IN THE MATTER OF
THE UTILITIES COMMISSION ACT
S.B.C. 1980, c. 60, as amended
and
IN THE MATTER OF
WEST KOOTENAY POWER AND LIGHT
COMPANY, LIMITED
APPLICATION TO AMEND ITS TERMS AND CONDITIONS,
AND ITS RATE SCHEDULES COMPRISING THE
COMPANY'S ELECTRIC TARIFF B.C.U.C. NO. 1

**DECISION** 

October 5, 1984

#### BEFORE:

J.D.V. Newlands, Deputy Chairman; D.B. Kilpatrick, Commissioner; and R.J. Ludgate, Commissioner

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#### INTRODUCTION

On July 15, 1983, West Kootenay Power and Light Company, Limited ("WKPL", "the Applicant", or "the Utility"), applied to the British Columbia Utilities Commission ("the Commission"), pursuant to Section 67 of the Utilities Commission Act ("the Act"), to amend the Terms and Conditions and Rate Schedules comprising the Applicant's Electric Tariff B.C.U.C. No. 1.

Order No. G-51-83, issued July 26, 1983, set the Application for hearing and directed that WKPL publish a Notice of Hearing. The hearing opened September 20, 1983 in Rossland and during 17 days, received 93 exhibits and 3,700 pages of evidence. The hearing concluded with argument in Kelowna on December 8 and 9, 1983.

The hearing was the first review of an Application dealing with WKPL rate design issues. Expert evidence on aspects of rate design, and cost of service studies were presented by the Applicant, several of the Intervenors, and a witness called by the Commission staff.

#### HISTORICAL BACKGROUND

West Kootenay Power and Light Company, Limited is a public utility regulated under the provisions of the Act. It provides electric service to residential, commercial, irrigation, street lighting and industrial customers in an area roughly defined as extending from Princeton in the west to Creston in the east and from the U.S. Boundary north to Kelowna and Kaslo. The Applicant also supplies wholesale power to several municipal utilities and to Princeton Light and Power Company, Limited. Since 1916 WKPL has been a wholly-owned subsidiary of Cominco Ltd. ("Cominco") or a predecessor company. The utility was incorporated by an Act of the British Columbia Legislature on May 8, 1897 and is authorized to generate, transmit and distribute power within a radius of 150 miles of Rossland, British Columbia.

Cominco, a large industrial organization engaged in mining and smelting operations, chemical and fertilizer operations, and a subsidiary company of Canadian Pacific Limited, owns all of the issued common shares and 30 percent of the preferred shares of WKPL. The balance of the preferred shares are held by Canadian Pacific Enterprises Ltd., another subsidiary of Canadian Pacific Limited. Cominco's main operations in British Columbia at Trail and Kimberley generate and use significant quantities of electric power.

In 1982, following a decision of the Commission and pursuant to an Order of the Minister of Energy Mines and Petroleum Resources, WKPL acquired three power plants from Cominco located at Upper Bonnington (No. 2), South Slocan (No.3) and Corra Linn (No. 4), all on the Kootenay River. The consideration was \$20 million through the issue by WKPL of 200,000 common shares at a par value of \$100 each. WKPL also acquired the right to expand generating capacity for its purposes at existing plants of Cominco at Brilliant and Waneta.

In addition to Plants 2, 3 and 4, power is generated by WKPL plant (No. 1) at Lower Bonnington, with the balance of WKPL's requirements purchased primarily from Cominco and B.C. Hydro. A small purchase was made from Bonneville Power Administration ("BPA") for general system use for the first time in the summer of 1982.

The WKPL/Cominco integrated system consists of the following generation plants:

. . . .

Plant No.	Name	Capacity <u>MW</u>	**Energy Entitlement (Gwh)	Location
1	Lower Bonnington	41.4	329.3	Kootenay River
2	Upper Bonnington	59.4	429.6	Kootenay River
3	South Slocan	53.2	422.9	Kootenay River
4	Corra Linn	51.2	343.2	Kootenay River
5	Brilliant*	128.9	853.4	Kootenay River
6	Waneta*	373.9	2,465.4	Pend d'Oreille River

<sup>\*</sup>Cominco Owned

<sup>\*\*</sup>Canal Plant Sub-Agreement

WKPL operates Brilliant and Waneta for Cominco and receives a fee for its services under terms of operation set out in the Omnibus Agreement dated January 1975, as amended. WKPL has a right to surplus power from these two plants under the Sale of Surplus Power Agreement of November 21, 1980 as amended.

British Columbia Hydro and Power Authority ("B.C. Hydro"), a provincial Crown corporation, owns and operates the Canal Plant on the Kootenay River. B.C. Hydro is a public utility under the Act. The building of the Canal Plant by B.C. Hydro was to optimize the total generating capacity of the Kootenay River system. Under the Canal Plant Agreement entered into in August 1972, B.C. Hydro gave average peak and average energy assurances to Cominco/WKPL to the year 2005 as an entitlement in exchange for water rights on the Kootenay River.

#### THE APPLICATION

On July 15, 1983 the Applicant filed an Application seeking Commission approval of a phased programme of rate design changes including a postage stamp rate for the WKPL service area, a reduction in the number of filed rates and approval of standard "Terms and Conditions" applicable to customers served under the Company's tariff. The filing included the results of an embedded cost of service study, along with proposed rate revisions, supporting data and direct testimony. The original filing describes the Company's objectives with respect to the revenue contribution from each rate class. The Application sought inter- and intra-class revenue requirement changes but did not seek an overall revenue increase. The rate design changes were to be achieved in three phases over a five year period, except for those irrigation classes which were to be accomplished over a longer unspecified period. The utility also proposed significant changes to its extension policy and new connection charges.

The changes to rates within classes that would occur as a result of the approval of the proposals would require increases in certain rates at intervals over the next five years. These changes would only reflect the policy adopted in the present matters and would not account for increased costs of service for varying classes as they might occur, nor would it allow for any modification as a result of changes in policy.

#### THE ISSUES

The Application by WKPL has raised a number of complex issues. The Applicant proposed a widespread modification to rate classes and rate forms based, in part, on various methods of allocating costs and revenues to classes of service. The inherent difficulties in dealing with and implementing some of the changes were recognized by the Applicant and significant modifications both as to the timing and as to the scale of the proposed changes were made after the initial filing. Some of these, on a motion by an industrial intervenor, B.C. Timber, resulted in a delay of six weeks in the hearing following the opening in September in Rossland.

A good deal of the base data utilized by the Applicant as justification for the proposed changes was derived from an embedded cost of service study done by the Applicant with the assistance of Economic and Engineering Services of Bellevue, Washington. The study was very useful in identifying the present costs of service of WKPL and was generally endorsed by other expert witnesses. However, it was modified in certain respects, because of a lack of data and was challenged by intervenors in respect of its utilization of a summer peak in determining the allocation of costs. In addition, the Applicant applied what it termed "overriding policy considerations" in utilizing the study for the purpose of the proposals made in the Application. The Application itself was further complicated by changes to terms and conditions of service which would have widespread consumer impacts. The costs and revenues identified by the embedded cost of service study and the adjustments

by the Utility were reflected on Exhibit 4A filed in the initial Application in July. This exhibit was extensively modified by subsequent changes, in large part because of modifications to the overriding policy considerations used to develop the proposed rate design changes in the initial Application.\* It was the justification and application of the overriding policy considerations in the rate design issues which generated the most controversy in the hearing and which gives the Commission major concerns in reaching a decision on the Application.

As this is the first such application by WKPL to be heard by the Commission, the treatment of the various issues may have an impact much beyond the Applicant and its service area. In order to address the issues, the Commission has concluded that it must first examine the Application as a whole. This involves a broad examination of the purpose of the Application, in particular, the "overriding policy considerations" applied by the Applicant; the quality of the evidence; and the validity of the assumptions utilized in support of the proposed changes.

In addition to the questions raised by the Application, there are two major concerns for the Commission on which little evidence was led. These concerns are such that the validity and the timing of the proposed changes are put in jeopardy. Specifically, they relate to the present and future source and price of power and the impact of the proposed shifts in revenue requirement on the classes of customers and on the market for electric energy in the Applicant's service area. These matters are of such major significance to the welfare of the Applicant that they must be addressed first in any consideration of changes of the nature of those proposed by the Applicant in this proceeding.

<sup>\*</sup> Exhibit 4A was amended by Exhibit 4B and Exhibit 4C, filed September 20 and November 29 respectively, attached as Tables 3, 4 and 5.

In respect of the source and price of present and future power, the Applicant finds itself in very unusual circumstances. To serve a significant portion of its market WKPL must purchase power from its parent and from B.C. Hydro. This situation has evolved over time and in large part reflects the situation which existed prior to 1980 when WKPL acquired Plants No. 2, 3 and 4 from Cominco. Unfortunately, the acquisition of the plants has not significantly affected the ability of the Applicant to meet its total load and it must still rely on Cominco for a substantial portion of its power needs. This power is always subject to Cominco's industrial requirements as a priority with the exception of a base block of 75 AV annual megawatts to 1990. Additional power to meet winter loads must be purchased from B.C. Hydro or other suppliers. This power is purchased under contracts which are negotiated annually in a situation where WKPL appears to have little room to manoeuvre or bargain.

The price for this power, as demonstrated in this past winter season, can vary dramatically. An offer by B.C. Hydro at a rate of 30 mills/kWh was reduced by approximately 50 percent to meet an offer of surplus power from the Bonneville Power Adminstration. While this can only have a beneficial effect on WKPL and its customers, there is no certainty that WKPL will be able to negotiate such reductions in the future. This uncertainty only adds to the problems of forecasting electric energy requirements and prices. Additional comments on this matter are contained under Future Power Supply in "Other Issues".

The second major concern relates to the Applicant's failure to test many of the significant proposed changes on its customers. There was extensive discussion of the "overriding policy considerations" which were utilized to modify or adapt the so-called over or under recovery of cost of service on line 1 of Exhibits 4(A)(B)(C). However, it was clear that the modifications made, whether, for example, to continue the under-recovery in the Residential or remove the under-recovery in the large irrigation class were based solely on the Applicant's view of the matter without any discussion with customers. A

particular point was made of this by the large industrial customer, B.C. Timber. While it is unreasonable to expect an endorsement of proposed rate changes, particularly those which would bring an increase in rates, the Commission has concluded that the formulation of policy considerations without an assessment of impact on customers and the market leaves the policy considerations wanting.

The changes to rate structure and forms to flow from this Application were based essentially on cost considerations with significant adjustment for "overriding policy considerations". There was no consideration of changes in consumption due to price changes either in absolute terms or relative to competing fuels. It was the opinion of Mr. Saleba of Economic and Engineering Services that WKPL would have to undertake some quantitative analysis of price effects before implementing all of the proposed changes over three phases as outlined in the Application (TR 2816, 2920–28).

Dr. Acton, appearing for the Consumers' Association et al, provided evidence on consumer responsiveness to price changes with a review of 50 price elasticity studies, of which one-third were Canadian. Dr. Acton testified that the "behavior commonality" established by the studies would apply to the Applicant's customers (TR 2523) and further that in all of the studies reviewed, there was significant customer response to rate changes (TR 2235-36). He concluded, however, that conducting a price elasticity study for the WKPL service area might not be cost effective (TR 2524). Dr. Sarikas suggested that a conventional cross-sectional and time series analysis for an area representative of the WKPL service area would be sufficient (TR 3202).

The Commission is of the opinion that the cumulative impact of the proposed rate changes could well result in significantly changed consumption patterns over the three phases, which would affect the ability of the utility to meet revenue requirements. The Commission finds that there is a significant lack of information in this respect in the evidence and that an assessment of potential consumer reaction to the proposed rate changes would be in the

interest of the utility and the consumers. Future rate design applications must include evidence on the potential impact on consumption of any proposed rate changes.

Several intervenors testified that the Applicant had undertaken very little discussion with its customers regarding policy and/or rate design changes. The irrigators were particularly disturbed by the lack of communication with the Applicant regarding irrigation matters. They further testified that although a conservation study by the Applicant was underway, they had not been approached by WKPL regarding conservation.

While the issue of customer relations was not explored in sufficient depth or detail to confirm or deny these criticisms, the Commission nevertheless encourages WKPL to inform affected customers well in advance of any major proposed changes with respect to rate design policy. This will allow customers to identify concerns, voice objections and to an extent, resolve concerns before the Applicant seeks approval of significant changes in rate design. The Commission does appreciate that the Applicant did pursue this process of consultation with respect to the proposed street lighting policy with obvious beneficial results.

A fundamental issue which was raised by some intervenors involves the power of the Commission to adopt the recommendations for changes in rates which did not relate to changes in cost of service but to shifts of responsibility for costs. Rate design based on such shifts were said to be "clearly" discriminatory, without justification, and in some cases, would require the Commission to make assumptions, particularly in respect of wholesale customers, which were unsupportable. There was strong opposition by municipal intervenors to changes reflecting allocations of the cost of excess investment in distribution facilities and general service revenue as displayed in Exhibit 4C. These intervenors were opposed to the principles underlying the changes and reiterated the position of others that such changes are beyond both precedent and the authority of the Commission under the Act.

The municipal intervenors did suggest that a useful result from the hearing would be the adoption of those changes which involved tariff changes within classes of service, which they thought were generally supported. In addition, it was recommended that the Commission indicate intent to bring residential costs and revenues into line over time, so that the consumer would fully recognize the costs of new power requirements.

An example of the complexity of the Applicant's proposals for rate change is illustrated by those proposed for irrigation rate customers. The changes to these rate classes were proposed so that the customers would recognize and pay for the costs of the service. Initially the Application proposed very significant changes in rate to both small and large irrigation customers in Rate Classes 61 and 62. These changes, which in the first instance amounted to increases of up to 92 percent, shown on Exhibit 4B, were to be phased-in over an indeterminate period of time in the case of large irrigation customers. This was subsequently significantly reduced to a total increase of approximately 10.24 percent in three stages.

This modification was done, presumably, because of opposition from the and some significant changes in overriding policy considerations. The considerations which resulted in this change were not specifically dealt with, appeared to be arbitrary and are unacceptable in the circumstances. Historically, the irrigation rates were established to capture that specific load and encourage "off peak" consumption. There is no evidence that the irrigation load creates peak demands. If new rates are required consideration should be given to incorporating power and transmission costs appropriate to "off peak" use of the system. This should be done to reflect prevailing market requirements and the historic relationship between costs and rates in these classes. The Commission has taken into account, as the Applicant should, the significance of any increase on the fragile competitive position of agriculture and the value of the agricultural land use in the service area. The Commission is aware of the Applicant's concern over the complexity of the irrigation rate schedules particularly that of Schedule 62. The Commission also generally approves of the Applicant's intention to have the irrigation rates more closely reflect energy use. The Commission has concluded, however, that the adjustments proposed are of such significance at this time that they must be, at least, delayed in implementation. On the evidence, and partly because of the lack of it, the Commission has concluded that the existing irrigation rates, Schedules 61 and 62 should be maintained. The Applicant's proposal to close Rate Schedule 60 to new customers is approved.

One other element which was injected into the consideration of the Applicant's proposal was the utilization of marginal cost studies to determine rate structures. The application of marginal cost studies to rate design was not advanced by the Applicant. As Mr. Saleba testified, however, the embedded cost of service study did reflect some marginal cost principles particularly with respect to generation costs. The Commission acknowledges that both the marginal cost analysis as prepared by Dr. Acton and the long range incremental cost study prepared by Dr. Sarikas are important considerations and valuable in matters affecting rate design. There are, however, a number of practical considerations which prevent the full scale implementation of rates based on marginal cost principles. In the present circumstances of WKPL such studies are better suited to system planning and maximizing economic efficiency over time.

One of the significant problems in utilizing marginal costs is the uncertainty in determining incremental costs to WKPL of both generation and transmission capacity. Questions of generation capacity, both the Cominco and B.C. Hydro purchase agreements, and the results of the current WKPL study on supply alternatives, must be assessed in order to obtain a measure of future costs. In addition, the Applicant requires a more thorough study of the winter versus summer peaking characteristics of the transmission system. The completion of studies in these two areas will put the Applicant in a much more defensible position in respect of the implementation of rates reflecting, at least in part, marginal costs.

The Commission has carefully considered the Applicant's proposals, the evidence in the record and the intervenors' positions on the issues. The record has been thoroughly examined and reviewed. After this consideration the Commission has concluded that many of the specific proposals of the Applicant are premature and unsupported. This is not entirely the fault of the Applicant as in some cases the failings are attributable to the Applicant's present inability to accurately forecast the future source and the price of electric power. As an example, one of the specific proposals - that of the introduction of "postage stamp" rates, depends heavily on the contribution of (and therefore increased costs to) wholesale customers. Quite naturally there is significant opposition from municipal customers to this proposal.

The Commission concludes that, whatever the merits of a postage stamp rate structure, it is difficult to apply to a service area which is far from homogenous and broken by municipal systems at various points. These specific matters are raised only as an illustration of the difficulty of dealing with some of the proposals of the Applicant.

The Commission has concluded that it must reject those parts of the Application which seek to modify the rate structure and forms proposed by the Applicant with the exception of changes in terms and conditions which can be separately dealt with. The Commission finds that the proposed (and rejected) modifications were of a significance which was not supported by the evidence nor justified by the "overriding policy considerations". There are, no doubt, many changes which could be made to the rates of WKPL but the Commission cannot find sufficient justification in the present record and has concluded that the existing rates should remain in place at this time.

The Commission considers that the proceeding as a whole was a useful process and, in fact, provided support for the existing rates. When evidence can be produced which shows that the "historic" rates do not properly reflect costs of service, the matter of rate design can be addressed again. At such time,

however, the Applicant must have better appreciation of the demands on its transmission system and its sources of power. The Commission also expects that future changes of the nature of those proposed in this proceeding would take more specific account of the impact of those changes on the utility's earnings and its customers.

The foregoing conclusions of the Commission eliminate any necessity of answering questions of precedent or statutory authority in dealing with the proposals of WKPL on rate design changes and those questions will not be addressed.

#### CHANGES IN TERMS AND CONDITIONS

In addition to the proposed rate design changes, the Applicant proposed certain tariff changes affecting extension policy, connection charges, security deposits, late payment charges, street lighting and revenue guarantee deposits. The Commission's decisions on these matters follow:

#### Extension Policy

#### Applicant's Position

The Applicant proposes to close the current extension policy, Schedule 72 (Exhibit 22), and replace it with Schedule 73. Schedule 72, in effect since 1978, was designed on the basis of the Rural Electrification Assistance (REA) program which was eliminated in March 1983.

Under the proposed Schedule 73 the Applicant has assigned to those customers a greater share of the cost of providing electricity to future customers located in remote areas, on the basis that existing customers have prior rights to the existing fixed assets and should be insulated from the costs of the attachment of new customers. For residential, general service and industrial customers, WKPL proposes to contribute the first \$1,000 and the customer any remaining amount. A rebate would be provided to the first customers on the line,

provided additional customers are attached within five years (TR 103-04). A comparison of the existing policy and the proposed policy is shown in Table 1.

#### Intervenors' Position

The Consumers' Association of Canada, took the position that the policy was consistent with the spirit of marginal cost pricing and identifiable incremental costs (TR 2256-2257). Dr. Sarikas agreed that, if it were assumed that existing customers should enjoy almost complete proprietary rights (TR 3908 and Exhibit 17), the proposed extension charges could be justified since the costs of attaching new customers exceeds the historic average cost of the system.

#### Commission Conclusions

The Commission concludes that the proposed extension policy may well be unduly restrictive. The Applicant has essentially applied a policy based on marginal cost pricing principles, which in WKPL's circumstances is tantamount to extending proprietary rights to existing customers by buffering them from the higher costs of new extensions. Although this philosophy may have merit in certain circumstances, the Commission notes that in WKPL's case, the program could result in a restriction of system expansion and a reduction in economic growth in the area.

The Commission further concludes that there should be universality of service within reason. To be just and reasonable, an extension policy should be clothed with considerations of inter-generational equity while taking changed circumstances into account.

The Commission believes that a rate base account should be established, in the order of \$250,000 per year, which would be available to provide assistance to new, permanent customers located within one kilometre of the existing distribution system. This assistance would result in service being available at a nominal cost while, at the same time, encouraging economic development within the service area.

#### Table 1

#### Comparison of Highlights of the Extension Policy

	SCHEDULE 73 (Proposed)	SCHEDULE 72
A. EXTENSIONS OVER PRIVATE PROPERTY		
	Applicant will pay for that part of the extension beyond 30 metres.	Applicant will pay for that part of the extension beyond 90 metres.
i	B. CONTRIBUTIONS TO COST OF FA Along Roadways Published in the	
General Service and Industrial Customers	Customer will contribute the full extension cost in excess of \$1,000.	Customer will contribute the full extension cost in excess of \$6,000.
Irrigation and Drainage	Customer will contribute the full extension cost of providing service.	Customer contributes full cost.
Subdivisions	Developer will contribute full cost of extension.	Developer contributes when increase in total number of customers is doubtful.
		Developer pays a line facilitiy charge.
Residential	Customer will contribute full extension cost in excess of \$1,000 for each permanent residence.	Rural Areas - (under REA) Company contributes first \$1,000 after REA 50% and Company 50% up to next \$5,000. Above \$11,000 Company may contribute funds.
		Designated Areas - REA contributes 50% up to maximum set by BCUC. Company contributes 25% of REA up to \$1,000.
Re funds	Refunds to old customers in relation to new customers attached.	Refund depending on conditions of service for future custo-mers.
Auxilliary Charges	Monthly extension charge based on length of extension.	Line facility charge based on length of extension and method of financing (REA, Company or Customer).
	Paid by customer	1. Paid by Company - 7.6¢/m/mo single phase 9.5¢/m/mo three phase
	5¢/m/mo single phase 6.3¢/m/mo three phase 2.5¢/m/mo underbuilt	2. Paid by Customer - 1.7¢/m/mo single phase 2.1¢/m/mo three phase

A major new extension might require the establishment of a new rate zone. In order that a new extension policy may be in place for the 1985 construction season, the Commission directs the Applicant to develop and submit tariffs reflecting this concept by December 31, 1984 for consideration.

#### Service Connection Charge

#### Applicant's Position

The Applicant proposes to apply the proposed "Service Connection Charge" to customers requiring a new service connection (drop service) or an upgrading of an existing service. These costs are currently being carried by all existing customers through the energy charge. The intention is to recover at least part of the excess of current costs over average system costs from the customer by way of this special charge (Exhibit 5, page 16). The proposed fee recovers part of the cost of the following facilities (Exhibit 4A, page 197):

- (a) Drop service up to 30 m. over private property;
- (b) The first \$1,000 of gazetted roadway extensions;
- (c) Distribution transformers to serve the customer.

The Applicant provided the following analysis in support of the service connection charge for 200 amp service:

Estimate of the <u>current</u> cost for a single phase service connection (Exhibit 4A, page 209) based on multiple use of transformation and pole facilities.

Drop Service	\$152.74
Transformer	\$358.97
Pole	\$326.12
<b>*</b>	****
Total Current Cost	<u>\$837.83</u>

The \$837.83 reflects the minimum additional costs the Applicant incurs to supply a customer with minimum facilities for a 200 amp service. The Applicant's accounting records show a 2 to I relationship between current costs and average historic costs, so that total average cost is about \$419.

It is proposed to recover about half or \$200 of the excess of current costs over average costs, by way of the proposed service connection charge (Exhibit 4A, Schedule 82). The Applicant argued that this was necessary in order to reflect both the need for a transition period and the principle that not all costs should be recovered by way of an up-front charge.

#### Intervenors' Position

The Consumers' Association et al, questioned the justification for a service connection charge. The evidence indicated that the overall average cost for the Company's distribution system was \$834 per customer, based on the cost of distribution facilities in 26 communities (Exhibit 4A, page 10), and that the current costs (an average between rural and urban customers) are \$668.09 and \$837.83 per customer for 100 amp and 200 amp service respectively. The Association took the position that when current costs or marginal costs were equal to the average cost there was no justification for the proposed service connection charge.

#### Commission Conclusions

The Commission has considered the implications of the Applicant's proposal with respect to a service connection charge against the background of the Act.

Section 33(1) provides that "a public utility shall supply . . . service to premises . . . within 90 m . . . or such lesser distance . . . as the Commission prescribes . . . on being requested by the owner or occupier . . . ".

The Applicant's proposal appears to conflict with the "universality" of the right of a customer to service from an existing supply line under the provisions of Section 33. The Commission cannot conclude that the proposal, as framed, is consistent with the intent of the Act or the policy of the Commission in this matter, and must therefore reject it.

#### Revenue Guarantee and Security Deposits

#### Applicant's Position

The Applicant proposed that a revenue guarantee deposit be required from a non-residential customer when installation costs exceed \$1,000, in order to provide assurance that the Utility would recover the installation costs of the facilities. The Applicant filed Exhibit 48, internal policy memorandum, outlining the circumstances that currently require security and revenue guarantee deposits. The internal memorandum was used as a basis for the development of a formal set of regulations. A list of circumstances (a) to (g) calling for a security deposit was compiled and set out in Exhibit 4A, pages 70-71. Under cross-examination by the Consumers' Association et al, the Applicant proposed an amended item (e) giving WKPL authority to require a security deposit when

"...the Applicant is a general service customer with demand in excess of 4 kW who has not established or maintained credit satisfactory to the Company." (Exhibit 56)

With this amendment the Applicant proposed that the final form of conditions (a) to (g) requiring a security deposit read as follows:

- (a) the applicant has an unpaid overdue bill with any British Columbia utility within the last four years; or
- (b) service is temporary (for less than one year); or
- (c) the customer's service has been disconnected for inadequate payment of billings for electric service; or

- (d) the applicant or customer is bankrupt or a receiver or receiver-manager has been appointed; or
- (e) the applicant is a general service customer with a demand in excess of 4 kW who has not established or maintained credit satisfactory to the company (Exhibit 56 amended); or
- (f) the customer's account is in arrears for more than two consecutive billing periods: or
- (g) the customer's demand exceeds 200 kVa.

In Exhibit 4A pages 70 and 71, the Company also proposed implementation of certain conditions in the event that a security deposit is required. A summary of the security deposit conditions is shown in Table 2 on the following page.

In evidence the Applicant amended certain conditions that applied to security and revenue guarantee deposits. It was proposed that security deposits be held for two years instead of one year, as is currently the practice. The Applicant argued that the present bi-monthly billing format did not provide sufficient information upon which to assess the ability of the customer to pay his bill (TR 1332). At the present time the Applicant pays no interest on either security or revenue guarantee deposits, but proposed to provide interest on all cash security deposits held for one calendar year or more (TR 1430, Exhibit 4A, page 71).

 ${\color{red} \underline{Table~2}}$  A Summary of the Security Deposit Conditions

Customer Class	Amount	Length of Time Held	Interest Term	Interest Rate	Returned
(Demand 200 kVa)	Cash equal to customer's bill for a 3 month period or \$25.00 whichever is greater	Review after two or more years and refunded when satisfactory payment record	Simple interest beginning with receipt of funds (Ex. 56)	Bank of Montreal average daily interest savings account rate	Applied to customer's account if less than \$100.00 and returned to the customer if greater
(Demand 200 kVa)	(3 month bill) cash, surety, bond (or other) 3 mo. plus a 6 x minimum monthly charge under appropriarate schedule (P71, Ex. 4A)		21	11	Refunded where customers established a payment record satisfactory to the Co.

During cross-examination the Applicant introduced Clause 11.3 of Exhibit 56 which it proposed to apply to all security and revenue guarantee deposits. Clause 11.3 states that:

"When interest is to be applied to the refund of certain customer payments as provided in these terms and conditions, it shall be calculated as follows:

The Company will pay simple interest at the average interest rate quoted by the Bank of Montreal for daily interest savings accounts, commencing with the date the subject funds were received by the Company.

The interest will be remitted to the customers with the refund, or when a deposit is held for more than one year. The interest will be applied to the customer's account in January of the following year. If the customer's account is in excess of \$100 and is not in arrears, interest will be refunded to the customer."

#### Intervenors' Position

The Consumers' Association et al, argued that Section 33(1) of the Utilities Commission Act authorizes security for the repayment of the costs of making the connection, and not as security for payment of a utility bill. The decision in the case of Chastain et al vs B.C. Hydro was cited as the basis for this interpretation (TR 3616). The Commission will make no decision on the vailidity of security deposits as applied by the Applicant. The issue, while raised by the Consumers' Association, was not pursued nor responded to by the Applicant. Certainly the interpretation of Section 33(1) taken by the Consumers' Association would restrict the application of the security deposit. Such action would have widespread impact on utility tariffs in British Columbia and action on such a matter should not be taken on a piecemeal basis.

It was further argued that the prescribed conditions were too vague and that the extent of the Utility's discretion regarding security deposit requirements was excessive. Subject, however, to the difference of opinion regarding interpretation of Section 33(1), and the length of time security deposits could be held, the Consumers' Association et al, indicated acceptance of the amendments filed by the Applicant (TR 1316-1325).

With respect to the length of time for holding security deposits, it was suggested that one year, and not the proposed two years, was adequate for establishing a good credit rating (TR 1331).

#### Commission Conclusions

The Commission concludes that the prescribed conditions requiring security deposits are acceptable as amended, but that the maximum time for holding a security deposit should be one year. The Commission further concludes that nonpayment of a charge by a utility for other than its basic service should not result in the requirement for a security deposit. The Commission finds acceptable all other proposals regarding revenue guarantee and security deposits, including the revised interest payment policy.

#### Late Payment Charge

#### Applicant's Position

The Applicant proposed that the current 10 percent discount for prompt payment of bills be replaced by a monthly late payment charge of 5 percent for all customers (Exhibit 5, Tab 2, page 7). The Applicant testified that there are significant administrative costs associated with processing the 10 percent discount (Exhibit 4A, page 89). The utility argued that the net effect of the discount on the rate diluted the intended price signal, since the existing residential trailing block rate of 2.506¢/kWh discounted by 10 percent was lower than the proposed trailing rate of 2.41¢/kWh. The Applicant argued that this result contradicts the intent of the trailing block rate to reflect higher marginal costs (TR 626).

WKPL testified that it based the interest charge of 5 percent on judgment and the practices of other Canadian utilities (TR 1307). The evidence indicated that the charge was intended to not only cover the cost of money and the high cost of following up on delinquent accounts, but also to provide a meaningful incentive to pay on time (TR 824).

The evidence shows that the late payment charge would not be compounded more than once, since the service disconnection policy would take effect prior to the next billing. The bill would compound up to the time the account was sent to a collection agency. The Applicant acknowledged that the proposed Terms and Conditions did not describe all procedural aspects or options to be undertaken before discontinuation of service. The Utility argued, however, that if customers knew all procedural aspects regarding service discontinuation, opportunities would exist to take advantage of the situation by delaying billing payment until the account was on the verge of being disconnected (TR 1437-1442).

#### Intervenors' Position

The Consumers' Association et al, argued that the proposed 5 percent interest charge was excessive and should be in the same range that suppliers charge the Applicant. A more equitable treatment, that has precedence in federally regulated telephone companies, would be to charge interest on overdue accounts at the same rate as the Applicant pays in security deposits, currently between 1.5 to 1.75 percent per month. It was also suggested that the proposed monthly charge of 5 percent compounded was greater than 60 percent annually which is the maximum limit under Section 305 of the Criminal Code.

#### Commission Conclusions

The Commission acknowledges that the late payment penalty may be less costly to administer than the discount policy, but finds the Applicant's proposed 5 percent monthly charge excessive and unacceptable. The Commission accordingly, in the absence of any opposition, will accept the change from a discount system to that proposed, but directs the Applicant to charge 1.50 percent per month which, when compounded, is equivalent to an annual rate of 19.56 percent.

#### Street Lighting

#### Applicant's Position

The Applicant proposed a revised tariff, Schedule 50, requiring all future street lighting equipment to be customer-owned and utility-approved, with the cost of maintenance to be built into the rate schedule. The Applicant argued that the lower municipal interest rates provide an incentive to a municipality to own its own future street lighting facilities (TR 1293), and that the approval of this tariff would be a step in continued negotiations that would ultimately result in ownership by municipalities of all street lighting (TR 1293-1294). WKPL maintained that the overall effect would be to make those responsible for planning street lighting aware of the true cost, so that appropriate cost/benefit decisions would be made by the municipalities (TR 1469). The proposed tariff also provides that replacement lamps would be high pressure sodium vapour lights, which have the lowest life-cycle costs (TR 1455).

The Applicant had circulated proposed Schedule 50 to the affected customers on December 31, 1982 in order to obtain customers' views. Eight customers replied and the Applicant summarized these concerns in a letter to the Commission dated February 25, 1983. The Applicant testified that in most cases the customers were satisfied with the proposed tariff and had agreed to future installation of high pressure sodium lamps.

#### Intervenors' Position

Mr. Igor Zahynacz, Engineer for The City of Castlegar, suggested that a municipality should not be forced to absorb the full cost of service since street lighting benefits rural as well as urban residents (TR 1177-1179), and that any proposed subsidy should reflect this benefit to rural customers.

Mr. Zahynacz also testified that the proposed method of billing, (monthly rate x number of lights) made no allowance for street lights that were not operating, resulting in municipalities being over-charged (TR 1151). The Applicant acknowledged that it keeps no statistics on street lighting outages and had not attempted to incorporate a factor in the rate charge reflecting those lamps that were actually out of service (TR 1398-1399).

The Mayor of Trail, Mr. C. Lakes, proposed that the Applicant consider purchasing street lights in bulk and reselling them at cost plus a handling charge to the municipalities. In this way the facilities would be acquired at the lowest possible price (TR 1151).

#### Commission Conclusions

The Commission concludes that the position of the City of Castlegar regarding lighting outage rates is reasonable and directs that the Applicant include such a factor in its street light billing formula. The Commission urges WKPL to investigate the opportunities of purchasing street lighting facilities in bulk and reselling them to municipalities.

The Commission endorses the intent of the proposed Schedule 50, which would lead to eventual total municipal ownership of street lighting facilities with WKPL responsible for operations and maintenance. The Commission recommends the Utility investigate a group replacement program for lamps in place of the current ad hoc system. Since the probability of lamp failure rises rapidly over the life of the lamp, a lamp replacement program based on statistically derived failure rates may prove more economic than the current ad hoc program.

The Commission concludes that it is not possible at this time to quantify the benefits of street lighting to rural residents in order to reflect this benefit in a street light subsidy calculation, and therefore rejects this suggestion by Castelgar.

#### OTHER ISSUES

While the hearing was intended to deal primarily with problems of rate design, force majeure and extension policy, a number of other matters arose during the proceedings. Although many have been touched upon earlier in this Decision, the Commission wishes to emphasize its concern on several of the matters.

#### Future Power Supply

The Applicant made numerous references to the high cost of electrical energy from B.C. Hydro as the current supplier of all WKPL's incremental load growth. Alternatives to the continued purchase of power from B.C. Hydro were simply not addressed by the Applicant in these proceedings. The Commission is concerned that the future power supply of WKPL and any alternatives to the current situation be addressed.

The Commission concludes that the issue of the Applicant's long-term future energy supply is fundamental to security of supply and to appropriate rate design. WKPL referred to a study of potential sources of future power supply which study should be completed as soon as reasonably possible. The results of that study should be filed with the Commission upon completion.

There may be potential supply in the short-term from operations such as those of B.C. Timber and the Commission concludes that co-generation should be encouraged when the marginal cost of electricity from traditional sources exceeds the cost of co-generated electricity. Accordingly, the study conducted by WKPL should also include an investigation of the feasibility of the purchase of power produced by co-generation.

#### Mercury Vapour versus Sodium Lights

The Applicant proposed to replace all existing and new street lights with high pressure sodium vapour lamps (HPS). The cost of the program will be borne by the customer. HPS lamps cost more to install but last longer than mercury vapour and are less expensive to operate. On a life-cycle basis HPS lamps are less expensive than existing street lights.

Testimony presented by Robert Miles of the Sierra Club suggested that low pressure sodium vapour lamps (LPS) are more efficient than HPS lamps (TR 2473, Exhibit 80). The Applicant responded with Exhibit 87 which suggested that LPS lamps are a new technology not yet ready for commercial distribution.

The Commission concludes that HPS lamps are the appropriate choice at this time, but directs that WKPL monitor changes in the costs of HPS, LPS and other lamp technologies as available.

#### Seasonal Rates

The Applicant identified significant differences between the cost of supplying electricity in the summer and winter. This is primarily because its generation facilities are inadequate to meet winter load and must be augmented with supplies purchased from both Cominco and B.C. Hydro. Currently, B.C. Hydro's electrical energy price is more than 2.5 times Cominco's. Since purchases from B.C. Hydro are confined to the winter season, the costs are readily identifiable on a seasonal basis. Should the current arrangement continue, as it likely will until the results of the study referred to can be implemented, the Applicant may be able to make a case for seasonal rates. Matters related to winter and summer transmission peaks would require resolution but could be resolved.

Terms and Conditions proposed by the Applicant with the exception of the foregoing are accepted as proposed.

#### Force Majeure Provisions

The dispute between the Applicant and B.C. Timber, in respect of "force majeure" conditions in the sales agreement between the two parties and on which the Commission heard evidence in the hearing will be the subject of a separate decision.

#### Hearing Costs

Mr. Gathercole, representing the joint intervenor Consumers' Association of Canada (B.C. Branch), the B.C. Old Age Pensioners Organization and the Federated Anti-Poverty Groups of B.C., sought recovery of costs incurred of approximately \$35,000.

These costs were comprised of a counsel fee of approximately \$12,000, consultant and witness expense of approximately \$18,000, with the balance of \$5,000 miscellaneous expenses.

In addressing the request, the Commission has considered the reasonableness of the expenses and the benefit derived therefrom, and has determined that the contribution of this intervenor was significant and in the public interest and that therefore the costs should be paid by the Utility and borne by all the Utility's customers. The balance of the hearing costs amount to approximately \$387,000.

The Commission has considered the appropriate disposition of the total costs and concludes that, in the circumstances, it is unreasonable that all of the costs be recovered from the customers because the quality of the application generated costs which are not to the public benefit. The Commission will

therefore disallow the recovery of 25 percent of the total costs of the hearing. The costs to be recovered from consumers, including those of Mr. Gathercole, should be amortized over a five year period, with the unamortized portion included in rate base.

DATED at the City of Vancouver, in the Province of British Columbia, this 5th day of October, 1984.

J.D.V. NEWLANDS, Deputy Chairman

D.B. KILPATRICK, Commissioner

R.J. LYDGATE, Commissioner



#### PROVINCE OF BRITISH COLUMBIA

#### BRITISH COLUMBIA UTILITIES COMMISSION

IN THE MATTER OF the Utilities Commission Act, S.B.C. 1980, c. 60, as amended

and

IN THE MATTER OF an Application by West Kootenay Power and Light Company, Limited

BEFORE: J.D.V. Newlands, Deputy )
Chairman, Chairman of the )
Division; )
D.B. Kilpatrick, )
Commissioner; and

R.J. Ludgate, Commissioner October 5, 1984

#### ORDER

WHEREAS West Kootenay Power and Light Company,
Limited ("WKPL") applied July 15, 1983, pursuant to Section 67
of the Act, to amend the Terms and Conditions and Rate
Schedules comprising its Electric Tariff BCUC No. 1; and

WHEREAS in accordance with Commission Order

No. G-51-83 and the related Notice of Public Hearing the

Commission heard evidence during a 17-day period commencing

September 20, 1983 at Rossland, B.C. and argument on December 8

and 9, 1983 at Kelowna, B.C.; and

WHEREAS the Application was the first submission dealing with rate design issues by West Kootenay Power; and

WHEREAS the Commission has considered the Application and the evidence adduced thereon, all as set forth in a Decision issued concurrently with this Order.

2

ORDER
NUMBER G-57-84

NOW THEREFORE the Commission hereby orders as

#### follows:

- The Applicant's proposed changes to Rate Schedules (except Schedule 60) are rejected.
- The Commission will accept for filing, subject to timely filing, the Applicant's proposal to close Rate Schedule 60 (Irrigation and Drainage - Less than 10HP - All Areas) to new customers.
- 3. The Commission will accept for filing the Terms and Conditions proposed by the Applicant except as modified in the following categories:
  - Extension Policy
  - Service Connection Charges
  - Guarantee and Security Deposits
  - Late Payment Penalty
  - Street Lighting.
- 4. The Applicant to pay to Mr. R.J. Gathercole, representing the Consumers' Association of Canada (B.C. Branch), costs approved by the Commission.

DATED at the City of Vancouver, in the Province of British Columbia, this 5th day of October, 1984.

BY ORDER

Deputy Chairman, Chairman of the Division

 $\begin{tabular}{lll} \hline $\text{Table 1}$ \\ \hline $\text{Comparison of Highlights of the Extension Policy} \\ \hline \end{tabular}$ 

	SCHEDULE 73 (Proposed)	SCHEDULE 72
	A. EXTENSIONS OVER PRIVATE PR	OPERTY
	Applicant will pay for that part of the extension beyond 30 metres.	Applicant will pay for that part of the extension beyond 90 metres.
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Irrigation and Drainage	Customer will contribute the full extension cost of providing service.	Customer contributes full cost.
Subdivisions	Developer will contribute full cost of extension.	Developer contributes when increase in total number of customers is doubtful.  Developer pays a line facility charge.
Residential	Customer will contribute full extension cost in excess of \$1,000 for each permanent residence.	Rural Areas - (under REA) Company contributes first \$1,000 after REA 50% and Company 50% up to next \$5,000. Above \$11,000 Company may contribute funds.
		Designated Areas - REA contributes 50% up to maximum set by BCUC. Company contributes 25% of REA up to \$1,000.
Refunds	Refunds to old customers in relation to new customers attached.	Refund depending on conditions of service for future customers.
Auxillíary Charges	Monthly extension charge based on length of extension.	Line facility charge based on length of extension and method of financing (REA, Company or Customer).
	Paid by customer	<ol> <li>Paid by Company -</li> <li>7.6¢/m/mo single phase</li> <li>9.5¢/m/mo three phase</li> </ol>
	5¢/m/mo single phase 6.3¢/m/mo three phase 2.5¢/m/mo underbuilt	<ol> <li>Paid by Customer - 1.7¢/m/mo single phase 2.1¢/m/mo three phase</li> </ol>

Table 2 (\$000's)

Class Revenue				General		Large		Lighting		Irrigation	
Requirements	Total System	Residential	Small	Medium	Large	Industrial	Wholesale	Street	Outdoor	Small	Large
Base Case	55,347	26,267	3,626	5,675	2,684	2,112	12,569	626	543	490	755
Case 1	55,347	26,642	3,678	5,696	2,610	1,955	12,496	630	541	426	673
Case 2	55,347	27,925	3,437	5,165	2,441	1,855	12,749	671	557	226	321
Case 3	55,347	26,669	3,585	5,574	2,636	2,056	12,526	638	545	443	675
Case 4	55,347	25,085	3,820	6,726	2,684	2,112	12,568	685	293	530	844
Case 5	55,347	26,275	3,566	6,234	2,684	2,112	12,567	680	297	370	562

Source: Exhibit 47

- 1. Base Case as derived from filed application cost of service study, Exhibit 4A, pg. 4.
- 2. Case 1 Hydro generation classified on fixed-variable basis and allocated on WCP (winter coincident peak) basis and all remaining allocations per WKPL cost of service study.
- 3. Case 2 Hydro generation classified on fixed-variable basis and all capacity related costs allocated on a WCP basis and all customer related cost and energy related allocations per WKPL cost of service study.
- 4. Case 3 Transmission capacity related costs allocated on WCP basis (rather than 2CP or summer-winter average) and all remaining costs per WKPL cost of service study.
- 5. Case 4 Customer related plant (except services and meters) classified as demand related and allocate as per WKPL cost of service study.
- 6. Case 5 Customer related plant (except services and meters) classified as demand related and allocated on WCP basis with remaining costs as per WKPL cost of service study.

Table 3

WEST KOOTENAY POWER AND LIGHT COMPANY, LIMITED

Summary of Adjustments to Cost of Service
For the Forecast Year Ending December 31, 1983

A CONTRACTOR

		General Services					Lighting		Irrigation		
		Residential	Small_	Medium	Large	Lg. Ind.	<u>Wholesale</u>	Street	Outdoor	Small	<u>Large</u>
1)	Over/Under Recovery per										
	Cost of Service (Exh. 7)	(4,554,000)	784,000	1,982,000	860,000	569,000	833,000	4,000	(149,000)	(23,000)	(306,000)
2)	Allocation of Cost of Excess Investment in Distribution Facilities (Schedule D)	1,403,031	184,498	40,761	( 219,901)	( 259,547)	(1,260,993)	8,072	84,609	(380)	19,850
3)	Allocation of Excess General Service Revenue	529,244					( 529,244)				AA and annual the accordance and the condition of a delicated and a delicated
4)	Subtotal	(2,621,725)	968,498	2,022,761	640,099	309,453	( 957,237)	12,072	( 64,391)	(23,380)	(286,150)
5)	Adjustment for Subsidy to Residential Class	2,621,725	( 200,038)	( 415,543)	( 255,618)	( 268,465)	(1,358,840)	(22,547)	( 8,651)	(40,637)	( 51,386)
6)	Over/Under Recovery for Rate Design Purposes	0	768,460	1,607,218	384,481	40,988	(2,316,077)	(10,475)	( 73,042)	(64,017)	(337,536)
7)	Revenue from Sales	20,887,000	4,294,000	7,493,000	3,483,000	2,628,000	13,094,000	623,000	371,000	451,000	425,000
8)	Increase/Decrease in Rates Required %	0	(17.90)	(21.45)	(11.04)	(1.56)	17.69	1.68	19.69	14.19	79.42

Source: Exhibit 4A

#### Summary of Adjustments to Cost of Service For the Forecast Year Ending December 31, 1983

			General Services					Lighting		Irrigation	
		Residential	Small	Međium	Large	Lg. Ind.	Wholesale	Street	Outdoor	Small	Large
7.1	Over/Under Recovery per										
	Cost of Service (Exh. 7)	(4,554,000)	784,000	1,982,000	860,000	569,00 <b>0</b>	833,000	4,000	(149,000)	(23,000)	(306,000)
2)	Allocation of Cost of Excess Investment in Distribution Facilities (Schedule D)	1,403,031	184,498	40,761	( 219,901)	( 259,547)	(1,260,993)	8,072	84,609	(380)	19,850
3)	Allocation of Excess General Service Revenue	291,031	37,735	78,381	48,214	50,596	( 529,244)	4,287	1,641	7,674	9,685
4)	Subtotal	(2,859,938)	1,006,233	2,101,142	688,313	360,049	( 957,237)	16,359	( 62,750)	(15,706)	(276,465)
5)	Adjustment for Subsidy to Residential Class	2,859,938	( 453,014)	( 940,920)	( 578,851)	( 608,023)	0	(51,193)	(19,448)	(92,090)	(116,399)
6)	Over/Under Recovery for Rate Design Purposes	0	553,219	1,160,222	109,462	( 247,974)	( 957,237)	(34,834)	( 82,198)	(107,796)	(392,864)
7)	Revenue from Sales	20,887,000	4,294,000	7,493,000	3,483,000	2,628,000	13,094,000	623,00 <b>0</b>	371,000	451,000	425,000
8)	Increase/Decrease in Rates Required %	0	(12.88)	(15.48)	(3.14)	9.43	7.31	5.60	22.16	23.90	92.44

Source: Exhibit 4B

Table 5

WEST KOOTENAY POWER AND LIGHT COMPANY, LIMITED

# Summary of Adjustments to Cost of Service For the Forecast Year Ending December 31, 1983 With Adjustment for Princeton Power and Light and Irrigation Customers

		General Services						Lighting		Irrigation	
		Residenti <b>al</b>	Small	Medium	Large	Lg. Ind.	Wholesale	Street	Outdoor	Small	Large
1)	Over/Under Recovery per Cost of Service (Exh. 7)	(4,554,000)	784,000	1,982,000	860,000	569,000	833,000	4,000	(149,000)	( 23,000)	(306,00 <b>0)</b>
2)	Allocation of Cost of Excess Investment in Distribution Facilities (Amended	-									
	Schedule D)	1,363,724	179,426	30,195	( 226,241)	( 266,309)	(1,189,143)	7,227	84,609	( 1,648)	18,160
3)	Allocation of Excess General Service Revenue (Exh. 38)	140,207	18,179	37,761	23,228	24,375	( 254,969)	2,065	790	3,697	4,667
4)	Subtotal	(3,050,069)	981,605	2,049,956	656,987	327,066	( 611,112)	13,292	( 63,601)	( 20,951)	(283,173)
5)	Adjustment for Underrecovery to Residential Class (Exh.4b)	2,859,938	( 453,014)	( 940,920)	( 578,851)	( 680,023)	0	(51,193)	( 19,448)	( 92,090)	(116,399)
6)	Sub-Total	( 190,131)	528,591	1,109,036	78,136	( 280,957)	( 611,112)	(37,901)	(83,049)	(113,041)	(399,572)
7)	Allocation of Irrigation Under Recovery	( 159,222)	( 20,627)	( 42,851)	( 26,383)	( 27,685)	( 140,150)	( 2,311)	( 882)	64,017	356,094
8)	Over/Under Recovery to be Corrected by Rate Design	( 349,353)	507,964	1,066,185	51,753	( 308,642)	( 751,262)	(40,212)	( 83,931)	( 49,024)	( 43,478)
9)	Revenue from Sales	20,887,000	4,294,000	7,493,000	3,483,000	2,628,000	13,094,000	623,000	371,000	451,000	425,000
10)	Increase/Decrease in Rates Required %	1.67 (	11,83)	(14.23)	(1.49)	11.74	5.74	6.45	22.62	10.87	10.23

Source: Exhibit 4C