MANITOBA	**Board Order 101/04**
THE PUBLIC UTILITIES BOARD ACT	
THE MANITOBA HYDRO ACT	
THE CROWN CORPORATIONS PUBLIC REVIEW AND ACCOUNTABILITY ACT	**July 28, 2004**

Before: G. Lane C.A., Chair
R. Mayer Q.C., Vice-Chair
L. Evans, Member

AN ORDER IN RESPECT OF AN APPLICATION BY MANITOBA HYDRO FOR INCREASED RATES WITH FURTHER DIRECTIVES AND REASONS TO FOLLOW

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1.0 Introduction

The increase in consumers' rates sought in the General Rate Application of Manitoba Hydro (MH or the Corporation) was influenced by the highest loss ever experienced by a Manitoba Crown Corporation. The loss arose as a result of a severe drought that reduced power generation and export potential. The financial effects of the drought were first felt in 2002/03 in reduced net income, and more fully realized in fiscal 2003/04 with MH incurring a loss in excess of $400 million. The financial impact extended into fiscal 2004/05, with a reported loss of $33 million in MH's first quarter.

The drought's impact on the Corporation's retained earnings, and a related and increased realization by The Public Utilities Board (the Board) of the financial and operating risks faced by MH, were the primary factors contributing to the Board's decision to grant MH rate increases, as outlined in this Order. As a result of the proceedings leading to this Order, the Board is more fully apprised of the importance of, and relationship among, water storage and flow levels, natural gas prices, and American wholesale electricity pricing to MH's financial situation and rates.

MH is Manitoba's largest and oldest provincial Crown Corporation. It is an integrated energy company, providing electricity and natural gas to approximately 500,000 and 250,000 electricity and gas customers, respectively.

In recent years, MH acquired Centra Gas Manitoba Inc. and Winnipeg Hydro, and integrated these operations with those of its pre-existing electric operations. The Corporation operates fourteen hydroelectric, two thermal and four remote diesel generating stations, and has plans for additional hydroelectric generation and transmission.

MH's consolidated annual revenues exceed $1.75 billion, with the majority of its revenues coming from Manitoba's residential, commercial and industrial electricity customers. The Corporation is also involved in the export and import of power.

MH's assets approach $10 billion at historical depreciated cost, and the Corporation is one of Manitoba's largest employers with a personnel complement forecast to approach 6,000 employees.

MH is administered through a Board of Directors appointed by the Lieutenant Governor-in-Council, and is funded not only by revenue from energy sales but also from borrowings guaranteed by the Province. These borrowings, which the Corporation services from operating income, enable the Corporation to develop generating, transmission and distribution capacity. This capacity is required to provide reliable service to the Corporation's Manitoba and export customers.

Because MH is a capital intensive utility, many of its costs are fixed for the medium to long term.

Consistent with the importance of MH to Manitoba, there is considerable oversight of its operations. MH is subject to the direction and/or oversight of the legislature, the Government of Manitoba, its Board of Directors, Crown Corporations Council, The Public Utilities Board and currently, the Clean Environment Commission. Two members of the Public Utilities Board sit on the Clean Environment Commission, in its hearing on the proposed Wuskwatim generating station and transmission project.

MH's annual revenue requirement (the sum required to fund its operations and provide for its risks) and rates are subject to the approval of The Public Utilities Board. With respect to its electricity operations, MH has a significant involvement in and reliance on export energy sales, with Manitoba consumers' rates benefiting from export profitability. The Corporation prices its electrical sales to Manitoba customers using a methodology based on cost, which is usually not representative of the market value for energy in North America.

2.0 Background

MH last appeared before the Board seeking a rate increase in 1996; average increases in Consumers General Rates were approved of 1.5% effective April 1, 1996 and a further 1.3% effective April 1, 1997.

Six years passed before the Corporation returned to appear before the Board. In 2002, MH provided the Board with an update of its situation, financial forecasts, costing methodologies, processes and other matters.

On February 3, 2003, the Board issued Order 7/03, arising out of the 2002 Status Update Filing. This Order, among other directives, required MH to file a revised Schedule of Rates to be effective April 1, 2003. The Board directed rate decreases of 2.0% for the General Service Large Classes served at greater than 30 kV, and 1.0% for the General Service Small Class.

The rationale for the decreases was the then recent positive economic returns experienced by the Corporation and an indication that the classes for which rate decreases were granted had been levied rates that were higher than were justified by the Corporation's rate-setting methodology.

On March 19, 2003, concerned with financial loss development related to a drought that began subsequent to the 2002 Update hearing, the Corporation filed an Application pursuant to subsection 44(3) of *The Public Utilities Board Act*, asking the Board to rescind the rate decreases.

By Order 154/03 of October 31, 2003, in the absence of an amended rate setting methodology and with the developing financial losses having been realized after the 2002 hearing had occurred, the Board upheld its decisions regarding rate decreases. It also reduced the winter ratchet from 80% to 70%, and addressed other issues brought forward by Corporation. Board Order 01/04 of January 6, 2004 confirmed the direction, resulting in a reduction in Annual General Consumer Revenue of approximately $6.5 million.

Since MH's 2002 Status Update filing, MH has faced a series of challenges. These included the integration of Winnipeg Hydro, negotiation of a coordination agreement with the Midwest Independent System Operator ("MISO"), related to the Corporation's export and import of power to and from the United States, and contract renewals with its five staff bargaining Units.

And, as indicated and more importantly for the purposes of this Order, the Corporation also suffered through a drought, an event resulting in an operating loss for the fiscal year ended March 31, 2004 in the range of $400 to $430 million.

3.0 Application

On January 29, 2004, MH filed an application ("the Application") with the Board for an Order pursuant to *The Crown Corporations Public Review & Accountability Act and Manitoba Hydro Act.*

The Application sought:

(a) Approval of electricity rate increases to be effective as of April 1, 2004 and 2005. The proposed rates were projected to result in an annual aggregate revenue increase of approximately $28 million (3.0%) for the fiscal year April 1, 2004 to March 31, 2005, and an additional revenue increase of $24 million or 2.5% for the fiscal year April 1, 2005 to March 31, 2006. MH also sought differentiated rate increases by customer class, and a further upward adjustment of those 2004/05 increases to raise the overall 3% revenue increase requested for the fiscal year over the remainder of the fiscal year. This was to compensate for the fact that the Board's Order was not expected until well into 2004/05.

MH opined that the 3.0% and 2.5% increases requested, an accumulated non-compounded average rate increase of 5.5% over two years, represented the minimum rate increases prudence required.

(b) Final approval of interim approved ex parte Orders issued since January 15, 2003 relating to the Curtailable Rate Program, Surplus Energy Program and Order 153/03, which deals with various rate matters.

(c) Extension of the Surplus Energy Program Terms and Conditions to March 31, 2007.

As indicated, the revenue increases applied for were differentiated by customer class, as follows:

Class	2004/05	2005/06
Residential	4.01%	3.51%
General Service Small Non-Demand	2.15%	1.52%
General Service Small Demand	2.09%	1.49%
General Service Medium	2.57%	2.11%
General Service Large <30 kV	4.00%	3.50%
General Service Large 30-100 kV	2.11%	1.50%
General Service Large >100 kV	1.95%	1.47%
Area and Roadway Lighting	2.03%	1.51%
Overall General Revenue Increase Average	3.00%	2.50%

And, as indicated, the rates sought for fiscal 2004/05 were to be adjusted upwards to compensate for the fact that the Board's Order was not expected until well into the fiscal year.

The hearing extended over thirteen days, and involved five active Intervenors representing seven ratepayer constituencies, and three independent expert witnesses. The Board was assisted by Counsel from Fillmore Riley, professional accountants from PricewaterhouseCoopers and a professional engineer from Dillon Consulting.

4.0 Two-Stage Order

In recognition of the deterioration of the Corporation's fiscal situation arising out of the recent drought, the Board will issue its decisions arising out of the Corporation's General Rate Application in two parts.

By this approach, the Board reflects its desire to bring about a timely increase in MH's revenue.

Accordingly, this Order provides direction on the rates to be implemented August 1, 2004, and conditionally provides for two subsequent rate increases. It also indicates the Board's direction with respect to certain other significant matters.

The second Order will follow at a later date, and provide further rationale for the Board's directives regarding rates, as well as direction with respect to certain outstanding matters arising out of the Application.

Among the topics to be addressed in the second Order will be the issues related to Outstanding Board Directives, Revenue Requirement, Cost of Service Studies, Financial Targets, Demand Side Management, Rate Structures, the Surplus Energy Program, the Curtailable Rates Program, the positions taken by Intervenors and Presenters, and other matters examined during the hearing.

5.0 Key Information

5.1 Drought

Prior to this Application, MH had not sought a rate increase since 1997; favourable export revenues had more than offset increased operating costs. Net income levels had been very good, providing support for two important acquisitions and a special payment or dividend to the Province.

However, beginning in the fall of 2002, and particularly in the 2003/04 fiscal year, the Corporation sustained severe financial losses due to drought, making it unable to meet its future revenue requirements without rate increases.

The drought significantly increased MH's need to import power, reduced export sales, and drove its net income into a deficit position while depressing retained earnings.

Although the spring and summer of 2002 may have experienced sufficient rainfall in most parts of southern Manitoba for some purposes, there were insufficient amounts of water runoff to fill MH's storage reservoir system of lakes and rivers. Overall water supplies over large portions of the Churchill/Nelson River basin fell in the fall and winter of 2002/03 to lows that, on average, were expected by MH to occur only once in every 50 years. Going into the winter of 2003/04, reservoirs were at or near historic lows. While the entire watershed was not in a similar drought condition, the overall water storage situation was in a state experienced only once before in the last thirty years.

This reduced MH's generating capacity and, eventually impacted on its financial situation. The drought reversed the Corporation's progress towards achievement of its financial targets.

The Corporation's Integrated Financial Forecast projected that even with the increases sought through these proceedings, and further annual rate increases in the range of 2.5% through to and including fiscal 2013/14, the Corporation would not reach its targeted debt to equity ratio.

In summary, the financial effects of the drought were felt in 2002/03 through reduced net income, in 2003/04 with a net loss in excess of $400 million, and continued into 2004/05 depressing MH's first quarter results.

Despite the advantages of MH's ability to sell export power, the experience of fiscal 2003/04 confirms the Corporation's vulnerability to the whims of nature, general economic circumstances, and, the fluctuations of the wholesale electricity market.

MH has estimated that a repeat of the worst drought on record, would cost MH at least $2 billion. (The drought of 2002-2004 was the third worst on record.)

With minimal cash reserves, MH would have to increase its borrowings to meet such a loss, and the additional financing charges would increase the cost of such a drought by a further $200 million. Droughts of this severity are statistically predictable events.

Based solely on Lake Winnipeg inflow records, it would appear that comparable, or worse, droughts took place in 1929-1933, 1938-1941, 1961-1962, 1976-1978, 1980-1981 and 1987-1989.

The drought resulted in significantly increased imported power costs to meet domestic load and export commitments. Import prices rose as MH became an importer, with increased American demand and rising natural gas prices, further depressing net export income.

The 2002-2004 drought followed the lowering of water storage levels to seize profitable export sales opportunities in the fall of 2002, a decision that improved the Corporation's profitability in fiscal 2002/03 but, in hindsight and though understandable, proved expensive. Generating and selling storage water in 2002 meant MH has less water to meet 2003/04 domestic and export commitments from Manitoba generation, and had to import additional power to meet those commitments and ensure domestic reliability.

In 2003/04, the Corporation imported far more power than it has ever had to before. In one year, the Corporation spent more on imported power than it had in the previous ten. As a result of lower water storage levels in 2002, MH entered the winter of 2002/03 with well below optimal water levels and was unable to recover until very recently.

On a net basis, export/import operations moved from the substantial profits of recent years to a significant loss.

At the hearing, the Corporation displayed that it had learned from this experience, a time portrayed as ‘the perfect storm” (drought, high natural gas prices, high import prices, and low water storage). It is anticipated that some new insight was gained into the following:

- Low snowfall accumulation usually is a precursor to a drought
- Significant snowfall accumulation does not necessarily preclude a drought
- High energy prices can be a blessing if hydro generation is high
- High energy prices can be a curse if hydro generation is low
- Energy shortages may have high “on-peak” and high “off–peak” export price consequences
- Energy surpluses accompanied by high energy prices can be very profitable, while surpluses accompanied by low energy prices suggest caution in expanding export sales.

The Corporation acted to protect Manitoba ratepayers and its retained earnings once it fully apprehended the situation.

By its actions, it proved its commitment to domestic supply and reliability. It acted in the futures market to reduce its export delivery requirements, and, by so doing, prevented the 2003/04 loss from reaching $1 billion. MH engaged in forward purchases of imported power and buybacks of contracted export sales.

By taking these and other steps, MH avoided having to pay ten cents a kilowatt hour and higher prices related to MH becoming a major importer of energy, rather than exporter. MH did not have to resort to its even higher priced thermal generation (gas) to satisfy domestic and firm export loads.

MH substantially curtailed its export sales to firm commitments in the second half of 2003/04, when off-peak on-peak trading ceased being economically advantageous. The Corporation has also increased its staffing for export trading operations, and engaged an independent expert to survey its approach to drought.

The criteria MH used for export sales, after it realized the extent of the drought and the export pricing situation, curbed unprofitable energy sales after August 2003. Its risk mitigation actions minimized unfavourable energy trading losses, and allowed the Corporation to retain in storage enough water to guard against the risk that the drought would continue into 2004/05. Through all of this, energy reliability to Manitobans and firm export commitments was maintained.

Notwithstanding the highly unfavourable experience of 2003/04, export sales over the longer term have been good for MH and its ratepayers. In fact, MH relies upon net export revenue to maintain below market rates for its domestic grid customers. Typically, only approximately 85% of MH's annual revenue requirement is met by domestic sales revenue (calculating net export revenue after an allocation of generation and transmission costs to export sales). Exports subsidize the rates of domestic grid customers.

With the loss experience of 2003/04, MH's retained earnings are expected to fall from $1.17 billion as of March 31, 2003 to below $750 million as of March 31, 2004. MH's peak retained earnings level was $1.302 billion, reached as of March 31, 2002.

By the conclusion of this hearing, MH was able to indicate that it was reasonably confident that the recent drought is over, and forecast that, if the rate increases sought were granted, it would meet its 2004/05 budgeted net income of $40 million. However, there is no guarantee unfavourable circumstances can be avoided. Precipitation levels could decrease again, leading to additional financial problems.

While such a recovery from a loss of in excess of $400 million would be welcome, a net income of $40 million largely attributable to a rate increase is minimal for a Corporation with assets of approximately $10 billion.

5.2 Revenue Requirement

MH's rate requests are based on forecast revenue requirements, and represent the Corporation's projections of how much additional revenue it requires from its customers to meet expenses and build sufficient reserves to provide for its operating risks.

Consumers' Association of Canada (Manitoba) Inc. and Manitoba Society of Seniors Inc. (CAC/MSOS), an Intervenor representing residential customers, challenged MH's contention that it required additional rate-related revenues of $28 million for 2004/05.

CAC/MSOS submitted that an $11 million arithmetical error was included in the 2003 Integrated Financial Forecast, and suggested that the error and an ongoing annual pension expense savings in the order of $5 million had not been incorporated into the forecast. This Intervenor argued the 2004/05 revenue requirement and rate increase should be significantly reduced for 2004/05.

MH did not dispute the CAC/MSOS' contention, but indicated that only $3.5 million of the savings would reduce the annual cost of operations.

As well, the Corporation suggested that any reduction to forecast revenue requirements related to the matters raised by CAC/MSOS would be offset by other cost pressures. In short, the Corporation stood by its submission that an additional $28 million in rate-related revenue was required for fiscal 2004/05.

5.3 Financial Targets

In recent years, a number of major events changed the financial position of MH:

a) Centra Gas Manitoba Inc. and Winnipeg Hydro were acquired during the 1999-2002 period, and both acquisitions were funded by debt;

b) Similar to other jurisdictions with Crown owned utilities, a special payment or dividend was paid to the Province, after the Corporation had enjoyed a series of years of increasing net income results and export revenue gains, with no drought on the horizon;

c) Interest in pursuing additional new generation and transmission developed; and

d) A major drought deteriorated the retained earnings and debt:equity ratio.

While the acquisitions and plans improved MH's operational prospects, they also impacted on the Corporation's debt:equity ratio. The payment to the Province, though having justification given the good results of prior years, also had that effect.

In the two fiscal years before the dividend was announced, MH's export revenues and net income were the highest in the Corporation's history, and far above MH's average net income. In fiscal 2000/01 and 2001/02 MH reported net income of $270 million and $214 million respectively. By contrast MH's current forecast of net income anticipates annual net income levels below $100 million through to 2009/10, despite projected annual consumer rate increases through that period.

The 2002-2004 drought made it more difficult to achieve MH's debt:equity target of 75:25 within the ten-year forecast period. By itself, the loss associated with the drought pushed back the date of realizing a 75:25 debt:equity ratio by several years.

5.4 Cost of Service

The Cost of Service Study (COSS) is a tool used by the Corporation to assist in evaluating and setting rates for each customer class. The COSS analyzes the components of MH's revenues and costs, and makes allocations to the various customer classes. The intent of the COSS is to evaluate the relative fairness of rates between customer classes.

Revenue to Cost Coverage Ratios (RCC) are determined from the COSS, and indicate the proportion of costs recovered from the revenue arising from each customer class. A Zone of Reasonableness (ZOR) concept has been developed to assist in evaluating the RCC ratios.

Customer classes having RCC ratios that are between 95% and 105% of allocated costs are deemed to have average rates that are within the "zone of reasonableness." In short, as long as a particular customer class has a ZOR between 95 and 105, it is considered to be reasonably fairly assessed relative to the other classes.

The Corporation uses this methodology in developing its recommended rates. However, as the Corporation had not sought a rate increase for many years, seven for the residential class, twelve for the industrial classes, a fairly wide range of RCCs has developed, bringing into question the fairness of customer class rates relative to other customer class rates. (The loss experienced in 2003/04 was very large, and if it were distributed to the various customer classes pursuant to the current Cost of Service methodology no customer class would have an adequate revenue to cost ratio.)

That being said, COSS involves a number of debatable allocation and forecasting procedures, and its value depends in large part on the all aspects of the COSS making sense, and being accepted by the Corporation, the customer classes and the Board.

MH filed COSS data incorporating most of the Board Directives from Order 7/03. However, Winnipeg Hydro financial, customer and load data was not fully incorporated. The Corporation had some concerns with respect to the incorporation of Winnipeg Hydro data into its COSS model.

One of the concerns related to the application of load research results from the rest of the system to the former Winnipeg Hydro customer base, and another difficulty experienced related to the allocation of direct costs to the Area and Roadway Lighting customer class for the former Winnipeg Hydro's territory.

As well, the current COSS methodology does not include an Export Class, which was discussed in Board Order 7/03. With export sales and related imports representing a significant business area of operation, there is a strong argument for this business segment to be considered a customer class for COSS modelling purposes.

When the export class is established and the other amendments to the COSS model effected, the Board anticipates that the methodology will arrive at significantly different revenue to cost ratios for the customer classes. Again, and in combination with the effects of the 2002-2004 drought, this supports an across-the-board increase for August 1, 2004, rather than rate increases differentiated by customer class.

With respect to export sales from existing generating and transmission assets, the Board recognizes that entering into short term export sales contracts on the basis of immediate incremental revenue potential represents the appropriate response. In short, the assessment of the value of an immediate export sale opportunity should take into account only incremental costs and revenues.

Included in the evidence in the GRA, MH filed a 2004 report by National Economic Research Associates (NERA) titled “Classification and Allocation Methods for Generation and Transmission in Cost of Service Studies” (the NERA Report). The report reviews alternative methodologies and provides recommendations for amendments to the COSS methodology.

MH did not revise its Application to reflect the recommendations of the NERA report, though it did provide some modelling of its effects. The Corporation and the Intervenors, in a view shared by the Board, agreed that the Cost of Service methodology is in a state of flux, and that NERA’s recommendations require further consideration, analysis and review.

A comparison prepared by MH of the RCC’s based on MH’s proposed Cost of Service Study and the NERA Report follows:

Class	RCC – Existing Methodology March 31, 2004	RCC – Reflecting the NERA Report March 31, 2004
Residential	90.6%	93.8%
General Service – Small Non Demand	104.9%	108.1%
General Service – Small Demand	109.7%	110.2%
General Service Medium	104.8%	103.5%
General Service Large 0-30 kV	99.9%	96.6%
General Service Large 30-100 kV	109.5%	101.3%
General Service Large > 100kV	113.8%	106.8%
General Service Large > 100kV – Curtailed	114.6%	107.9%
Interruptible	94.2%	97.1%
Area and Roadway Lighting	108.9%	110.8%
Diesel	38.3%	54.9%

The above representation of NERA Report does not reflect the cost of uniform rates being made a first charge against net export revenue, nor the division of generation costs between low and high cost generation as suggested by the Intervenors. The Table does not reflect the formulation of net export revenues on a five year rolling average.

With respect to assessing the value of export sales, and utilizing the net benefit arising out of export and import activities in determining Manitoba-based customer class rates, the NERA model proposes an export class, with that class to be allocated export associated costs.

Costs associated with export activities include generation, transmission, operating, maintenance and administrative costs, water rentals and capital taxes.

Contrary to a position taken at the Status Update Hearing, MH indicated support for the concept of an export class, as did a number of the Intervenors. The Board is of the view that without an export class, and the assigning of appropriate revenues and costs to it, and in the absence of a reasonable method of allocating the net income arising out of export activities, the COSS and its development of customer class RCCs is suspect.

Furthermore, there is the potential conflict between arithmetically driven decisions and public policy directives. CAC/MSOS contended that the existing COSS methodology, which assigns virtually the full $14 million cost of the uniform rate policy, implemented through legislation, to residential customers, is inappropriate and was neither the intent of the Legislature nor the Government.

CAC/MSOS proposed that the cost associated with a uniform residential rate for grid customers throughout Manitoba be considered a first charge against net export income. In that way, all customer classes would bear a portion of the cost of this public policy initiative.

Other suggestions with respect to the COSS methodology were discussed at the hearing.

Time to Respect Earth’s Ecosystems/Resource Conservation Manitoba (TREE/RCM) opined that the allocation of generation and transmission costs should be further governed by an accounting convention, one that would assign the higher cost of newer and more costly generation and transmission assets to the export class. TREE/RCM expressed the view that this would ensure that domestic ratepayers benefited from lower cost generation assets, and that the marginal costs associated with export sales generation would be more properly assigned to export activities.

5.5 Demand Side Management

Efforts to enhance the efficiency of the use of electricity in Manitoba, connoted as Demand Side Management (“DSM”), have proved reasonably successful to-date.

The reduced consumption of electricity arising out of DSM provides savings for residential and commercial customers, and frees up Manitoba energy generation for export sales, which are primarily to the United States.

While it was indicated at the hearing that the Corporation’s current approach to DSM differs between its electricity-based and gas-based operations, MKO called for an integrated approach, one recognizing that customers avail themselves of various energy sources and that conservation and efficiency are useful objectives in all circumstances.

The Corporation indicated during the Application proceedings that it was in the process of preparing a new plan to guide its DSM activities, and suggested that this new plan would call for further investments in DSM.

Intervenors suggested that further review of and customer involvement in this plan was imperative, and the Corporation agreed.

As well, TREE/RCM proposed and other Intervenors generally agreed that changing the pricing approach for electricity sales would likely enhance DSM effectiveness, to the benefit of all. Currently, pricing schedules provide for reduced rates as volumes increase. An alternate approach would have rates increasing with increasing volumes. Such an approach may address the risk of inefficient usage associated with rates set below marginal cost.

It was recognized by all parties that an inverted rate schedule, whereby higher usage would bring higher rates and costs associated with that usage, required considerable study before being implemented. Though such an approach could be implemented on an overall revenue neutral basis, implications could range from higher bills for some customers to impacts on commercial and industrial activities.

6.0 Board Findings

6.1 Revenue Requirement and General Rates

The Board accepts the CAC/MSOS comments with respect to arithmetical errors in MH's integrated financial forecast. Nonetheless, the Board accepts the overall forecast for net income for 2004/05 and 2005/06 provided by MH as being reasonable, having been based on macro assumptions. While the costs pointed out by CAC/MSOS may be over estimated, there may be offsetting items in the IFF. As well, the Board is of the view that there is a need for MH to rebuild retained earnings, particularly depressed as a result of the drought and required to meet on-going risks.

The Board has reasonable confidence in MH's efforts to project expenses. That being said, one of the goals of the hearing process is to best ensure that such confidence in the Corporation's forecasting is also shared by the Intervenors.

The Board finds that a more detailed examination of MH's cost experience and forecasts in future rate hearings would be in the public interest. The Corporation is engaged in a number of concurrent activities, projects and research initiatives, all requiring a substantial investment in personnel and consultants.

Cognizant of the necessity for the Corporation to meet its challenges effectively, managing the export activities being a prime example, the Board is reluctant, in fact unable on the record of this proceeding, to provide critical judgement on the appropriateness of the current and projected departmental and functional personnel complement and cost levels.

The Board acknowledges that it is not alone in its oversight of the Corporation, and that its jurisdiction is limited. Accordingly, the Board finds it necessary and reasonable to rely upon the Corporation's Board, the Government, and Crown Corporations Council with respect to administrative oversight of MH's operating and capital expenditures.

Nonetheless, noting the ongoing and substantial increases in MH's operating, maintenance and administration expenses, and observing the continuing material negative differential between the costs per customer between MH and BC Hydro (as reported during the hearing), a more detailed examination of costs at future rate hearings represents a reasonable objective.

Rate Increases

On an overall basis, the Board finds the financial impact of the drought on MH to have been extremely significant, and, combining this with other factors results in the requested rate increases being insufficient.

Additional revenue is immediately required to begin the rebuilding of MH's retained earnings, towards the broadly accepted debt to equity ratio target of 75:25. The Board will expect MH to maintain vigilance over its costs, so that the additional revenues contribute as they are intended to move towards achieving the debt to equity target more quickly than suggested in MH's 2003 Integrated Financial Forecast.

Accordingly, and after careful reflection and realizing the additional burden that will placed on the economy, the Board has determined to vary MH's rate increase requests.

The Board will direct MH to file a rate schedule reflecting annual revenue increases of 5% for all customer classes effective August 1, 2004.

The Board will also grant MH a conditional and interim rate increase of 2.25% for all customer classes, effective April 1, 2005, and a further conditional and interim increase of 2.25% for all customer classes effective October 1, 2005.

The April 1, 2005 conditional interim rate increase will be subject to MH filing a revised Integrated Financial Forecast and its second and third quarter fiscal 2004/05 financial statements with the Board by no later than January 31, 2005. An October 1, 2005 additional interim rate increase will be subject to MH filing its 2004/05 audited financial statements, an updated forecast for fiscal 2005/06 and its first quarter fiscal 2005/06 financial statements with the Board no later than July 31, 2005.

Recognizing the concerns of Intervenors and ratepayers, the Board will review the financial performance of MH at those times to determine whether the conditional rate increases should be adjusted downward. The Board's decision to confirm or vary the conditionally granted increases will be predicated upon its assessment of MH's financial condition, and its progress towards the 75:25 debt:equity ratio relative to the Board's understanding of MH's forecasts for future fiscal results.

The Board will not adjust the conditional rate increases upwards in the absence of a new rate application from the Corporation. The Board will invite written comments from registered Intervenors at the time it considers each conditional rate increase.

In making the last two increases conditional, the Board provides a level of protection for the long-term interests of ratepayers.

At the same time, these conditional increases provide reasonable assurance to MH that its revenue base will be strengthened if the need is present.

In particular, conditional increases recognize the uncertainties present with respect to forecasting export sales and net income. These uncertainties are related to water levels and storage issues, export demand, pricing and other related matters.

The Board accepts MH's contention that while current water levels and water storage levels are promising, weather conditions can quickly change, as can export demand and pricing.

The export sales potential, gross and net, for 2004/05 and 2005/06 is uncertain. Even more uncertain are the forecasts of results five and ten years out in time.

MH's projected rate increases for the years beyond 2006 are in the nature of "place marks", and more experience will be required before the need for such increases can be confirmed. The upwardly varied rate increases will reduce the risk that future rate increases will have to be higher, or have to occur as they are now forecast.

The Board had two concerns when dealing with MH's Applications, the interests of the utility's ratepayers and the financial health of the utility. Together, and in the broadest interpretation, these interests represent the general public interest.

In a sense, Manitoba and ratepayers are fortunate that the objective of avoiding rate shock plays a role in rate setting; in the case of other commodities (oil and gas), market price changes ignore the concept.

MH provides electricity to Manitoba's residences and businesses at advantageous prices, and the advantage relative to other North American jurisdictions will continue even with the rate increases provided in this Order. Furthermore, the current rate schedules provide for lower energy charges as volumes increase, the last block being far below the average and marginal costs of production and sale. (In this Application, MH proposed that the residential energy use blocks be consolidated in 2005, as a first step towards a possible future change to an inverted rate schedule after 2006.)

As indicated, MH's previous residential grid rate increases were 1.5% and 1.3%, effective as of April 1, 1996, and 1997 respectively. A 2003 Board directed rate decrease of 2.0% and 1.0% for certain commercial and industrial customers came after the previous increase for industrial customers took place in 1992. So, as indicated above, MH rates have been stable and low for many years.

The increases the Board will approve leave the average MH rate well below the rates charged by utilities in most, if not all, other North American jurisdictions. The other two low cost utilities in Canada, BC Hydro and Hydro-Quebec, both requested rate increases in 2004. The BC Utilities Commission approved an interim rate increase of 7.23% effective April 1, 2004 for BC Hydro; and, BC Hydro also applied for a further increase of 2.0% effective April 1, 2005. Hydro-Quebec received and is pursuing across the board rate increases amount to approximately 6%.

Aggregate MH rate increases since 1992, including those granted, firm and conditional, by this Order, are one-quarter to one-third of the accumulated increase in the Consumer Price index during the period. The MH rate increases are dwarfed in comparison with commodity price increases in other sectors: oil, natural gas, propane, coal and uranium; for example, since 1997 natural gas prices have tripled.

Provinces and American states served by other forms of generated electricity, such as coal and gas fired plants, have experienced far higher increases than those processed by the hydroelectric utilities of Canada, with Manitoba Hydro offering the lowest average rates among this group.

6.2 Customer Class Rates

During the hearing, persuasive evidence was presented that indicated the cost of service study (COSS) used to assess and recommend rates was in need of amendment.

Notwithstanding this, the rate differentiation sought by MH reflected the use of existing COSS methodology that does not segregate the revenues and costs associated with exports and imports, resulting in flawed results. As well, the current methodology does not meet the Board's interpretation of the intent of the uniform residential rate legislation.

Therefore, the Board agrees that the cost of service methodology requires further analysis and amendment. This further analysis should include a thorough consideration of the NERA recommendations, along with offsetting the financial impact of uniform rates by a first charge on net export revenues.

All Manitoba customer classes have benefited from export revenues, and all these customer classes require the support of a financially healthy utility.

Because the COSS methodology is in a current state of flux, and, in the Board's view incomplete, the Board is not prepared to adopt the current methodology in assessing the revenue to cost ratios of each customer class.

The process to address the fairness of the COSS and the appropriate revenue to cost ratios for the Manitoba customer classes is acknowledged to be lengthy. However, it is important that in the end the methodology be correct, appropriate, and supported.

As further hearings occur, there will be ample opportunity to further consider the ratios and the appropriate use of the ratios in rate setting, after the Board has accepted and confirmed the COSS methodology. Presumably this can be achieved by the time of consideration of the first conditional rate increase, as the Board prefers to begin the process of utilizing the COSS in rate setting at that time.

In the interest of fairness and recognizing the unusual severity of the effects of the recent drought, the Board has determined that the impacts of the drought should be borne by all the rate classes, and that sharing should be reflected in all customer classes receiving the same percentage rate increase on August 1, 2004.

As indicated, future rate increases may differentiate between classes.

In coming to a decision on the rate increases, firm and conditional, the Board considered the issue of rate shock, and opines that the rate increases for most customers will be within the thresholds put forth by the Intervenors (i.e. no more than 8-9% for any customers for the August 1, 2004 increase, and much less for most).

Compared to the price shocks experienced by oil and natural gas purchasers (Bank of Canada's Commodity Price Index for energy – natural gas, oil and coal - has increased by in excess of 100% since 1997), the rate increases, firm and conditional, provided in this Order are modest, particularly given the twelve and seven year rate freeze that industrial and residential customers, respectively, have enjoyed.

The Board shares the concerns of MH and Manitoba Keewatinowi Okimakanak Inc. (MKO), the Intervenor representing the interests of the diesel-served and other First Nations communities, regarding the rates charged to diesel communities. However, the Board is of the view that as the initial rate block for the diesel communities is provided at the same rate as enjoyed by MH customers connected to the electricity grid, diesel rates increases should correspond to the grid rate increase.

The Board is sympathetic to the situation faced by these communities, and is aware of discussions between the federal and provincial governments and MH. The Board expects a resolution for outstanding matters will be found quickly.

6.3 Rate Structure

The Board notes that the Intervenors were generally supportive of the rate structure changes, i.e. the distribution of rate increases between the demand and energy segments of invoices, proposed by MH.

The Board is of the view that MH's proposals regarding rate structures and the shift in the balance between demand and energy charges within the customer classes are reasonable, promote conservation, and should be reflected in the revised rate schedules filed by MH. That being said, the Board will review the rate schedules to be filed by the Corporation arising out of this Order, and confirm or vary such schedules if and as deemed appropriate.

6.4 Financial Targets

A drought can occur in any year, and MH has projected that a five-year drought of the same proportions as the 2003/04 drought could risk the reduction of its retained earnings by in excess of $2 billion.

It is instructive to note that the Corporation has reported that in the absence of the hedging transactions and other mitigating actions it carried out in response to the drought, as the Corporation realized its severity, its loss for 2003/04 would have approached $1 billion. It is also noted that there have been worse droughts in history.

With a debt:equity ratio of 75:25 ratepayers would have increased assurance of future rate stability. Increased retained earnings would provide for a continuation of advantageous interest rates and finance costs. It would also provide increased confidence that a direct financial contribution to MH's capital would not be sought from the Province. Any calls on the Province would mean pressure on taxes, not that a call is expected. The ratepayers of MH are also the taxpayers of the Province; the fortunes and prospects of MH and the Province are, to some degree, co-mingled (in time, with continued repayment of the non-Hydro provincial debt, all of the Province's debt may be related to MH).

As of March 31, 2004, MH's debt:equity ratio is forecast to rise to 86:14, far above the established target. At the hearing, MH portrayed the current level of its retained earnings as being unacceptably low; and the Board concurs in this view. MH is not just another corporation, it is representative in some ways of Manitoba's future, and its stability needs to be better assured as it pursues expanded export opportunities.

Another critical financial indicator is the coverage of MH's interest payments by net income. Based on MH's projections, the interest coverage ratio will not reach reasonably safe levels for five years.

Along with the very real risk of another drought, there are other factors supporting the need for a major increase in retained earnings:

(a) To some extent, particularly with respect to business interruption and insurance risk exclusions, MH self-insures. The corporation carries mainly property and general liability insurance, it has, understandably, no insurance against the financial and operating consequences of a drought;

(b) Currently, MH has two HVDC transmission lines from the north. These lines are located in close proximity to each other, and transport 70% of MH's generating capacity to southern Manitoba. Until another line is constructed, particularly one geographically separated from the current lines, MH is subject to a substantial business and financial risk not covered by insurance;

(c) The differential between on and off-peak wholesale electricity prices varies with market conditions, adequate financial margins available to MH from non-firm export sales are always at risk;

(d) The conditions governing access to export markets are subject to the potential of future adverse or beneficial amendment. To the extent that such changes could disadvantage MH, (no such risk is currently evident) a material risk exists for a corporation dependent upon net export sales to restrain domestic pricing (rates);

(e) Until new generation capacity comes on line, Manitoba electricity load increases will reduce export sales potential (average export prices have exceeded domestic rates);

(f) Interest rates are at historic lows; some of MH's debt carries rates of 3% or less. At some point rates will increase;

(g) MH has a substantial portfolio of U.S. dollar debt, while this currently provides reduced interest costs and a hedge with respect to export sales, there remains a degree of foreign exchange risk;

(h) MH reports substantial pressure on operating and maintenance expenditures, partly related to the myriad of responsibilities placed on the Corporation, and partly to aging plant. Upgrades and renovations to generating, transmission and distribution assets are much more expensive than in the past, with reliability and safety standards increasing; and

(i) MH lacks material liquid assets to meet the risk of future losses; any such losses would require additional borrowings. (MH's balance sheet includes a significant aggregate amount of deferred costs and goodwill, representing historically determined value but illiquid.)

Achieving a debt:equity ratio of 75:25 would provide increased rate stability benefits, and hold down financial charges. The 75:25 benchmark represents a modest target, one comparable to the current debt:equity ratios of similar Crown hydroelectric utilities in other Canadian provinces (B.C. Hydro and Hydro Quebec). In summary, meeting this target within a reasonable period of time would reduce long-term pressure on domestic electricity rates, better assure bondholders and thus constrain financial charges and provide a hedge against a future drought (which is certain from a statistical probability perspective).

6.5 Cost of Service Study

As previously indicated, the Board heard persuasive evidence that the cost of service study (COSS) methodology presently employed by MH requires review and amendment, and now provides known distortions in cost allocation.

Therefore, the Board directs MH to file no later than January 30, 2005 three separate 2006 COSS, reflecting the following:

(a) MH's existing methodology;

(b) The implementation of the NERA recommendations;

(c) The allocation of less expensive generation costs all to domestic customers, with higher cost generation being allocated between domestic and export customers on an in-service date basis as suggested by TREE/RCM; and

(d) MH's preferred approach and methodology, including supporting rationale.

In preparing these studies, MH shall allocate a sufficient share of net export revenue to offset the cost of the implementation of residential uniform rates. Net export revenue shall be taken into account over a five year rolling average, given the wide fluctuations experienced to date.

6.6 Demand Side Management

The Board anticipates receiving MH's revised DSM plan by December 31, 2004, and that this plan will include a review of the option of integrating the approach to natural gas and other alternate fuels, and extending DSM to diesel communities.

Currently, the Corporation differentiates its DSM efforts between natural gas and electricity customers. However, with the convergence of natural gas and electricity space heating costs for grid customers, there is an increased risk that new construction customers will choose electricity.

If such a preference develops for electric space heat, increased domestic electrical load will reduce export potential.

These and other factors, including those of a public policy nature, suggest that MH's future DSM plan should take an integrated approach, and consider both electricity and natural gas. The cost to MH of extending DSM to natural gas may be offset by reduced future domestic electricity load, providing an increased export potential.

6.7 Future Study

In advance of a possible general rate application being filed or required in 2006, and in addition to the reports required related to the conditional rate increases and the COSS, the Board requests the following studies be filed with it by January 30, 2005:

- Consideration of the utilization the Zone of Reasonableness concept, to move all customer classes to "unity" (allocated revenue equals allocated expenses) within five to seven years (this proposal to utilize an amended COSS as outlined above);
- A study of MH's response to the 2002-2004 drought, with recommendations by an outside and independent expert;
- MH's revised risk management strategy, reflecting the quantification of risks both separate and in combination;

- A report on MH’s insurance portfolio, its adequacy and options;

- A study of the implications of internally restricting retained earnings as a form of self-insurance reserve and rate stabilization fund, to restrict any future dividend payment until the 75:25 debt:equity ratio has been achieved;

- A report on the concept of the PUB reviewing any future proposed changes to water rental and capital tax rates (as an assist to the Province, MH and MH’s customers);

- A report on the implications of returning the Interest Coverage financial indicator to a target of 1.2; and

- A report on the appropriateness of capitalizing all DSM expenditures, whether they represent projects that are implemented or achieve their targets, and consider whether the current amortization period of fifteen years for DSM and planning studies is reflective of prudent practice compared to the accounting policies of other hydroelectric utilities.

The Board will consider this information, and may call a limited hearing or paper review regarding these issues.

6.8 Surplus Energy and Curtailable Rates Programs

The Board will confirm all interim ex-parte Board Orders as contained in MH’s Application, and extends the terms of MH’s surplus energy program until March 31, 2007 with MH’s suggested amendment.

6.9 Concluding Remarks

The Board found MH forthcoming, competent and helpful to these proceedings. The Board also found the contributions of the Intervenors, their witnesses and the presenters to be of value.

The appropriateness of the Board's decisions, now and in the future, are and will be directly related to the support and contributions of and by MH, the Intervenors and their witnesses, and presenters.

MH's operational considerations go beyond financial considerations, and its actions are, though supported by sophisticated computer modeling, determined based on human judgment supported by experience and knowledge. MH operates in a complex environment, where there are non-controllable as well as controllable factors at work.

Manitoba Hydro's operations are an important factor in the economic and social life of Manitoba. It is in the best interests of all parties that the Corporation be properly funded to support its present and future activities.

6.10 Other Findings

Additional Information, Board Findings and Directives will follow in a subsequent Order.

7.0 It Is Therefore Ordered That:

1. MH immediately file for final Board approval a revised schedule of rates to be effective August 1, 2004. The filing should include forecast revenue impacts reflecting a 5% increase for all customer classes;

2. MH file the following information by no later than January 31, 2005, for review by the Board with respect to a conditional rate increase for April 1, 2005:
   (a) An update of its forecast for fiscal 2004/05 and 2005/06;
   (b) Its second and third quarter financial statements for fiscal 2004/05;

3. MH file its audited financial statements for 2004/05, updated forecast for fiscal 2005/06 and subsequent years through to and including fiscal 2013/14, and its first quarter 2005/06 financial statements by July 31, 2005, for review by the Board with respect to a conditional rate increase for October 1, 2005;

4. MH file by no later than January 31, 2005, three separate COSS models to reflect:
   (a) MH's existing methodology;
   (b) The implementation of the NERA recommendations; and
   (c) MH's preferred approach and methodology, including supporting rationale;

5. MH shall allocate the cost of uniform residential rates as a first charge on net export revenue; create an export class set out above, and file an analysis of the impact of allocating less expensive generation costs to domestic classes, with higher cost generation being allocated to domestic and export customers as suggested by TREE/RCM;

6. MH file the following studies by no later than January 31, 2005:

- A proposal to utilize the Zone of Reasonableness concept, based on an amended COSS, moving all customer classes to "unity" (allocated revenue equals allocated expenses) within five to seven years;

- A study of MH's response to the 2002-2004 drought, with recommendations by an outside and independent expert;

- MH's revised risk management strategy that reflects the quantification of risks both separate and in combination;

- A report on MH's insurance portfolio;

- A study of the implications of internally restricting retained earnings as a form of self-insurance reserve and rate stabilization fund, to restrict any future dividend payment until the 75:25 debt:equity ratio has been achieved and/or exceeded;

- A report on the concept of the PUB reviewing any future proposed changes to water rental and capital tax rates;

- A report on the implications of returning the Interest Coverage financial indicator to a target of 1.2; and

- A report on the appropriateness of capitalizing all DSM expenditures, whether they represent projects that are implemented and whether the projects achieve their targets, and consider whether an amortization period of fifteen years is optimal with respect to DSM and planning studies, with options;

7. The interim ex-parte Orders as included as Schedule A to this Order are approved; and

8. MH is to extend the Terms and Conditions of the Surplus Energy Program, as proposed and amended by MH, until March 31, 2007.

THE PUBLIC UTILITIES BOARD

"Graham F. J. Lane, C. A."
Chairman

"G. O. Barron"
Secretary

Certified a true copy of
Board Order 101/04 issued by
The Public Utilities Board

Secretary

SCHEDULE "A"

Ex Parte Orders Relating to the Surplus Energy Program

Order	**5.0 Date**	**Order**	**6.0 Date**	**Order**	Date
06/03	January 15, 2003	117/03	July 23, 2003	9/04	January 28, 2004
08/03	January 22, 2003	122/03	July 30, 2003	15/04	February 4, 2004
10/03	January 29, 2003	124/03	August 6, 2003	22/04	February 11, 2004
13/03	February 5, 2003	126/03	August 13, 2003	24/04	February 18, 2004
17/03	February 12, 2003	127/03	August 20, 2003	25/04	February 25, 2004
21/03	February 19, 2003	129/03	August 27, 2003	37/04	March 3, 2004
26/03	February 26, 2003	131/03	September 3, 2003	38/04	March 10, 2004
27/03	March 5, 2003	135/03	September 10, 2003	39/04	March 17, 2004
32/03	March 12, 2003	138/03	September 17, 2003	42/04	March 24, 2004
45/03	March 19, 2003	139/03	September 24, 2003	47/04	March 31, 2004
50/03	March 26, 2003	141/03	October 1, 2003	48/04	April 7, 2004
52/03	April 2, 2003	146/03	October 8, 2003	62/04	April 14, 2004
64/03	April 9, 2003	148/03	October 15, 2003	64/04	April 21, 2004
69/03	April 16, 2003	149/03	October 22, 2003	67/04	April 28, 2004
70/03	April 23, 2003	160/03	October 29, 2003	72/04	May 5, 2004
72/03	April 30, 2003	165/03	November 5, 2003	74/04	May 12, 2004
77/03	May 7, 2003	167/03	November 12, 2003	78/04	May 19, 2004
80/03	May 14, 2003	170/03	November 19, 2003	79/04	May 26, 2004
88/03	May 21, 2003	171/03	November 26, 2003	82/04	June 2, 2004
89/03	May 28, 2003	174/03	December 3, 2003	90/04	June 9, 2004
92/03	June 4, 2003	177/03	December 10, 2003	91/04	June 16, 2004
103/03	June 11, 2003	181/03	December 17, 2003	92/04	June 23, 2004
105/03	June 18, 2003	184/03	December 23, 2003	93/04	June 30, 2004
107/03	June 25, 2003	186/03	December 31, 2003	94/04	July 7, 2004
109/03	July 2, 2003	2/04	January 7, 2004	98/04	July 14, 2004
114/03	July 9, 2003	4/04	January 14, 2004		
116/03	July 16, 2003	6/04	January 21, 2004		

Ex Parte Orders Relating to the Curtailable Rate Program

Order	Date
16/03	February 10, 2003
28/03	March 11, 2003
70/04	April 30, 2004

Ex Parte Orders Relating to Various Other Rates

Order	Date
153/03	October 31, 2003
66/04	April 21, 2004

Appendix A

Appearances

R. Peters	Counsel for The Manitoba Public Utilities Board ("the Board")
O. Fernandes P. Ramage	Counsel for the Manitoba Hydro Electric Board ("Hydro")
J. Feldschmid	Counsel for Canadian Centre for Energy Policy Incorporated ("CCEP")
B. Williams	Counsel for Consumers' Association of Canada (Manitoba) Inc./Manitoba Society of Seniors Inc. ("CAC/MSOS")
T. McCaffrey	Counsel for Manitoba Industrial Power Users Group ("MIPUG")
M. Anderson	Representing Manitoba Keewatinowi Okimakanak Inc. ("MKO")
P. Miller	Counsel for Time to Respect Earth's Ecosystems/Resource Conservation Manitoba ("TREE/RCM")
G. Boyd	Representing International Brotherhood of Electrical Workers (Local 2034) ("IBEW")

Appendix B

Witnesses for Hydro

V. Warden	Chief Financial Officer, Vice President, Finance and Administration
C. Wray	Treasurer and Division Manager, Business Analysis
H. Surminski	Section Head, Resource Planning and Market Analysis, Generation System Studies
R. Wiens	Manager, Rates and Regulatory Affairs
W. Derksen	Manager, Management Accounting and Budgeting
A. Cormie	Manager, Power Sales and Operations Division, Power Supply
C. Thomas	Cost of Service Supervisor, Rates and Policies Department
L. Kuczek	Manager, Consumer Marketing and Sales

Appendix C

Intervenors of Record

1. Canadian Centre for Energy Policy Incorporated ("CCEP")
2. Consumers' Association of Canada (Manitoba) Inc./Manitoba Society of Seniors ("CAC/MSOS")
3. International Brotherhood of Electrical Workers ("IBEW")
4. Manitoba Industrial Power Users Group ("MIPUG")
5. Manitoba Keewatinowi Okimakanak Inc. ("MKO")
6. Time to Respect Earth's Ecosystems/Resource Conservation Manitoba ("TREE/RCM")

Note: Intervenors 1, 2, 4, 5 and 6 participated throughout the hearing and presented final comments. Intervenors 2, 4 and 6 presented witnesses.

Appendix D

Intervenor Witnesses

CAC/MSOS

B. Harper	Manager, Econalysis Consulting Services, Inc.

MIPUG

J. Osler	Principal Consultant and Manager, InterGroup Consultants Ltd.
P. Bowman	Consultant, InterGroup Consultants Ltd.

TREE/RCM

J. Lazar	Consulting Economist, Micro Design Northwest

Appendix E

Presenters

Mr. C. Cartwright	Citizen
Mr. A. Ciekiewicz	Citizen
Mr. T. Mathers	Citizen
Ms. M. Veno	Co-Chair Manitoba League of Persons with Disabilities
Ms. E. Ternette	Manitoba League of Persons with Disabilities
Mr. B. Turner	President, Manitoba Industrial Power Users Group