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LETTER NO. L-34-00

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VIA FACSIMILE

July 17, 2000

Mr. R. Brian Wallace
Bull, Housser & Tupper
Barristers & Solicitors
3000 Royal Centre, P.O. Box 11130
2500-1055 West Georgia Street
Vancouver, B.C. V6E 3R3

Mr. R.G. Gathercole
Executive Director
BC Public Interest Advocacy Centre
815-815 West Hastings Street
Vancouver, B.C. V6C 1B4

Dear Sirs:

Re: British Columbia Hydro and Power Authority ("B.C. Hydro")
Report on Export Trade
BCUC Staff Information Request

In Commission Letter No. L-15-00, the Commission directed B.C. Hydro to file a report related to its electricity trade activities, in part, since actions taken by B.C. Hydro at this time can have significant consequences to ratepayers after the expiry of the rate freeze. The Commission noted that electricity trade was a contentious issue at B.C. Hydro's last revenue requirements hearing, and that the Commission's forecast of electricity trade revenues was made using less than adequate information.

Commission Letter No. L-15-00 directed B.C. Hydro to fully describe its export trade activities in the following three areas:

The structure of agreements between B.C. Hydro and Powerex;

Financial information; and

The rate stabilization account.

B.C. Hydro responded with the enclosed Report on Export Trade dated June 30, 2000. Since the request for the Report on Export Trade evolved out of a complaint by the Joint Industry Electricity Steering Committee ("JIESC") and the Consumers' Association of Canada (B.C.) et al. ("CAC (B.C.) et al."), the Commission is providing an opportunity for these parties to comment on B.C. Hydro's report and the degree to which it provides the information requested in Commission Letter No. L-15-00. Specifically, the Commission encourages JIESC and CAC (B.C.) et al. to comment on the following issues:

1. The Structure of Agreements between B.C. Hydro and Powerex

In Commission Letter No. L-15-00, the Commission acknowledged that Powerex would not be a public utility if it acts at arms-length from B.C. Hydro. The Commission requests comments from the JIESC and CAC (B.C.) et al. on the relationship between Powerex and B.C. Hydro and any implications for the Commission's involvement in monitoring the activities of B.C. Hydro and Powerex.

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2. Financial Information

In Commission Letter No. L-15-00, the Commission requested that B.C. Hydro provide financial information to demonstrate how export trade activities benefit ratepayers fairly for the storage and generation assets of B.C. Hydro, and to help the Commission in forecasting net export revenues under average water conditions for next year's revenue requirements hearing. The Commission requests the comments of JIESC and CAC (B.C.) et al. on the extent to which the financial data provided in B.C. Hydro's report is sufficient for these purposes. B.C. Hydro indicated that the net income for fiscal 2001 may be higher than forecast in the report, based on actual results to date in fiscal 2001. JIESC and CAC (B.C.) et al. may also wish to comment on the merits of requiring B.C. Hydro to file up-to-date financial information on export trade activities on a periodic basis.

3. The Rate Stabilization Account

The Commission requested that B.C. Hydro explain the nature of transactions between B.C. Hydro and Powerex. B.C. Hydro's response indicated that the method of apportioning the proceeds of electricity trade activities between B.C. Hydro and Powerex is described in the B.C. Hydro/Powerex Energy Transfer Pricing Agreement, which has not been provided to the Commission. B.C. Hydro further indicated that the Commission's determination of B.C. Hydro's return on equity is dependent upon the consolidated financial impact to B.C. Hydro, not the Energy Transfer Pricing Agreement. JIESC and CAC (B.C.) et al. may wish to comment on the potential impact of the current transfer pricing methodology on ratepayers after the rate freeze expires in September 2001, particularly with regard to water levels and possible future structural and regulatory changes in the way consolidated net income may be calculated.

In addition to the above, the JIESC and CAC (B.C.) et al. may wish to comment on the processes, if any, the Commission might use to review both the June 30 report and B.C. Hydro's export trade activities on an ongoing basis.

The Commission requests that the comments of JIESC and CAC (B.C.) et al. be forwarded to the Commission by Friday, August 11, 2000.

Yours truly,

Original signed by:

Robert J. Pellatt

MAG/mmc
Enclosures
cc: Mr. Ray Aldeguer, Senior Vice President
Legal & Regulatory Affairs & General Counsel
British Columbia Hydro and Power Authority

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LETTER NO. L-15-00

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VIA FACSIMILE

April 6, 2000

Mr. Ray Aldeguer
Senior Vice President
Legal, Regulatory Affairs and General Counsel
British Columbia Hydro and Power Authority
17th Floor, 333 Dunsmuir Street
Vancouver, B.C. V6B 5R3

Dear Mr. Aldeguer:

Re: British Columbia Hydro and Power Authority
Commission Letter No. L-7-00
Report on Export Trade

The Commission has considered your submissions of February 29, 2000 and March 29, 2000 in response to Commission Letter No. L-7-00. The Commission has also considered the submissions of the Joint Industry Electricity Steering Committee and the Consumers' Association of Canada (B.C.) et al. on this issue.

The Commission agrees with B.C. Hydro that the pending legislation to extend the rate freeze until September 30, 2001 will postpone any revenue requirements review of the Utility during this fiscal year. Therefore, the requirement to obtain export trade information could be delayed if this information was needed solely for rate setting purposes. The Commission also accepts that Powerex is not a public utility if it acts at arms-length from B.C. Hydro, and as such the focus of further reporting by B.C. Hydro should be on the nature of the transactions entered into by B.C. Hydro with its non-regulated subsidiary. However, as recently affirmed by Order in Council No. 493 (dated March 30, 2000) amending Special Direction No. 8, the Commission is directed to calculate B.C. Hydro's return on equity using projections of consolidated net income that include an amount of electricity trade income consistent with the Commission's forecast of annual net export revenue under average water conditions.

The Commission also agrees with the submissions of the customer groups that the actions of B.C. Hydro with respect to electricity trade are very important to the welfare of ratepayers. In its most recent correspondence, B.C. Hydro indicates that a modified Rate Stabilization Account is to be established by the government through an Order in Council to change Special Directive No. 2 to B.C. Hydro. Order in Council No. 494, dated March 30, 2000, establishing Special Directive No. 4 to B.C. Hydro, sets out the operation of the Rate Stabilization Account for the dual purpose of helping B.C. Hydro achieve its targeted return on equity and keeping rates stable despite stream flow fluctuations. Therefore, actions taken by B.C. Hydro at this time, can have significant consequences to ratepayers after the expiry of the rate freeze. The ways in which B.C. Hydro manages its reservoirs in relation to the water flows into those reservoirs have the greatest single operational impact on the rates paid by domestic customers.

The Commission has an ongoing responsibility pursuant to Sections 23, 24, and 43 of the Utilities Commission Act to keep itself informed about B.C. Hydro's actions with respect to electricity trade. Electricity trade activities of B.C. Hydro have not been reviewed since 1994 and the nature of electricity

markets has changed dramatically since that time. In its February 2000 Interim Report for the Nine Months ended December 31, 1999, B.C. Hydro stressed how the evolution of electricity markets had created a substantial opportunity for the Utility to purchase electricity from external sources when prices are low and store water behind its reservoirs to later utilize for export trade activity when market prices are high.

The Commission therefore directs B.C. Hydro to submit a report to the Commission by June 30, 2000 fully describing its export trade activities in the following three areas:

1. The Structure of Agreements between B.C. Hydro and Powerex

   B.C. Hydro is to clearly explain the nature of the transactions with respect to electricity trade between B.C. Hydro and its subsidiary Powerex. B.C. Hydro should also clearly explain how the content of each agreement entered into between them affects the structure of the electricity trade arrangements between the two parties. This section of the report should demonstrate the extent to which B.C. Hydro is safeguarding its domestic customers' interest in its arrangements with Powerex. For instance, the report should explain whether or not B.C. Hydro and Powerex are acting at arms-length. The Utility should also detail how it is safeguarding the interests of its domestic ratepayers through the consolidation of Powerex's revenues for revenue requirement purposes, or by transfers from Powerex to B.C. Hydro prior to export sales. The information provided should explain the nature of the agreements without disclosing any commercially sensitive information with respect to export trade.

2. Financial Information

   B.C. Hydro is to demonstrate, through the provision of historic and current financial information, how the export trade activities between B.C. Hydro and Powerex benefit domestic ratepayers fairly for the storage and generation assets of B.C. Hydro. The Commission recognizes B.C. Hydro's concern with respect to disclosing commercially sensitive information, but the Commission requires B.C. Hydro to provide adequate data to fully inform the Commission on the conduct of its public utility business with respect to electricity trade. B.C. Hydro should respond to those matters addressed in Commission Letter No. L-7-00 and provide financial details to the Commission without disclosing any commercially sensitive information.

3. The Rate Stabilization Account

   To better understand the impacts on ratepayers, B.C. Hydro is to detail the operation of the Rate Stabilization Account for Fiscal Year 1999/00, and its expected operation for Fiscal Years 2000/01 and 2001/02. The report should provide details on the state of B.C. Hydro's reservoirs and the expected water inflows based upon up-to-date snowpack information and forecasts of low, average and high precipitation for the remainder of calendar year 2000 and 2001 up to September 2001. Depending on the nature of the transactions between B.C. Hydro and Powerex, storage rights and water inventories held by Powerex at different times over the period should be identified. B.C. Hydro should then provide its load resource analysis to indicate domestic demand and export trade activities throughout the period to demonstrate how domestic customers will be protected during the rate freeze period and how B.C. Hydro will be well positioned to protect customers after the end of the rate freeze. B.C. Hydro should indicate if there are any conditions under which the Rate Stabilization Account balance will be used for any purpose other than domestic customer rate protection and protection of payments to the provincial government pursuant to Sections 5, 6, and 7 of Special Directive No. 4.

Electricity trade was a contentious issue at B.C. Hydro's last revenue requirements hearing, and the Commission's forecast of electricity trade revenues was made using less than adequate information. Since 1994, B.C. Hydro's net income from electricity trade has more than tripled, its revenues from electricity trade are approaching one-third of its total revenues, Powerex has become a sophisticated trader, and markets for electricity trade have become more accessible, diverse, and complex. The Commission has an ongoing obligation to ratepayers, to B.C. Hydro, and to the Lieutenant Governor in Council to gain a better understanding of B.C. Hydro's electricity trade activities and accounting practices.

Yours truly,

Original signed by:

Robert J. Pellatt

WJG/mmc
cc: Mr. Richard Gathercole
Executive Director
B.C. Public Interest Advocacy Centre
Mr. R. Brian Wallace
Bull, Housser & Tupper Barristers & Solicitors

BC hydro THE POWER IS YOURS

Ray Aldeguer
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Legal, Regulatory Affairs and
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30 June 2000

Mr. Robert J. Pellatt
Commission Secretary
British Columbia Utilities Commission
P.O. Box 250
600-900 Howe Street
Vancouver, B.C.
V6Z 2N3

Dear Mr. Pellatt:

RE: British Columbia Hydro and Power Authority ("BC Hydro")
British Columbia Utilities Commission ("Commission")
Letter No. L-15-00 - Report on Export Trade

Please find enclosed BC Hydro's response to the Commission's 6 April 2000 letter requesting information about the export trade activities of BC Hydro and its subsidiary Powerex.

While the report is self-explanatory, the activities described therein must be understood in their proper context. The first and foremost function of BC Hydro is to provide reliable, low cost electricity to its domestic customers. The trade activities of BC Hydro and Powerex have always been a means to that end. BC Hydro has not and will not allow its trade activities to undermine that goal.

The recent amendments to Special Direction No.8 and the issuance of Special Directive No. 4 create a new form of Rate Stabilization Account ("RSA") and direct the Commission to offset any projected revenue deficiency by any positive balance in the RSA. However, those legislative changes have not caused and will not cause BC Hydro to change either its domestic service activities or its trade activities in any way.

It should also be noted that the report reflects current government policy. In the 3 February 2000, announcement regarding the extension of the BC Hydro rate freeze to 30 September 2001, the Minister responsible indicated the government's intention to address a number of structural and regulatory issues in advance of a revenue requirement hearing. Therefore, while some of the assumptions underlying the report may change ahead of BC Hydro's revenue requirement filing, BC Hydro has avoided speculation about any such changes and has appropriately responded to the Commission in the context of existing policy.

With the foregoing comments in mind, BC Hydro trusts that the enclosed report provides the information the Commission requires.

Yours very truly,

for S. M. Jones

Ray Aldeguer
Senior Vice-President
Legal, Regulatory Affairs and
General Counsel

Enclosure

BC hydro

THE POWER IS YOURS

REPORT ON EXPORT TRADE

30 June 2000

1. The Structure of Agreements between BC Hydro and Powerex

(i) Consolidation of Powerex's revenues for revenue requirements purposes

Under Special Direction No. 8 as amended by an Order in Council dated March 30, 2000, the Commission is required to ensure electricity rates are sufficient to allow BC Hydro to achieve an annual rate of return on equity equal to the return allowed, on a pre-income tax basis, by the most comparable investor-owned utility regulated under the Utilities Commission Act.

Special Direction No. 8 requires that for rate setting purposes, the return on equity must be calculated using consolidated net income from all sources. For this purpose, projections of consolidated net income must include "an amount of electricity trade income consistent with the Commission's forecast of annual net export revenue under average water conditions, as contained in the Commission's report to the Lieutenant Governor in Council dated June 30, 1992, as amended on BC Hydro's Energy Removal Certificate application". Where projected consolidated net income, before any Rate Stabilization Account transfers, is less than the amount needed by BC Hydro to achieve its allowed rate of return, projections are also to include an allowance for an appropriate transfer from the Rate Stabilization Account. Transfers from the Rate Stabilization Account are subject to a positive balance existing in the account.

BC Hydro uses Generally Accepted Accounting Principles (GAAP) to consolidate its subsidiaries, including Powerex. Under GAAP, subsidiaries are consolidated with their parent company on a line by line basis and any inter-company profit is eliminated on consolidation. The result shows consolidated net income resulting solely from transactions with external third parties. The transfer pricing applied between BC Hydro and Powerex thus has no relevance in determining BC Hydro's rates at this time.

Since consolidated net income is used for rate setting purposes, the optimization of electricity trade income benefits domestic ratepayers by reducing the portion of the revenue requirement that must be collected through domestic rates. Moreover, where water conditions and electricity trade activities lead to an overearning relative to the allowed return on equity, ratepayers benefit from this through the Rate Stabilization Account as described in more detail below.

(ii) Nature of Transactions with respect to electricity trade between BC Hydro and Powerex

BC Hydro's primary objective is to provide low-cost, reliable electricity supply to domestic customers. Within this context, Powerex's activities are designed to support optimal economic utilization of BC Hydro's electricity assets by using non-committed generation capability to earn income.

Powerex deals with BC Hydro as both a transmission user and to assist in optimizing utilization of system capability. With respect to arrangements for wholesale transmission service, both for itself and for the Power Supply business unit ("Power Supply") within BC Hydro, Powerex deals with BC Hydro's grid operations personnel as it would a third party. Pursuant to the WTS tariff provisions, grid operations has adopted strict codes of conduct and procedures to ensure that Powerex and Power Supply and BC Hydro's customer services business units are treated as third parties.

On the other hand, when it comes to the optimization of the generation assets, Powerex's relationship with Power Supply is intended to be very close. Indeed a conscious effort is made by Powerex and Power Supply to share information and co-operate closely to ensure maximum efficiency and profitability in BC Hydro's operation of its system. Because Powerex is a separate legal entity, the extra-provincial regulatory and income tax implications of Powerex's external activities can be managed for the benefit of BC Hydro as a whole. In addition, this framework has allowed Powerex to develop a trading group that can focus on mastering the rules and characteristics of markets external to B.C.

While energy transfers between BC Hydro and Powerex are accounted for as transactions between separate legal entities, various communication and coordination processes ensure that transactions are beneficial from a corporate-wide perspective. Similarly, BC Hydro's commodity risk management policies and processes are integrated to ensure that the generation assets are used to ensure both adequate supply to domestic customers and optimum use of system capability.

Energy transactions between BC Hydro and Powerex are solely sales and purchases of energy. Powerex has no storage rights or water inventory. These energy transactions result from BC Hydro's desire to maximize energy generation when its value is high and to minimize energy generation when its value is low. This means ensuring there is sufficient energy and capacity to meet BC Hydro domestic load and optimizing BC Hydro generation for trade, subject to physical and environmental constraints and considering the long-term value of energy in the reservoirs.

In order to maximize value and manage risks, Powerex allocates sales and purchases along three dimensions - geographic, time and market channels. There are three significant markets in which Powerex transacts: Alberta, the U.S. Pacific Northwest and California. The decisions with respect to buying and selling energy in each region are based on the actual and expected market prices and demand for energy in each market, cost and availability of transmission to reach each market, and the risk of transmission curtailments.

Time allocation means allocating sales and purchases among the Real Time market, the next-day market, and the forward market. These allocation decisions are based on the actual and expected market prices and demand for energy, and risk-adjusted forecasts of the BC Hydro generating capability and transmission that will be available in each time period. Because the forward market prices can be quite volatile and because of the nature of BC Hydro's system, Powerex can take advantage of this volatility in its forward sales and purchases. A key factor affecting the time allocation decisions is that, because of limited liquidity, no one market can absorb all the power available to sell.

Allocating among different market channels means selecting the best markets to transact in for a particular geographic area and time period. For example, in the day-ahead market at the California-Oregon border (COB), Powerex can transact in both the bilateral market with other utilities or marketers, or in the California Power Exchange's (Cal PX) day-ahead market. In the hourly market, Powerex can transact in the bilateral market, the Cal PX hour-ahead market, or the California Independent System Operator (Cal ISO) imbalance energy market. Another alternative is the market for structured or complex deals, which include value-added customer benefits that yield higher margins for Powerex than straight commodity sales. Such benefits include delivery to a customer's site, or re-marketing rights in the event that a customer's load unexpectedly drops. Powerex makes these decisions based on the expected price and demand for energy in the different markets within limits established in BC Hydro's risk management policy described below.

Powerex and Power Supply work together in a process that is both cooperative and iterative. Power Supply determines the net capability of the BC Hydro system to deliver and/or receive power at the B.C. border ranging from real-time to several years forward. Power Supply also establishes the system marginal value of generation (which is influenced primarily by the forecast forward electricity and gas market prices as well as probability of spill and efficiency of water use). Powerex seeks to buy below and sell above this value so as to maximize the net revenue from electricity trade. Information provided by Powerex on forecast market price, market depth, and expected transmission capabilities is important to Power Supply in the determination of this system marginal value. Detailed forecast reservoir energy storage data and the marginal value of generation are commercially sensitive information.

Information about BC Hydro's generating capability and value drives Powerex's trading strategy. Information about market opportunities is considered in BC Hydro's plant operating decisions and the scheduling of maintenance. Power Supply and Powerex share information continuously for the purpose of optimizing trading on a Real Time or hour-to-hour basis, over the period including the next day and month, and for the period from one month to two years. Information is shared for longer-term opportunities as these opportunities arise.

(a) Real Time

Hour-to-hour coordination takes place between the BC Hydro operations shift engineer and the Powerex Real Time trader, who work in close proximity to one another on the Powerex trade floor. The Powerex trader identifies market opportunities to buy or sell power. The BC Hydro operations shift engineer determines the amount of generating capability that is available for trade after BC Hydro's power and non-power obligations have been met, and the value of this generation. Based on this information, the Powerex trader will make buy or sell decisions for the next hour.

(b) Short Term

The Power Supply next-day operations planners seek input from the Powerex traders on expectations of market prices and quantities for imports and exports and then provides a system capability for sales and purchases from the BC Hydro system. In determining system capability, priority is always given to serving domestic load. The Powerex trader uses this information to engage in purchases and sales and the BC Hydro operations planners use the information to plan short-term maintenance outages. If, for example, market prices are expected to be high, BC Hydro could accelerate, re-schedule or cancel a generation maintenance outage.

(c) Medium Term

For the next day to three-year period, Powerex provides BC Hydro generation and operations planners with forward market prices and expectations of market demand. BC Hydro generation and operations planners provide Powerex with the value of energy in the BC Hydro system and the amount of generation capability that is available each month for trade. These are based on forecasts of the availability of hydroelectric and thermal energy in the system, BC Hydro's load, and the generation outage schedule.

(d) Long Term

All energy transactions of a duration in excess of three years require the specific approval of the Risk Management Committee and/or the BC Hydro and Powerex Boards. Powerex relies on Power Supply to advise on and review any long-term contracts contemplated by Powerex. Contracts with terms over five years also require separate provincial government and National Energy Board approval under the terms of trading authorizations issued to BC Hydro and Powerex.

Power Supply relies on Powerex to advise on and review any long-term contracts contemplated by Power Supply. In addition, Power Supply and Powerex work together to execute such contracts. An example of such a long-term Power Supply contract is the Non-Treaty Storage Agreement.

The preceding paragraphs refer to system trading; this trading is enabled by or is an important adjunct to, the BC Hydro generation system. In addition to this activity, Powerex engages in a very limited amount of forward hub trading and locational arbitrage. Forward hub trading means buying or selling forward physical blocks of energy, or options on blocks of energy, with a view to profit from changes in prices. Locational arbitrage means buying energy at one point, buying transmission to another point, and selling energy for a profit. These activities are independent of the BC Hydro system but provide valuable market knowledge and price discovery information.

(iii) Policies, agreements and protocols between BC Hydro and Powerex

The activities between BC Hydro and Powerex are subject to a management framework of governing principles, policies, agreements, and working protocols. The primary components of the framework are:

- BC Hydro Commodity Risk Management Policy - with respect to Powerex
- BC Hydro / Powerex Energy Transfer Pricing

(a) BC Hydro Commodity Risk Management Framework

In early 1997, BC Hydro engaged the consulting firm Deloitte & Touche as part of a two-year project to enhance its risk management capability. The objective of the project was to meet or exceed industry best practices for risk management. The work of the consultants, with significant contributions from BC Hydro and Powerex staff, culminated in the creation of the BC Hydro Commodity Risk Management Policy – with respect to Powerex ("the Policy") and related infrastructure. The Policy was approved by the BC Hydro Risk Management Committee (RMC) in the fall of 1999. The Policy was approved by the Powerex Board of Directors and by the BC Hydro Board of Directors in December 1999. The Policy has now been implemented within BC Hydro and Powerex.

The Policy has also been reviewed and endorsed by government. In June 2000, BC Hydro and Powerex were designated as government bodies that have been approved to trade in commodity derivatives pursuant to section 79.3 of the *Financial Administration Act*.

The Policy describes the risk management policies, controls, and processes related to electricity trade transactions. These include the market and credit exposure limits which apply to transactions, products, counterparties, locations, or portfolios. It also describes the valuation methodologies, transaction controls, and reporting and approval processes used by Powerex.

The risk management framework adopted is consistent with industry best practices. The framework is derived from the consulting firm Deloitte & Touche in setting-up risk management infrastructure worldwide. This framework is consistent with other industry-standard risk management frameworks such as GARP (Generally-Accepted Risk Principles developed by Coopers & Lybrand (now Price Waterhouse Coopers)) and G30 (Group of 30).

The commodity risk management infrastructure, the risk management Policy and risk management procedures control the following risks:

- Price Risk: The risk of financial loss due to changes in market prices or volatility.

- Credit Risk: The risk that a counterparty in a commodity transaction defaults on delivery and/or settlement.

- Procedural Risk: The risk of financial loss due to procedural errors, or willful breaches in policy. Procedural risk is assumed once authority to transact has been given.

- Volume Risk: The risk of financial loss due to lower production volumes and transmission constraints.

Powerex identifies and manages these risks in accordance with the Policy. Powerex establishes risk management procedures that are consistent with the Policy and conducts its activities within the specific limits and controls specified by the Policy and the procedures. BC Hydro and Powerex actively monitor the Policy and change it as necessary to reflect industry best practices. Any changes must be approved by the RMC and the Boards of both BC Hydro and Powerex. All Powerex personnel adhere to the risk parameters, authorizations, and limits contained in this Policy.

The Policy describes the risk management infrastructure that must be established and maintained, and specifies the business activities that Powerex is permitted to engage in, and limits on these activities. It contains five elements: independent oversight of trading activities, segregation of duties, recording of transactions, reporting on activities and transaction limits. The elements of the Policy and procedures are covered below:

- Independent Oversight of Trading Activities: The objective of independent oversight is to ensure that trading activities are being conducted within the limits of the Policy. The RMC; the BC Hydro Manager, Commodity Risk; the BC Hydro Credit Risk Manager; the Powerex VP Finance; the Powerex Risk Manager; the Executive Director, Debt Management Branch, Ministry of Finance and Corporate Relations; and auditors all have responsibilities with respect to independent oversight. The RMC is a subset of the BC Hydro Corporate Management Committee and reports to the BC Hydro President and CEO. It is made up of:

    - Senior VP, Corporate and Financial Affairs and CFO (Chair)
    - Senior VP, Marketing, Communications and Public Affairs
    - Senior VP, Power Supply
    - VP, Strategic Issues and Planning
    - Senior VP, Legal, Regulatory Affairs and General Counsel (Vice-Chair)
    - President & CEO, Powerex

    The RMC meets monthly and is responsible for approving the Policy, ensuring it is implemented through the development of appropriate procedures and systems, and ensuring that risks are managed within the limits and controls specified in the Policy and procedures. Any changes to the Policy must be approved by the RMC. The RMC, through the President and CEO, will report any significant commodity risk management issues to the BC Hydro Board of Directors, as necessary.

    Finally, the boards of directors of both BC Hydro and Powerex are responsible for understanding the risks taken by the corporations and ensuring they are appropriately managed. Both Boards have approved the Policy and must approve any changes.

- Segregation of Duties: Segregation of duties is critical to avoiding procedural risk. It means that no one employee may be involved in executing transactions, confirming transactions with counterparties, and settling and invoicing transactions. As a result, Powerex is organized into a front office (transaction staff), middle office (transaction oversight, risk and credit management) and back office (accounting).

- Recording of Transactions: Powerex implemented the Zai*Net risk management and scheduling system in mid-1999. This was a key outcome of the risk management project described above. The Zai*Net system continues to be a leading integrated risk management and power scheduling system. The Policy requires that all energy and

transmission transactions must be recorded in the system. This is necessary to ensure appropriate position [1] and risk management. Independent oversight from the middle office ensures that this occurs.

- Reporting on Transactions: The Policy sets forth certain daily, weekly and monthly obligations for reporting to staff, managers and to the RMC. Mandatory reports include position summaries, mark to market [2], profit and loss, and risk measures. The middle office generates the reports. Any significant risk management issues, including exceptions to Policy limits, must be approved by RMC and reported to the BC Hydro and Powerex Boards.

- Transaction Limits: The Policy lists approved geographical regions, products, transaction limits and risk metrics. For activities related to the optimization of the BC Hydro system, the limits are based on the physical capability to deliver without compromise to domestic reliability. For the off-system transactions, limits are based on volume of open positions and commitment duration. Requiring that the majority of transactions be backed by physical capability to deliver and the use of volume and duration limits for off-system trading are conservative measures that ensure that Powerex remains at the low-risk end of the energy trading spectrum.

The risk management Policy document itself has not been provided as it contains commercially-sensitive information. The volumetric, location, and dollar trading limits embedded in the Policy contain information about the organization that could be used by competitors of Powerex/BC Hydro to anticipate its energy trading and marketing operations. The Policy also contains information on BC Hydro energy price forecasting methodologies, which could be used by other energy marketers to predict Powerex energy pricing, and therefore trading activity.

- External Review of Risk Management Framework

In February 2000 Standard & Poor's (S&P) provided a private ratings evaluation. S&P are very experienced at reviewing risk management practices of energy marketing entities to detect the strength of risk management capabilities. S&P reviewed the BC Hydro/Powerex business strategy, the overall risk management approach, and the sophistication of the risk management program.

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[1] Powerex's position is the sum of its commodity sales and purchases contracts or assets and can be expressed as long, short or open. A long position exists when a party owns a contract or asset, and is therefore exposed to the risk of falling market prices. A short position exists when a party has an obligation to deliver a commodity at a fixed price, and is therefore exposed to the risk of rising market prices. An open position exists when short and long positions are not off-setting.

[2] To mark to market is to calculate the value of a contract at current market prices; the mark to market value represents the replacement or liquidation value of the contract.

S&P's review summary included the following comment: "Powerex has a low-risk energy trading business strategy." [3]

It was noted that: "Powerex can increase the consolidated BC Hydro cash flow by selling real time or day ahead power when prices are above BC Hydro's marginal cost of generation. This is facilitated by the fact that BC Hydro's hydroelectric generation can quickly ramp up and generate power. Therefore, Powerex is successful in the real-time and day ahead markets. The firm has very few contracts over one month, which help to mitigate exposure to market volatility."

S&P also commented on the overall risk management approach and the sophistication of the risk management program. The criteria considered included:

- Risk awareness
- Risk assessment and action
- Trade confirmation
- Trade settlement
- Performance evaluation
- Counterparty approval process
- Organization and people
- Limits and controls
- Market risk measurement
- Stress testing and scenario analysis
- Risk reporting frequency
- Management reporting
- Risk measurement methodologies
- Risk systems
- Data capture

S&P rated Powerex as average or strong on all criteria reviewed. S&P also noted: "Powerex currently has an approach to risk awareness that would be considered average to strong within the energy trading and marketing industry. The company has a formal process for identifying market, credit, legal and regulatory risks." The review further indicated that: "A high level of concern about control systems and risk limits is reflected in Powerex's policies, practices and organization structure. Furthermore, management takes an active role in monitoring this activity and modifying policies as experience dictates the need. Parental oversight is conducted through both the board of directors and the committee structure."

[3] S&P's review is a preliminary evaluation based on information provided by BC Hydro and Powerex as of April 2000. The information has not been audited. New or changed information could change the evaluation. S&P "is not required to review, modify or surveil the results of the evaluation".

The S&P ratings evaluation process did not identify any significant deficiencies in the Powerex/BC Hydro risk management infrastructure. The S&P report made a comment that the value at risk (VAR) measure on off-system trading should be expanded to include all forward contracts, day ahead and next hour trades. Powerex is working to expand its risk analysis and reporting by 2001 to comply with this S&P recommendation. Powerex is also striving to achieve a strong rating on all risk criteria.

The S&P review document has not been provided as it contains commercially sensitive information.

(b) BC Hydro/Powerex Energy Transfer Pricing Agreement

Powerex, as a separate company, prepares audited year-end financial statements as required by the Company Act. The BC Hydro/Powerex energy transfer pricing agreement describes how the overall results of electricity trade activities are apportioned between BC Hydro and Powerex for purposes of preparing these financial statements. This is done in the form of a market based transfer price that uses the Mid-Columbia delivery point as a reference market.

The financial results reported by Powerex are different than the overall financial impact of BC Hydro's electricity trade activities. The consolidated financial impact of electricity trade activities can be described as the revenues and related costs associated with activities outside of B.C. It is the consolidated financial impact, and not the transfer pricing, that is relevant in determining BC Hydro's rates.

2. Financial Information

The following table provides a summary of the contribution of electricity trade net income to BC Hydro's earnings for fiscal 1999 and 2000 as well as the Plan for fiscal 2001. This income helps to offset rate increases that would otherwise be required to cover BC Hydro's revenue requirements.

The income has been segregated between system trading which utilizes BC Hydro's assets and off-system trading which is not dependent on the BC Hydro system.

Consolidated Electricity Trade Income
Income from System and Off-System
Trading Activities
Year ended Mar 31
$millions

	Plan 2001			2000			1999		
	System	Off-System	Total	System	Off-System	Total	System	Off-System	Total
GWh	23,882	3,070	26,952	20,367	3,043	23,410	18,715		18,715
Sales	1,188	211	1,399	942	187	1,129	739		739
Cost of Sales									
Energy Costs	882	209	1,091	529	185	714	494		494
Transmission & other	112		112	100		100	50		50
	994	209	1,203	629	185	814	544		544
Gross margin	194	2	196	313	2	315	195		195
Operating Costs			25			21			16
Income			**171**			**294**			**179**

NOTES:

System Trading: Powerex purchases and sells electricity throughout the WSCC region and adjacent areas through system-backed trading and through trading that is either enabled by, or is an important adjunct to, system trading.

Off-System Trading Powerex engages in forward hub trading and locational arbitrage. Forward hub trading means buying or selling forward physical blocks of energy, or options on blocks of energy, with a view to profit from changes in prices. Locational arbitrage means buying energy at one point, buying transmission to another point, and selling the energy for a profit. These activities are not dependent upon the BC Hydro system.

The fiscal 2001 Plan was prepared using a March 1, 2000 inflow forecast based on current snowpack conditions at the time. As it happened that the inflow forecast for BC Hydro's system was very close to average (99%), no adjustments have been made.

3. The Rate Stablization Account

The Rate Stabilization Account (RSA), created under Special Directive No. 4, was established on March 30, 2000. Transfers are made to the RSA in high income years to offset the potential of rate increases in lower income years.

Special Direction No. 8 requires that for rate setting purposes, where projected consolidated net income, before any RSA transfers, is less than the amount needed by BC Hydro to achieve its allowed rate of return, projections are also to include an allowance for an appropriate transfer from the RSA. Transfers from the RSA are subject to a positive balance existing in the account. This is the mechanism by which the need to increase rates to allow BC Hydro to earn the allowed return on equity is mitigated when an RSA balance exists.

Pursuant to Sections 5, 6 and 7 of Special Directive No. 4, there are no conditions under which the RSA can be used for any purpose other than domestic customer rate protection and protection of the payments to the government based on the allowed return on equity.

The following table indicates forecast net income and transfers to and from the RSA for fiscal 2000 - 2002 based on BC Hydro's three year plan prepared in March 2000.

Summary Financial Information

	Actual	Plan	
	2000	**2001**	**2002**
Net Income before RSA transfer	$545	$367	$357
Transfer (to) from RSA	(129)	55	70
Net Income	$416	$422	$427
Return on equity	16.69%	16.59%	16.59%
Allowed Return on equity	16.69%	16.59%	16.59%
Balance of RSA at end of the year	$129	$74	$4

BC Hydro transferred $129 million into the RSA in fiscal 2000. Transfers from the RSA of $55 million and $70 million for fiscal 2001 and 2002 respectively are projected to be needed in order for BC Hydro to meet its allowed return on equity in these years. The RSA transfers will allow BC Hydro to achieve its allowed rate of return without any rate increases.

Based on actual results to date in fiscal 2001, indications are that net income may be higher than Plan due to unexpectedly high market prices. If so, a higher balance will remain in the RSA upon the expiry of the rate freeze.