Appendix A
Terms of Reference for External Review of Manitoba Hydro's Cost of Service Study

TERMS OF REFERENCE FOR EXTERNAL REVIEW OF MANITOBA HYDRO'S COST OF SERVICE STUDY

1 PURPOSE

Manitoba Hydro ("MH") is seeking proposals from qualified consultants to assist in the redevelopment of the Corporation's Cost of Service Studies ("COSS") for both its electric and gas operations. The deliverable will be a report which recommends a COSS methodology most appropriate to Manitoba Hydro's electricity and natural gas systems and which incorporates best practices within the energy utility industry in North America.

The key uses of the COSS are:

a) A basis for the apportionment of the utility's revenue requirement among its classes of service;

b) A measure of just and reasonable rates to each of the customer classes; and

c) A guide in rate design and service extension policy.

The consultant selected to carry out this review will be required to demonstrate extensive expertise in the area of utility cost of service procedures in North America.

2 OBJECTIVES OF THE ASSIGNMENT

Manitoba Hydro is seeking consulting assistance with the following:

a) Review the structure of Manitoba Hydro's operating and capital costs and recommend an appropriate methodology to allocate those costs to customer classes based on cost causation.

b) Provide recommendations on how or if Marginal Cost adjustments could be made to, or otherwise reflected in an embedded COSS; and

c) Prepare a report which sets forth in detail the findings of the review with respect to all material issues and methodologies, such report to be in an appropriate format for submission to the PUB and other stakeholders.

The selected consultant may be required to provide expert testimony before the Manitoba Public Utilities Board with respect to its recommendations and conclusions.

3 TIMING

Manitoba Hydro is seeking a consultant to commence the study by October 2010 with a final report to be complete by early 2011.

4 QUALIFICATIONS

The consultant firm selected will have specialized knowledge in the electricity and natural gas industries, including relevant engineering and cost study disciplines, economics, regulation, and public policy. The consultant personnel selected to carry out the assignment will have a documented extensive record in carrying out and/or reviewing cost of service studies and their methodologies, and in defending their work before public utilities tribunals in North America. The selected consultant should be able to demonstrate experience and expertise with respect to cost drivers at electric utilities which are predominantly hydraulic and for which a significant portion of sales is to off-system wholesale customers.

5 BASIS FOR AWARD OF ASSIGNMENT

Manitoba Hydro will select the proposal that, in its opinion, provides the best value to Manitoba Hydro based on the consultant's technical proposal, the consultant's proposed budget and the qualifications of the firm as well as those of the principals and other consultants proposed to carry out this assignment.

6 BACKGROUND AND MAJOR ISSUES IN COST OF SERVICE STUDY

To assist consultants bidding on this assignment, this discussion identifies the key issues of concern to Manitoba Hydro in both its electric and natural gas cost studies. It is noted, however, that the assignment is to review all material aspects of the COSS.

6.1 Electric Cost of Service Study:

Manitoba Hydro has carried out embedded cost of service studies to allocate its costs to its various customer classes since the 1970s. The Corporation's study methodology has changed incrementally over the years. In 2006, the key features of the study were:

a) Embedded cost results reported on a prospective test year basis;

b) Five main functions: Generation; Transmission; Sub-transmission; Distribution Plant; Distribution Services.

c) Bulk Power functions (Generation and Transmission) classified between Demand and Energy on the basis of System Load Factor.

d) Generation and Transmission Demand related costs allocated on the basis of class contribution to Summer Peak (top 50 hours) and Winter Peak (top 50 hours).

e) Sub-transmission classified as 100% Demand related and allocated on basis of Class Non-Coincident Peaks.

f) Distribution Plant classified between Customer and Demand, with different classification ratios for the sub-functions (eg: Poles & Wire; Line Transformers). Demand-related costs allocated on basis of class Non-Coincident Peak; Customer-related costs on weighted customer count.

g) Distribution Services classified as Customer-related with different weightings for allocation of various sub-functions (eg: customer service; billing and collections)

A highly relevant feature of the Cost of Service Study is the practice of crediting net revenue from off-system (export) sales to domestic customer classes. A significant portion of Manitoba Hydro's sales are to wholesale markets outside the Province. In 1992 net export revenue was sufficient to cover 15% of Manitoba Hydro's total cost of service, in 1997 this coverage had increased to 25% and by 2004 net export revenue was sufficient to cover fully 33% of Manitoba Hydro's costs. Moreover, export revenue per kW.h sold was also increasing significantly throughout this period, from 1.5 cents per kW.h in 1992 to 4.9 cents per kW.h in the 2004 COSS. Approximately 50% of net export revenue is derived from firm, long-term sales.

Manitoba Hydro's practice, prior to 2006, was to credit net export revenue to customer classes on the basis of their share of Generation and Transmission costs. The basis of this allocator was that it is the Generation and Transmission assets that make possible the export sales. As export revenues increased through the 1990s, these credits covered an increasing proportion of Generation and Transmission costs. In the 2003/04 Cost of Service Study, net export revenues covered fully 47% of Generation and Transmission costs while accounting for only 35% of sales from the Transmission system.

In effect, customer classes were receiving export credits based on an ever increasing marginal cost of bulk energy while being allocated costs based on embedded cost of Generation which was relatively stable from year to year. This approach was particularly beneficial for the large industrial class, served at high

voltage, for whom Generation and Transmission represents the vast proportion of cost to serve. For this class, the export credit approach was, in effect, offsetting almost half the total allocated Generation and Transmission cost. For Residential and Small General Service customers, the offset was also substantial, but at 28%, much less than for General Service Large.

Manitoba Hydro became concerned with this situation for two reasons: (1) that the class results from the study were becoming distorted relative to each other, because of the preponderance and treatment of export revenues and the different percentages of Generation and Transmission cost in the total class allocated to each class; and (2) that rates to industrial customers based on embedded cost were encouraging location of new large loads that, effectively, had to be served at marginal cost, while paying rates based on embedded cost.

Manitoba Hydro filed cost of service documents for review by the Manitoba Public Utilities Board in 2005. This material contained Manitoba Hydro's recommendations for revisions to the Study methodology which would address its concerns. Manitoba Hydro's filing was reviewed by the PUB in a public hearing which concluded in June of 2006. The PUB further clarified its directives in an Order on Manitoba Hydro's 2008/09 General Rate Application. The PUB directives supported some, but not all, of Manitoba Hydro's Cost of Service Study recommendations.

There is a substantial public record of the evolution of the cost of service study in Manitoba's regulatory setting over the past six or seven years. This includes Manitoba Hydro's General Rate Applications, PUB regulatory decisions, previous consultant studies and other documents made available during discovery processes.

6.2 Natural Gas Cost of Service Study

Manitoba Hydro's natural gas operations are similar to those of other gas LDC's in Canada and the US. There are special challenges related to serving customers across a geographically wide service territory with significant areas of low customer density, where most of the load is seasonal, and where seasonal temperatures can be both extreme and highly variable. Manitoba Hydro procures its natural gas supplies from outside the province using a portfolio of contracted supply, pipeline and storage assets. However, while there are these and other unique features to Manitoba gas operations, cost allocation procedures have not been subject to the same degree of controversy as those of the electric operations.

The Corporation's natural gas Cost of Service and Rate Design Methodology was last comprehensively reviewed in 1996. The key features of the study include:

a) Embedded costs results reported on a future test year basis;

b) Six main functions: Production, Pipeline, Storage, Transmission, Distribution, Onsite;

c) Production related costs are market based. Costs allocated based on volume and daily load curve;

d) Pipeline and Storage related costs contractually based. The majority of these costs are demand related and allocated on peak and average basis. The peak is determined on a class non-coincident basis;

e) Transmission related costs classified as 100% demand and allocated on the basis of peak and average. Peak is determined on class non-coincident basis;

f) Distribution related costs split between demand and customer on the basis of a diameter length methodology. Demand related costs allocated to classes on the basis of peak and average. Peak is determined on a class non-coincident basis;

g) Customer related costs allocated on weighted customer count;

h) Allocated costs basis of rates. Revenue to Cost Ratio at unity; and

i) Rate Design significantly unbundled. Small volume users have essentially a 5 part rate: Fixed Monthly Charge; volumetric Primary Gas, Supplemental Gas, Transportation and Distribution rates. Industrial Customers have, in addition to those identified above, Demand Transportation and Distribution rates

While there has not been significant public review of the natural gas cost of service study over the past ten years and the current cost of service study has served the utility well, a number of significant changes have occurred including a change in ownership, industry changes, customer changes, demand side management and low income customer considerations and stakeholder changes. These changes together with the requirement to review electric cost of service make it appropriate for cost of service to be reviewed in its entirety.