therefore the Commission determines that an Employee class of tariff is approved.

272. The remaining issue is what degree of difference between the employee and domestic rates qualifies as being "unduly" preferential and/or discriminatory.

273. Richard J. Pierce, Jr. *et al* states in his text *"Regulated Industries in a Nut Shell, 4th Edition"* 1999, *"A party alleging undue discrimination must establish that the rate charged one customer, class of customers or geographical area is different from the rate charged another customer, class of customers or geographical area for the same product, and that there is no legally sufficient justification for the rate preferential."* The word "unduly" in its ordinary sense means excessively, overly, disproportionately, unjustifiably, undeservedly or improperly.

274. The rates proposed for the employee class and the domestic class per kWh differ unduly. The Applicant is proposing that its employees who use up to 500 kWh pay 8 cents per kWh whereas domestic customers who use 0-100 kWh are asked to pay 15 cents. Similarly DS customers who use 100-500 kWh are asked to pay 17.6 cents per kWh for the same level of electricity service. The first block of the Employee Class is much larger than the first block of the DS class thereby allowing employees who use more kilowatt hours to continue to benefit from the lower rate.

275. **The Commission determines that the proposed employee rate is unduly discriminatory.**

276. **The Commission believes that there needs to be some correlation between the kWh block for the DS and Employee class. The Commission therefore directs the Applicant to use blocks starting with 0-150 kWh for the first basic energy charge block and 151-500 kWh for the second basic energy charge block for the Employee class. It is further directed that the rate offered to Employees for the first two blocks should be 20% less than the early payment discounted rate of DS customers in corresponding blocks. The rates for the remaining two blocks will be the same as those that are set for the domestic class minus the 10% discount for early payment as proposed by the Applicant.**

Compliance Filing

277. The Applicant must submit to the Commission within two weeks of issuance of this Decision and Order a revised rate schedule along with detailed tables of proof of revenue showing revenue at current rates and proposed rates using the test year billing determinants (as in Question. 33 of the Commission's Interrogatories Series #1).

278. The Applicant shall continue to submit annual regulatory reports to the Commission on or before May 31 each year.

Commissioner Brathwaite's Reservation

279. Commissioner Brathwaite has signed this Decision and Order indicating his concurrence with the decision but wishes to record his reservation about the rates approved for LP and SVP customers. Commissioner Brathwaite's reservation is set out in Appendix 2.

PART FIVE – ORDER

UPON HEARING Sir Henry de B. Forde Q.C., Attorney-at-Law in association with Mr. Ramon Alleyne, Attorney-at-Law, Ms. Debbie Fraser, Attorney-at-Law and Mrs. Nicola Berry, Attorney-at-Law of the firm of Clarke Gittens Farmer for the Applicant;

AND UPON HEARING the Applicant's witnesses, Mr. Peter Williams, Mr. Hutson Best, Mr. Mark King, Mr. Stephen Worme and expert witnesses Mr. Robert Camfield and Mr. Michael O'Sheasy;

AND UPON HEARING the Intervenors, the Barbados Small Business Association (BSBA) and the Barbados Association of Retired Persons (BARP) represented by Public Counsel, the Barbados Consumer Research Organisation Inc. (BARCRO), CANBAR Technical Services Ltd., the Barbados Association of Non Governmental Organisations (BANGO), Mr. Douglas Trotman, Attorney-at-Law, Dr. Roland Clarke and Mr. Errol Niles, Attorney-at-Law;

AND UPON READING the Submissions of the Applicant and the Intervenors;

IT IS HEREBY ORDERED AS FOLLOWS THAT:-

1. The rate base as computed by the Applicant and calculated as $544,198,726 is hereby approved.

2. The capital structure of Debt 35% and Equity 65% used by the Applicant in the determination of its rate of return is hereby approved.

3. The rate of return on rate base of 10.48% is denied. The Applicant is granted a rate of return on rate base of 10.00%.

4. The revenue requirement of $502,238,415 is denied. The Applicant is granted a revenue requirement of $499,165,291.

5. The request that the proposed tariffs come into effect from October 1, 2009 is denied. The Commission hereby orders that the new tariffs be effective from March 1, 2010 and shall be applied to all bills from March 1, 2010.

6. The existing Standards of Service be retained pending a decision by the Commission on its review of the Standards of Service.

IT IS FURTHER ORDERED THAT:

7. The reduction in the revenue requirement arising from the reduced rate of return should be assigned as follows:

   (a) Firstly, the Domestic Service (DS) 0-100 kWh block is expanded to 0-150 kWh.

   (b) Secondly, the Applicant shall after satisfying the above apply the resulting balance to the Large Power (LP) and the Secondary Voltage Power (SVP) service classes in a 60:40 ratio.

8. The Applicant remove the ratchet billing from the demand charge of the SVP and LP classes and adjust the demand and/or energy charge accordingly.

9. The General Service tariffs as detailed in Schedule K-2 of the Application are approved.

10. The Fuel Clause Adjustment tariff as detailed in Schedule K-6 of the Application is approved.

11. The Street Lights tariffs as detailed in Schedule K-7 of the Application are approved.

12. The Applicant's Service Charge tariffs as detailed in Schedule K-8 of the Application are approved.

13. The first block for the Employee service class is 0-150 kWh and the second block is 151-500 kWh.

14. The rates for the first two blocks of the Employee class shall be 20% less than the rates for the corresponding blocks of the DS class after deducting the early payment discount. The rates for the remaining two blocks will be the same as those proposed by the Applicant.

15. The Applicant shall submit to the Commission within two weeks of issuance of this Decision and Order a revised rate schedule along with detailed tables showing proof of revenue similar to that provided in response to Question 33 of the Commission's Interrogatories Series #1.

16. The Applicant shall continue to provide annual regulatory reports to the Commission on or before May 31 each year.

Dated this 25th day of January 2010

Original Signed by
……..
Neville V. Nicholls
Chairman

Original Signed by
……..
Gregory F.M. Hazzard
Commissioner

Original Signed by
……
Andrew F. Brathwaite
Commissioner

Original Signed by
……
Alfred W. Knight
Commissioner

Original Signed by
……
Andrew W. Willoughby
Commissioner

APPENDIX

APPENDIX 1

SCEHDULE D-1

THE BARBADOS LIGHT & POWER COMPANY LIMITED

D-1 INCOME STATEMENT FOR YEAR ENDING 31 DECEMBER 2008

		Balance as per Financial statements Dec 31, 2008	Adjustments	Sch	Test Year at existing rates	Rate Increase	Test Year at proposed rates 2008
Revenues							
Base revenue		198,801,101			198,801,101		
Fuel Revenue		272,291,548	388,123	D7-1	272,679,671		
Misc Revenue		2,216,908			2,216,908		
Investment Income		319,131			319,131		
Total Revenues		473,628,688	388,123		474,016,811	28,221,603	502,238,415
Operating and maintenance expenses							
Fuel		297,612,203			297,612,203		297,612,203
Insurance		12,466,600			12,466,600		12,466,600
Depreciation		37,260,519			37,260,519		37,260,519
Generation		51,061,116	(3,956,093)	D7-2	47,105,023		47,105,023
Distribution		11,737,996			11,737,996		11,737,996
General							
....Customer Services	9,025,362				9,025,362		9,025,362
....Information Systems	3,827,550		(78,970)	D7-3	3,748,580		3,748,580
....Finance	2,521,974		199,982	D7-4	2,721,956		2,721,956
....Administration	6,698,735		(170,808)	D7-5	6,527,927		6,527,927
....Marketing & Communications	2,341,951		(228,386)	D7-6	2,113,565		2,113,565
....Human Resources	7,693,567				7,693,567		7,693,567
....Taxes other than on income	3,316,703				3,316,703		3,316,703
		35,425,842					
Operating expenses before taxes		445,564,276	(4,234,275)		441,330,001	-	441,330,001
Taxes							
Deferred taxes		(1,928,060)	723,357	D7-7	(1,204,703)	4,233,241	3,028,538
Deferred investment tax credit		(1,195,962)			(1,195,962)		(1,195,962)
Deferred manufacturers tax credit		2,043,811			2,043,811		2,043,811
Total taxes		(1,080,211)	723,357		(356,854)	4,233,241	3,876,387
Total expenses		444,484,065	(3,510,918)		440,973,147	4,233,241	445,206,388
Operating income		**29,144,623**	**3,899,041**		**33,043,664**	**23,988,363**	**57,032,027**
Finance costs		6,501,609	(199,982)	D7-4	6,301,627	-	6,301,627
Net income for the year		**22,643,014**	**4,099,023**		**26,742,037**	**23,988,363**	**50,730,400**

APPENDIX 2

COMMISSIONER BRATHWAITE'S RESERVATION

The bill impact information presented by the Applicant at Tables 4 through 7 of Schedule K of its Application for a rate increase demonstrates that some customers in the Large Power (LP) and Secondary Voltage Power (SVP) classes may experience significant instantaneous increases in their total bill under the proposed rates.

In the LP class, several customers would experience an increase of more than 50% in their monthly bill and for some of these the increase would range from 100% to 500%.

In the SVP class, 113 customers would experience bill increases exceeding 100% and 805 customers, representing 16% of the class, would each experience an increase of more than 40%. A few customers would experience bill increases exceeding 300%.

The Applicant submitted amended versions of Tables 4 and 5 showing the estimated bill impacts for the SVP class with the demand charge adjusted to $30 per kVA (instead of the proposed $27 per kVA), with the energy charge adjusted to achieve the same revenue for the class as originally proposed, and with and without the ratchet billing. With the ratchet billing removed, 363 customers would experience increases of more than 100% and 1,541 customers would experience an immediate increase in their monthly bill that exceeds 40%. Several customers would experience increases of more than 300%.

The increases experienced by specific customers would be partially offset by bill decreases to other customers, such that the average overall increase is projected by the Applicant to be around 3.1% for the LP class and 9.9% for the SVP class (the fuel charge adjustment for April 2009 and usage information from 2008 were used in calculating the impact of the rate changes on customers' bills).

My understanding of the Application is that the increases noted above arise primarily from the proposed changes in the demand and energy charges for the LP and SVP classes, as summarized in the table below:

	Existing rate[1]	**Proposed rate[2]**	**Embedded cost[3]**
LP			
Demand charge (per kVA)	$3	$25	$44.20
Base Energy charge (per kWh)	$0.196	$0.094	$0.0136
SVP			
Demand charge (per kVA)	$4	$27	$46.01
Base Energy charge (per kWh)	$0.206	$0.110	$0.0139

As asserted by the Applicant:

"by moving these component prices closer to cost, better price signals are sent to customers enabling them to make more efficient usage decisions and their bills will more closely align with costs."

The Applicant goes on to state:

"However, it is not proposed to achieve full unit cost for the proposed rate of return. Moving to rates which fully match cost of service, while benefitting customers with high load factors (ie. higher energy used in proportion to the maximum demand they impose on the system), would

[1] Appendix IV of the Application

[2] Appendix IV of the Application

[3] Schedule 14 of Cost of Service Report prepared by Christen Associates Energy Consulting

create significant rate shock for those with low load factors, many of whom would be the smaller business operations."

I accept and agree with the Applicant's objective of moving the rates for the LP and SVP classes closer to cost, and acknowledge that even at the proposed rates the demand charge is still significantly below, and the energy charge significantly above, embedded cost. I also accept the Applicant's explanation that some customers may, by various measures, be able to reduce their maximum demand and thereby mitigate the impact of the rate increases.

I am nonetheless uncomfortable with the significant instantaneous increases proposed for some LP and SVP customers (with and without the ratchet billing on the demand charge) and I believe that it would have been preferable to avoid this by moving more gradually towards cost.