



PUBLIC UTILITIES BOARD

**PROSPECTIVE
DIESEL COST OF
SERVICE STUDY FOR
2009**

NOVEMBER 9, 2009

**PROSPECTIVE DIESEL COST OF SERVICE STUDY
FOR RATES EFFECTIVE APRIL 1, 2009**

TABLE OF CONTENTS

Section A – Introduction and Background.....	1
Section B – Calculation of Rates 2008/09.....	3
Section C – Cost Components in Diesel Cost of Service Study.....	5
1. Operating and Administrative Costs.....	5
2. Capital Costs	6
a) Gross Investment	6
b) Capital Contributions.....	7
c) Depreciation Expense	8
d) Accumulated Depreciation	9
e) Interest Expense.....	9
f) Capital Tax.....	10
3. Operating Results.....	10

Schedules

Schedule 1 – Proposed Diesel Zone Rate Schedule Effective April 1, 2009	
Schedule 2 – Derivation of Net Depreciation Expense	
Schedule 3 – Derivation of Interest Costs	
Schedule 4 – Full Cost Prior to Any Negotiated Settlement – Includes Fixed and Variable Costs	
Schedule 5 – Calculation of Residential Revenue Requirement and Revenue Cost Coverage	
Schedule 6 – Calculation of General Service and First Nation Community Accounts Revenue Requirement and Revenue Cost Coverage	
Schedule 7 – Calculation of Settlement Participant and Non-Participant Rates	
Schedule 8 – Calculation of Customer Class Revenue	
Schedule 9 – Consolidated Statement of Operations for Three Fiscal Years Ending March 31, 2009	
Schedule 10 – Accumulated Deficit Forecast to March 31, 2009	
Schedule 11 – Analysis of Additional Capital Expenditures by Year from April 1, 2006 to March 31, 2009	
Schedule 12 – Analysis of Capital Contribution for Settlement Agreement from March 31, 2004 to March 31, 2009	

1 **SECTION A – INTRODUCTION AND BACKGROUND**

2
3 This document provides the derivation of Forecast Diesel Full Cost rates for the year 2008/2009,
4 determined using the same procedures as the Application approved on an *interim ex parte* basis
5 by the PUB in Order 176/06. This analysis is based on forecast information from IFF08. In
6 addition actual results for fiscal years 2007 and 2008 are also provided.

7
8 Manitoba Hydro provides service to four remote communities in northern Manitoba from diesel
9 generation located in or near the communities. The four communities are: Shamattawa, Tadoule
10 Lake, Brochet and Lac Brochet. The Corporation serves approximately 700 customers in these
11 communities. Most are Residential, but there are also General Service customers and
12 Government customers (Federal and Provincial) and First Nation Education accounts. Total
13 sales to all customers are forecast to be 12,360,000 kW.h in fiscal year 2008/09.

14
15 Costs to serve the Diesel Communities are much higher than costs to serve customers served
16 from the grid due to isolation of the communities, small population served and the cost of
17 facilities and fuel. For 2008/09 the total cost to provide service in these communities is
18 estimated at 106.9¢ per kW.h, including all depreciation and debt servicing costs; in contrast, the
19 average cost of power generated and distributed on Manitoba Hydro's main grid is
20 approximately 6.0¢ per kW.h.

21
22 Residents served by diesel generation are provided service up to 60 amperes allowing them the
23 opportunity to use electric ranges, refrigerators, freezers, and other electrical appliances while
24 paying the same electrical rates as customers served by the central grid system. The use of
25 electric space heat is not permitted, as it is inefficient to convert diesel fuel to electricity for the
26 purpose of heating.

27
28 New customers are required to make Contributions to the capital costs of distribution facilities
29 consistent with policies applicable to all other Manitoba Hydro customers served from the grid.
30 The requirement for new customer capital contributions on generation facilities was eliminated
31 January 1, 1990 and the rate distinction between Contribution-Paid and Contribution-Not-Paid
32 was eliminated effective April 1, 1992. The provision in the 2004 tentative settlement that any
33 new capital requirements will be funded by the communities effectively reintroduces the concept
34 of Generation Contribution to the Diesel Communities for major capital additions while smaller
35 capital related items may still be included in future revenue requirements. If no funding is
36 received for the major upgrades in advance, these items may also be included in the Revenue
37 Requirement and thus included as part of the rate in the future.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37

There are three classes of service in the Diesel Communities. They are:

- Residential
- General Service (includes: Commercial Enterprise and First Nation facilities other than Education)
- Government and First Nation Education

Residential Service:

This class of service is charged the same rate as Residential customers served from the central grid for the first 2,000 kW.h per month, and the Full Cost rate for every kW.h thereafter. The proposed rate is as follows:

Basic Monthly Charge	\$6.60
First 900 kW.h per month	6.080¢ per kW.h
Next 1,825 kW.h per month	6.123¢ per kW.h
Balance of kW.h per month	68.37¢ per kW.h

The provision of service at grid rates is limited to 2,000 kW.h per month, which is sufficient energy at grid rates to enjoy all electrical appliances except space heating. As a result of the higher cost of diesel generation, this rate class only collects approximately 13% of the cost to serve these customers (compared with about 96% for grid connected Residential customers).

General Service:

The General Service class includes non-residential accounts other than Federal and Provincial Governments as well as those First Nation accounts that are not fully funded by the Federal Government (INAC). As with Residential customers, General Service Non-Government accounts also have access to grid rates for the first 2,000 kW.h per month. The proposed rate for this customer class is as follows:

Basic Monthly Charge	\$16.50
First 2,000 kW.h per month	6.480¢ per kW.h
Balance of kW.h	68.370¢ per kW.h

Consistent with past practice, any change in grid electrical rates are reflected in diesel zone rates

1 for the first 2,000 kW.h for Residential and General Service customers. The above rates reflect
2 the 5% increase approved by the PUB in its Order 116/08 which was effective July 1, 2008.

3
4 Government and First Nation Education:

5
6 Government customers include all Federal and Provincial Departments or agencies as well as
7 First Nation community accounts which are fully funded by INAC. These customers are subject
8 to the Full Cost rate on every kW.h plus the government surcharge which recovers the revenue
9 shortfall associated with the first 2,000 kW.h per month subsidy given to Residential and
10 General Service customers. The proposed rate for these customers is as follows:

11

12	Basic Monthly Charge	\$16.50
13	All kW.h per month Full Cost	68.370¢ per kW.h
14	All kW.h per month Surcharge	188.610¢ per kW.h
15	Total Government Rate	256.980¢ per kW.h

16

17 **SECTION B – CALCULATION OF RATES 2008/09**

18
19 Along with rate design principles, the 2008/09 projected costs and forecast loads determine the
20 diesel rates. Operating and capital data for the study were extracted from Manitoba Hydro's
21 financial reporting system which contains distinct orders for these costs by site and by activity.
22 In addition to operating and maintenance costs, the reporting system also contains depreciation
23 expense. The Market Forecast Department, in conjunction with Electric Rates and Regulatory
24 staff provide load, energy and revenue data for the forecast year. Capital related or fixed costs,
25 are not included as part of the Revenue Requirement as a result of the tentative settlement.

26
27 The Diesel Full Cost rate previously consisted of two components, fixed and variable costs. In
28 Diesel Cost of Service studies prior to December 2004, the summation of these two components
29 resulted in a proposed Full Cost rate per kW.h. In Order 159/04 the PUB approved rates based
30 on the 2004/05 DCOSS that reflected the provisions of the negotiated settlement, namely the
31 recovery of only the variable portion of the cost in rates plus the relatively minor fixed costs
32 associated with operation and maintenance of the distribution system. This approach is continued
33 in the current study.

34
35 Fixed capital costs represent the annual cost associated with plant investment, depreciation
36 expense and net interest expense. The operating and maintenance expenses of the distribution
37 system have also previously been classed as a fixed cost, but are now included, along with the

1 variable costs, in the determination of the Full Cost rate. For the 2008/09 fiscal year the fixed
2 cost portion of the total cost to serve represents 41% of the total cost, which is not part of the
3 Revenue Requirement subsequent to the settlement.

4
5 The variable cost consists of costs associated with operating and maintaining the generating
6 equipment, including fuel costs. Other costs included as variable are generation maintenance,
7 and major and minor overhauls of generating equipment. Fuel cost represents the largest portion
8 of the variable cost or approximately 62%; it is also the most volatile cost. Since the last diesel
9 study (filed with the PUB October 2006) fuel costs have increased significantly and are
10 responsible for the majority of the increase in variable cost that has occurred since the last
11 prospective diesel study as outlined in Schedule 4. The variable full cost rate consists of the full
12 cost rate calculated on Schedule 4 plus the following items added into the revenue requirement:

13		
14	Distribution operating costs	\$472,389
15	One-fifth of the accumulated deficit after March 31, 2004	\$650,165
16		

17 With these additional items the variable full cost rate is calculated as 68.37¢/kW.h.

18
19 The accumulated deficit represents the difference between rates charged to customers and the
20 actual cost to service them in the years 2004/05 to 2007/08. Manitoba Hydro has applied to
21 recover this amount based on inclusion of the balance in the revenue requirement each time rates
22 are revised. This revised variable full cost rate is applied to all customers in the Diesel
23 Communities.

24
25 The schedules included in this study document the determination of rates for the year 2008/09.
26 Schedules 2 and 3 set forth the determination of net depreciation and interest respectively.
27 Schedule 4 details the calculation of the variable Full Cost rate including the provision for the
28 amortization of the rate discrepancy between rates charged to customers and the actual cost to
29 service them in the years 2004/05 to 2007/08. Schedules 5 – 7 implement the variable cost rate
30 determined into the Revenue Requirements of Residential, General Service and Government and
31 First Nation Education customers respectively. The Government and First Nation Education
32 Revenue Requirement depicted in Schedule 7 also shows the calculation of the surcharge. The
33 surcharge rate calculated and proposed for 2008/09 is 188.61¢ per kW.h; together with the
34 variable rate of 68.37¢ per kW.h yields a total government rate of 256.98¢ per kW.h. This
35 surcharge was calculated to recover a portion of the current year subsidy of the Residential and
36 General Service customers on the first 2,000 kW.h per month net of the RCC subsidy provided
37 to these customers.

1
2 **SECTION C – COST COMPONENTS IN DIESEL COST OF SERVICE STUDY**
3

4 The Prospective Diesel Cost of Service Study for 2008/09 has been completed on a basis
5 consistent with the study reviewed by the PUB prior to issuance of Order 176/06. Like that study
6 it incorporates the provisions of the tentative agreement among Manitoba Hydro, Indian and
7 Northern Affairs Canada (INAC) and Manitoba Keewatinowi Ininew Okimowin (MKO) and the
8 diesel communities. This agreement permits the design of rates which recover only variable cost
9 (fuel and maintenance of facilities) of production and not the fixed portion (depreciation and
10 interest expense) of the cost. This was enabled by Contributions to be made by Government
11 customers and the Diesel First Nations (funded by INAC) to Manitoba Hydro in respect of the
12 infrastructure installed in the four Diesel Communities. The original Contribution requirement
13 was based on data for fiscal year ended March 31, 2004. The capital portion of the total cost is
14 still accounted for but is not recovered in the rates proposed in this Application.
15

16 1. Operating and Administrative Costs
17

18 Separate cost orders are established for each site by activity type. The major activity
19 groupings of diesel costs captured in the orders are as follows:
20

21 Generation-Related:

- 22 – Generation Maintenance
- 23 – Fuel Hauling
- 24 – Major/Minor Overhauls
- 25

26 Distribution-Related:

- 27 – Distribution Facility Maintenance
- 28 – Distribution Maintenance
- 29 – Customer Service
- 30 – Customer Support
- 31

1 All costs are accounted for in Manitoba Hydro's financial reporting system SAP in
2 distinct accounts called settlement cost centres, which functionalize the costs in to three
3 major groupings:

- 4
- 5 – Generation and Switching Stations
- 6 – Distribution Facilities
- 7 – Diesel Site Facilities
- 8

9 2. Capital Costs

10

11 This section details the methodology used to calculate the combined fixed and variable
12 Full Cost rate in the Diesel Communities prior to any settlement. Note that since the
13 negotiated settlement the capital related portion of the rate is no longer part of the
14 Revenue Requirement. However, Manitoba Hydro continues to track all capital costs
15 incurred in the Diesel Communities as these costs will eventually be funded by the
16 customers in these communities either by additional contributions paid or by inclusion
17 into the Revenue Requirement and recovered in future rates.

18

19 a) Gross Investment

20

21 Investment in diesel generation facilities in Manitoba Hydro's Plant Accounts is
22 maintained on a site-by-site basis with the depreciable assets within each site
23 identified. In addition to the investment at each site there is an inventory of
24 diesels in stock. The investment in diesel generation assigned in this study
25 includes the investment at each site plus a share of diesels in stock (allocated to
26 each site based on installed generation capacity).

27

28 Investments in distribution facilities include line investment identified on a site
29 basis, a share of District Work Order (DWO) investment plus administrative
30 buildings located at each diesel site.

31

32 DWO's are minor modifications to the distribution system required to provide
33 adequate service to customers which can be built to existing engineering
34 construction standards. Capital investment made through DWO's is not identified
35 to a specific distribution system. The allocation of DWO investment to each
36 diesel site has been assigned to equal the capital contribution received through
37 DWO towards distribution facilities.

1
2 All generation plant in the Diesel Communities has either been replaced or
3 upgraded since 2001 and can accommodate additional capacity increases under
4 normal forecasted load growth over the next five to ten years.
5

6 Since March 31, 2004 significant additional capital (\$9.8 million) has been
7 expended or was forecast to be incurred to the end of the 2008/09 fiscal year.
8 With the exception of a \$1.2 million contribution for a new gen set in Tadoule
9 Lake (ISD 2008), none of these capital costs are currently being recovered
10 through capital contributions, nor is any capital cost being incorporated into the
11 rates calculated in this review. To date Manitoba Hydro has had some
12 preliminary meetings with INAC and MKO in regard to funding the remaining
13 unfunded capital additions that have been incurred since the \$28.8 million was
14 calculated as at March 31, 2004.
15

16 Schedule 11 outlines the capital expenditures made by Manitoba Hydro to ensure
17 the reliability of service since March 31, 2004.
18

19 b) Capital Contributions
20

21 Capital contributions for the diesel sites are determined by an analysis of entries
22 through the non-refundable capital contribution account. The contributions
23 received in respect of services in the Diesel Communities are separated into two
24 categories; one for generation and the other for distribution. These two
25 categories have different amortization periods which approximate the life of the
26 assets for which the contributions were made. Diesel generation is amortized
27 over 15 years, distribution over 30 years. The annual amortization of the
28 contribution offsets depreciation expense and an interest credit on the
29 unamortized balance reduces interest expense on plant investment.
30

31 The 2004 tentative settlement provides that future capital investment, after
32 consultation with the affected First Nation will be funded with an upfront
33 contribution before the required capital work proceeds. The share of new capital
34 costs to be recovered is tied to usage by the Diesel First Nation and its members
35 as a percentage of total usage in the community in which the investment is being
36 made. Other Government customers will also be requested to make contributions
37 relative to their proportionate share of usage.

1
2 The initial Contribution receivable from the Diesel First Nations (funded by
3 INAC) and all other Government customers, based on net plant in service as at
4 March 31, 2004, was \$22.7 million. The difference between this amount and the
5 total net plant in service as at March 31, 2004, \$28.8 million, is the contribution
6 by Manitoba Hydro on behalf of non-status Residential and General Service
7 customers. The largest portion of the Contribution Receivable - \$19.9 million
8 was funded by INAC. The remainder of the Contributions from other
9 Government customers has been made by paying the higher Non-Participant rate
10 (with or without installment payments) until such time that their obligation was
11 fully funded. At the time of the last application, the Non-Participant rate
12 approved by the PUB was calculated at \$2.35 per kW.h. Hence the difference
13 between the Non-Participant rate and the approved contribution paid rate was
14 accumulated and transferred out of general consumer revenue and into the
15 appropriate contribution account or $\$2.35 - \$1.38 = \$0.97$ per kW.h was
16 transferred to contributions. The only customer that was paying the higher, Non-
17 Participant rate at the time of the last Application has since fully paid its
18 contribution. To date all Government customers have fulfilled their contribution
19 obligation related to net plant in service at March 31, 2004 and currently pay the
20 approved rate of \$1.38 per kW.h. A complete schedule of contributions as
21 related to the agreement is provided in Schedule 12.

22
23 c) Depreciation Expense

24
25 Depreciation expense on diesel generation investment is determined on a site-by-
26 site basis. Projected depreciation expense is based upon in-service investment at
27 the end of the previous fiscal year (i.e., in-service investment at March 31, 2008
28 determines depreciation expense for fiscal year 2008/09).

29
30 Depreciation expense for distribution lines is based upon the corporate
31 depreciation rate(s) to the distribution line investment (separated by depreciable
32 asset) at each diesel community. Depreciation expense on DWO's is determined
33 by applying a composite depreciation rate of 4.8% to the gross investment in
34 these facilities assigned to the Diesel Communities. The depreciation expense for
35 buildings reflects that which is actually booked on a building-by-building basis.
36

1 d) Accumulated Depreciation

2
3 The Corporation has determined that diesel generators and fuel tanks, which
4 were in-service prior to fiscal year 1987/88, are fully depreciated. To recognize
5 this in the Prospective Diesel Cost of Service Study, accumulated depreciation
6 has first been assigned to equal the investment in these facilities and then
7 adjusted for salvage expense on in-service work orders. The assignment of
8 accumulated depreciation for the other depreciable assets within diesel
9 generation has been assigned proportional to the investment.

10
11 The assignment of accumulated depreciation to distribution line investment is
12 based upon an analysis of capital additions and retirements to the distribution
13 systems within the Diesel Communities. The analysis considers the effect that
14 depreciation expense (based on in-service date), historic retirement and net
15 salvage expense have on the accumulated depreciation balance. Accumulated
16 depreciation on DWO's is based on the summation of the annual depreciation
17 expense since its in-service date.

18
19 The assignment of accumulated depreciation to administrative buildings located
20 at the diesel sites has been based on the summation of the annual depreciation
21 expense taken on each building since its in-service date.

22
23 e) Interest Expense

24
25 Projected interest expense is based upon the average of the opening and closing
26 net investment positions for the fiscal year adjusted for new capital items which
27 have been added on an in-service date basis. Interest expense is also assessed on
28 projected average fuel and parts inventories maintained at the sites. The interest
29 rate applied to these items in the 2008/09 PDCOSS is 6.23%.

30

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

f) Capital Tax

Effective April 1, 1994 Manitoba Hydro is obligated to pay Corporate Capital Tax. For cost of service purposes, the Capital Tax is assigned based upon the net investment (gross investment less accumulated depreciation) at fiscal year end adjusted to include net deferred expenses. The capital tax rate applied to net investment for the study is 0.545%.

3. Operating Results

Overall costs in the Diesel Communities increased steadily over the three year period with 2006/07 being the lowest at \$11.7 million and the next two years approximately \$1.0 and \$1.5 million more – attributable primarily to variable cost increases. Variable costs consist of the following items: fuel costs, generation maintenance, major or minor overhauls, support maintenance and hazardous waste disposal costs.

Actual costs exceeded the forecast costs for fiscal year 2007 (upon which the PUB approved variable rate is based) by approximately \$1 million. This resulted in a variance between the forecast variable rate of 41.3¢ and the actual rate of 51.6¢. The variance to forecast was primarily the result of increased Generation maintenance, interest on fuel inventory and fuel haul costs. Generation maintenance is included, as well as non-emergency generator overhauls which vary from year to year depending on the maintenance schedule of each of the units. For example in 2007/08 \$497,000 was incurred while in 2008/09 the amount is \$310,000.

The largest variable cost is the cost of diesel fuel, for example, for the 2008/09 fiscal year fuel costs represent 62% of total variable cost. By contrast in the variable costs for the forecast in the 2006/07 fiscal year was only 44%. Forecasted fuel costs, which are included in the approved rate, were approximately 78.9¢ per litre, while the actual cost for 2007/08 was 106.1¢ per litre. The fuel cost forecast for 2008/09 and embedded in the proposed rates is 120¢ per litre. The statement of operations for three years (2006/07, 2007/08 actuals, and 2008/09 forecast) is shown in Schedule 8.

**SCHEDULE 1
MANITOBA HYDRO
PROPOSED DIESEL ZONE RATE SCHEDULE EFFECTIVE APRIL 1, 2009**

	Proposed Rate	Approved Rate	Change
Residential ¹			
Basic Monthly Charge	\$6.60	\$6.60	\$0.00
1st 900 kW.h/mo	6.080¢	6.080¢	0.00¢
Next 1,100 kW.h/mo	6.123¢	6.123¢	0.00¢
Balance of kW.h	68.370¢	41.270¢	27.10¢
General Service ²			
Basic Monthly Charge	\$16.50	\$16.50	\$0.00
1st 2,000 kW.h/mo	6.480¢	6.480¢	0.00¢
Balance of kW.h	68.370¢	41.270¢	27.10¢
Government (Settlement Participants) and First Nation Education Accounts ³			
Basic Monthly Charge	\$16.50	\$16.50	\$0.00
All kW.h	256.980¢	138.363¢	118.62¢

1) Residential rates apply to all residential services in the Diesel Communities, provided the service capacity does not exceed 60A, 120/240 V, single phase.

2) General Service rates apply to all commercial accounts as well to First Nation Community accounts except for Education Facilities.

3) Government rate applies to all Federal and Provincial Departments, Agencies, Crown Corporations accounts and First Nation Education accounts. Settlement participants as of September 1, 2004 include First Nation Education accounts.

**SCHEDULE 2
PROSPECTIVE DIESEL COST OF SERVICE STUDY
DERIVATION OF NET DEPRECIATION EXPENSE
FISCAL YEAR ENDING MARCH 31, 2009**

Community	Gross Investment 2009	Gross Inv. & Deferred Assets 2009	Depreciation Expense 2009	Total Depn Exp* 2009	Unamortized Contribution			Amortized Credit 2009	Net Depn Expense 2009				
					Balance 2009	Balance 2008	Average Balance 2008/2009						
GENERATION													
	Generation	Stock & General Equip	Deferred Assets	Generation	Stock & General Equip	Deferred Assets							
Brochet*	9,702,539	266,764	2,871,924	12,841,227	969,701	8,517	191,557	1,169,775	-	-	1,169,775		
Lac Brochet	8,086,607	233,799		8,320,406	607,964	7,464		615,428	-	-	615,428		
Shamattawa	15,352,082	315,451		15,667,534	1,527,225	10,071		1,537,296	-	-	1,537,296		
Tadoule Lake*	10,869,672	233,799	108,445	11,211,916	704,031	7,464	7,233	718,728	1,071,381	1,147,908	1,109,645	(76,257)	642,471
<i>GENERATION TOTALS</i>	<i>44,010,900</i>	<i>1,049,814</i>	<i>2,980,369</i>	<i>48,041,082</i>	<i>3,808,921</i>	<i>33,516</i>	<i>198,790</i>	<i>4,041,228</i>	<i>1,071,381</i>	<i>1,147,908</i>	<i>1,109,645</i>	<i>(76,257)</i>	<i>3,964,971</i>
* site with deferred costs										* - includes deferred amort expense			
DISTRIBUTION													
	Distribution	DWO	Buildings	Distribution	DWO	Buildings							
Brochet	1,475,335	188,429	81,885	1,745,650	65,530	6,674	1,482	73,687	127,510	128,369	127,940	(7,614)	66,073
Lac Brochet	466,177	129,323	179,586	775,087	20,838	5,464	3,054	29,356	101,681	108,588	105,135	(9,639)	19,717
Shamattawa	950,121	252,622	177,226	1,379,969	42,761	7,191	2,995	52,946	132,563	132,966	132,765	(9,460)	43,486
Tadoule Lake	478,174	136,308	183,780	798,262	21,623	6,122	3,106	30,851	111,783	115,059	113,421	(9,010)	21,841
<i>DISTRIBUTION TOTALS</i>	<i>3,369,808</i>	<i>706,683</i>	<i>622,477</i>	<i>4,698,968</i>	<i>150,752</i>	<i>25,451</i>	<i>10,637</i>	<i>186,840</i>	<i>473,537</i>	<i>484,982</i>	<i>479,260</i>	<i>(35,723)</i>	<i>151,117</i>
TOTAL													
Brochet	11,177,874	455,194	2,953,809	14,586,876	1,035,231	15,191	193,039	1,243,461	127,510	128,369	127,940	(7,614)	1,235,847
Lac Brochet	8,552,784	363,122	179,586	9,095,493	628,802	12,928	3,054	644,784	101,681	108,588	105,135	(9,639)	635,145
Shamattawa	16,302,204	568,073	177,226	17,047,503	1,569,986	17,262	2,995	1,590,243	132,563	132,966	132,765	(9,460)	1,580,783
Tadoule Lake	11,347,846	370,107	292,225	12,010,178	725,654	13,586	10,339	749,579	1,183,164	1,262,967	1,223,066	(85,267)	664,312
<i>TOTALS</i>	<i>47,380,708</i>	<i>1,756,497</i>	<i>3,602,846</i>	<i>52,740,051</i>	<i>3,959,674</i>	<i>58,967</i>	<i>209,427</i>	<i>4,228,067</i>	<i>1,544,918</i>	<i>1,632,890</i>	<i>1,588,904</i>	<i>(111,980)</i>	<i>4,116,087</i>

**SCHEDULE 3
PROSPECTIVE DIESEL COST OF SERVICE STUDY
DERIVATION OF INTEREST COSTS
FISCAL YEAR ENDING MARCH 31, 2009**

Community	Gross Inv. & Deferred Assets 2009	Accum Depn & Amort Deferred Exp 2009	Net Invest 2009	Net Invest 2008	Avg Invest (Domestic) 2008/09	Int Exp @ 6.230% 2009	Unamortized Contribution			Amortized Credit 2009	Interest on Inventory Fuel & Parts	Net Int. Expense 2009
							Balance 2009	Balance 2008	Average Balance 2008/2009			
<u>GENERATION</u>												
Brochet*	12,841,227	7,931,402	4,909,825	5,890,933	5,400,379	336,444	-	-	-	-	53,465	389,909
Lac Brochet	8,320,406	6,833,076	1,487,330	1,997,091	1,742,211	108,540	-	-	-	-	73,056	181,596
Shamattawa	15,667,534	9,110,009	6,557,525	7,599,797	7,078,661	441,001	-	-	-	-	97,910	538,911
Tadoule Lake*	11,211,916	6,346,981	4,864,935	3,547,127	4,206,031	262,036	1,071,381	1,147,908	1,109,645	(69,131)	50,629	243,534
GENERATION TOTALS	48,041,083	30,221,468	17,819,615	19,034,948	18,427,282	1,148,021	1,071,381	1,147,908	1,109,645	(69,131)	275,060	1,353,950
* site with deferred costs												
<u>DISTRIBUTION</u>												
Brochet	\$ 1,745,650	\$ 1,012,515	\$ 733,135	\$ 800,069	\$ 766,602	\$ 47,759	127,510	128,369	127,940	(7,971)		39,788
Lac Brochet	775,087	435,686	339,401	366,117	352,759	21,977	101,681	108,588	105,135	(6,550)		15,427
Shamattawa	1,379,969	574,425	805,544	849,437	827,491	51,553	132,563	132,966	132,765	(8,271)		43,282
Tadoule Lake	798,262	462,129	336,133	361,250	348,692	21,723	111,783	115,059	113,421	(7,066)		14,657
DISTRIBUTION TOTALS	4,698,968	2,484,755	2,214,213	2,376,873	2,295,543	143,012	473,537	484,982	479,260	(29,858)	-	113,154
<u>TOTAL</u>												
Brochet	14,586,877	8,943,917	5,642,960	6,691,002	6,166,981	384,203	127,510	128,369	127,940	(7,971)	53,465	429,697
Lac Brochet	9,095,493	7,268,762	1,826,731	2,363,208	2,094,970	130,517	101,681	108,588	105,135	(6,550)	73,056	197,023
Shamattawa	17,047,503	9,684,434	7,363,069	8,449,234	7,906,152	492,554	132,563	132,966	132,765	(8,271)	97,910	582,193
Tadoule Lake	12,010,178	6,809,110	5,201,068	3,908,377	4,554,723	283,759	1,183,164	1,262,967	1,223,066	(76,197)	50,629	258,191
TOTALS	52,740,051	32,706,223	20,033,828	21,411,821	20,722,825	1,291,033	1,544,918	1,632,890	1,588,904	(98,989)	275,060	1,467,104

**SCHEDULE 4
ACTUAL DIESEL COST OF SERVICE STUDY
CALCULATION OF FULL COST RATE
FOR FISCAL YEAR ENDING MARCH 31, 2007**

Community	kW.h Consumption	FIXED COSTS						VARIABLE COSTS			TOTAL COST (¢/kW.h)				
		Net Interest Expense	Depreciation Expense	Amort of Contribs	Oper Costs Distrib	Capital Tax	Total Fixed	Int on Fuel Inventory	Oper Costs Generation	Total Var. Costs	COST				
											Fixed	Variable	Total		
Enhanced Supply															
1 Brochet	2,727,712	\$ 606,561	\$ 1,002,098	\$ (7,674)	\$ 119,561	\$ 38,251	\$ 1,758,797	\$ 36,910	\$ 1,751,128	\$ 1,788,038	64.5	65.6	130.0		
2 Lac Brochet	3,210,766	220,925	542,897	(9,215)	122,908	12,763	890,278	42,884	1,033,966	1,076,850	27.7	33.5	61.3		
3 Shamattawa	4,008,858	791,178	1,258,731	(10,867)	134,493	49,930	2,223,465	65,478	1,722,330	1,787,808	55.5	44.6	100.1		
4 Tadoule Lake	2,127,651	337,383	756,217	(8,719)	104,086	22,216	1,211,183	30,305	957,628	987,933	56.9	46.4	103.4		
5 Total Cost	12,074,987	1,956,047	3,559,943	(36,475)	481,048	123,160	6,083,723	175,577	5,465,052	5,640,629	50.4	46.7	97.1		

**ACTUAL DIESEL COST OF SERVICE STUDY
CALCULATION OF FULL COST RATE
FOR FISCAL YEAR ENDING MARCH 31, 2008**

Community	kW.h Consumption	FIXED COSTS						VARIABLE COSTS			TOTAL COST (¢/kW.h)				
		Net Interest Expense	Depreciation Expense	Amort of Contribs	Oper Costs Distrib	Capital Tax	Total Fixed	Int on Fuel Inventory	Oper Costs Generation	Total Var. Costs	COST				
											Fixed	Variable	Total		
Enhanced Supply															
1 Brochet	2,563,762	\$ 467,709	\$ 1,229,006	\$ (7,674)	\$ 88,912	\$ 35,747	\$ 1,813,700	\$ 48,359	\$ 1,169,656	\$ 1,218,015	70.7	47.5	118.3		
2 Lac Brochet	3,040,165	164,491	694,775	(9,639)	135,345	12,281	997,253	53,309	2,069,772	2,123,081	32.8	69.8	102.6		
3 Shamattawa	4,178,084	598,483	1,578,174	(9,148)	114,305	45,299	2,327,113	92,614	1,732,060	1,824,674	55.7	43.7	99.4		
4 Tadoule Lake	2,132,226	215,660	876,617	(8,915)	121,284	14,410	1,219,056	38,598	1,357,035	1,395,633	57.2	65.5	122.6		
5 Total Cost	11,914,237	1,446,343	4,378,572	(35,376)	459,846	107,737	6,357,122	232,879	6,328,523	6,561,402	53.4	55.1	108.4		

**PROSPECTIVE DIESEL COST OF SERVICE STUDY
CALCULATION OF FULL COST RATE (WITH ACCEPTANCE OF NEGOTIATED SETTLEMENT)
FISCAL YEAR ENDING MARCH 31, 2009**

Community	kW.h Consumption	FIXED COSTS						VARIABLE COSTS			TOTAL COST (¢/kW.h)				
		Int. Expense on Facilities	Depn Expense	Amort of Contribs	Oper Costs Distrib*	Capital Tax	Total Fixed	Int on Fuel Inventory	Oper Costs Generation	Total Var. Costs	UNIT COST				
											Fixed	Variable	Total		
Enhanced Supply															
1 Brochet	2,648,723	\$ 376,232	\$ 1,243,462	\$ (7,614)	\$ 90,152	\$ 30,043	\$ 1,732,275	\$ 53,465	\$ 1,551,413	\$ 1,604,878	65.4	60.6	126.0		
2 Lac Brochet	3,134,853	123,967	644,784	(9,639)	139,081	9,396	907,589	73,056	1,876,200	1,949,256	29.0	62.2	91.1		
3 Shamattawa	4,345,820	484,283	1,590,242	(9,460)	128,520	39,385	2,232,970	97,910	2,146,281	2,244,191	51.4	51.6	103.0		
4 Tadoule Lake	2,230,604	207,562	749,579	(85,267)	114,636	21,885	1,008,395	50,629	1,478,948	1,529,577	45.2	68.6	113.8		
5 Total Cost	12,360,000	1,192,044	4,228,067	(111,980)	472,389	100,709	5,881,229	275,060	7,052,842	7,327,902	47.6	59.3	106.9		

* Distribution Operating costs shown as fixed cost in traditional DCOS - annual cost added to variable cost for cost recovery.

Distrib Oper	\$ 472,389
Amortization of Accumulated Deficit	\$ 650,165
Total Variable Cost	\$ 8,450,456
Total kW.h	12,360,000
Variable Participant Rate	<u>68.37</u>

**SCHEDULE 5
PROSPECTIVE DIESEL COST OF SERVICE STUDY
CALCULATION OF RESIDENTIAL REVENUE REQUIREMENT
AND REVENUE COST COVERAGE
FISCAL YEAR ENDING MARCH 31, 2009**

	<u>Residential</u>
Total Forecast (kW.h)	7,170,000
Full Cost Rate	<u>\$0.6837</u>
Revenue Requirement	\$4,902,129
Reduction for RCC = 82%	<u>(\$882,383)</u>
Net Revenue Requirement	\$4,019,746
Residential Revenue	<u>(\$632,533)</u>
Unrecovered Revenue Requirement	<u><u>\$3,387,213</u></u>
Residential Revenue	\$632,533
Revenue Requirement	<u>\$4,902,129</u>
Revenue Cost Coverage	<u><u>12.9%</u></u>

Block Rates as Follows:

Basic Monthly Charge	6.60 \$/month	x	6,484	=	42,794
First 900 kW.h/month	6.080 ¢/kW.h	x	4,915,927	=	298,888
Next 1,100 kW.h/month	6.123 ¢/kW.h	x	2,008,546	=	122,983
Balance of kW.h/month	68.370 ¢/kW.h	x	245,527	=	<u>167,867</u>
Revenue					<u><u>632,533</u></u>

**SCHEDULE 6
PROSPECTIVE DIESEL COST OF SERVICE STUDY
CALCULATION OF GENERAL SERVICE AND FIRST NATION COMMUNITY
ACCOUNTS REVENUE REQUIREMENT AND REVENUE COST COVERAGE
FISCAL YEAR ENDING MARCH 31, 2009**

	<u>General Service</u>
Total Forecast (kW.h)	3,114,600
Full Cost Rate	<u>\$0.6837</u>
Revenue Requirement	\$2,129,452
Reduction for RCC = 89%	<u>(\$234,240)</u>
Net Revenue Requirement	\$1,895,212
Revenue from Class	<u>(\$1,354,456)</u>
Unrecovered Revenue Requirement	<u>\$540,756</u>
Total Revenue	\$1,354,456
Revenue Requirement	<u>\$2,129,452</u>
Revenue Cost Coverage	<u>63.6%</u>

Block Rates as Follows (General Service):

Basic Monthly Charge	16.50 \$/month	x	1,332	=	21,978
First 2,000 kW.h/month	6.480 ¢/kW.h	x	1,287,727	=	83,445
Balance of kW.h/month	68.370 ¢/kW.h	x	1,826,874	=	<u>1,249,034</u>
Revenue					<u>1,354,456</u>

**SCHEDULE 7
PROSPECTIVE DIESEL COST OF SERVICE STUDY
CALCULATION OF GOVERNMENT SETTLEMENT PARTICIPANT
AND NON-PARTICIPANT RATES
FISCAL YEAR ENDING MARCH 31, 2009**

	Government
Unrecovered Residential Revenue Requirement	\$3,387,213
Unrecovered General Service Revenue Requirement	\$540,756
Government Basic Charge	(\$13,464)
Amount to Recover in Government Premium	\$3,914,505
Total Energy (kW.h) ¹	2,075,400
Calculated Government Premium	\$1.8861

Participant Rate:

Full Cost Rate	0.6837
Calculated Government Premium	1.8861
Government Settlement Participant Rate	\$2.5698

Non-Participant Rate:

Full Cost Rate	1.0687
Calculated Government Premium	2.9070
Government Settlement Non-Participant Rate	\$3.9757

1) Forecast total energy sales to all Federal and Provincial Departments, Agencies, Crown Corporations accounts and First Nation Education accounts.

**SCHEDULE 8
PROSPECTIVE DIESEL COST OF SERVICE STUDY
CALCULATION OF CUSTOMER CLASS REVENUE
FISCAL YEAR ENDING MARCH 31, 2009**

Class Revenue @ Proposed Rates

<i>Fiscal Yr 2009</i>	Block 1 kW.h	Block 2 kW.h	Run Off kW.h	Total kW.h	Bills	Revenue	Avg Use	Block 1	Rate	Block 2	Rate	Run Off Rate	Basic Chg
Residential													
2009	4,915,927	2,008,546	245,527	7,170,000	6,484	\$632,533	1,106	900	0.0608	2,000	0.0612	0.6837	\$ 6.60
General Service													
2009	833,460	454,267	1,826,874	3,114,600	1,332	\$1,354,452	2,339	2,000	0.0648			0.6837	\$ 16.50
Federal Government													
2009			1,726,350	1,726,350	537	\$4,445,235	3,215					2.5698	\$ 16.50
Provincial Government													
2009			349,050	349,050	279	\$901,592	1,251					2.5698	\$ 16.50
				12,359,999	8,632		7,333,812						
						Full Cost	\$7,333,909						
						Surplus/(Deficit)	(\$97)						

**SCHEDULE 9
DIESEL COST OF SERVICE STUDY
CONSOLIDATED STATEMENT OF OPERATIONS
For Three Fiscal Years Ending March 31, 2009**

	2007 Actual	2008 Actual	2009 Proposed
Revenue-Consumption	3,988,166	4,405,339	7,333,812
Less: Contribution Recovered thru Rate	(420)	(869)	(102)
Total Revenue	3,987,746	4,404,470	7,333,710
Direct Costs:			
Generation Mtce	1,543,564	1,529,332	1,755,460
Fuel Hauling	3,507,251	4,179,361	4,841,810
Major/Minor Overhaul	250,294	497,097	309,205
Generation Support Stand by	43,134	24,207	54,096
Soil Remediation Costs	120,809	98,525	92,272
Dist Facility Mtce	110,139	106,417	106,603
Distribution Mtce	160,755	119,648	130,801
Customer Service	146,739	194,882	173,131
Consumer Support	63,415	38,900	61,854
Total Direct Costs	5,946,100	6,788,369	7,525,232
Total Region Direct Costs	5,946,100	6,788,369	7,525,232
Capital Tax	123,160	107,737	100,709
Depreciation	3,523,468	4,343,196	4,116,087
Interest	2,131,624	1,679,222	1,467,104
Total Cost	11,724,352	12,918,524	13,209,132
Surplus (Deficit) on Total Cost	(7,736,606)	(8,514,054)	(5,875,422)
Surplus (Deficit) on Variable Cost	(1,958,354)	(2,383,899)	(191,522)
Statistics:			
kW.h Consumption	12,074,987	11,914,237	12,359,999
Revenue Per kW.h	0.33	0.37	0.59
Cost Per kW.h	0.971	1.084	1.069
Revenue Cost Coverage	34%	34%	56%

**SCHEDULE 10
PROSPECTIVE DIESEL COST OF SERVICE STUDY
ACCUMULATED DEFICIT FORECAST TO MARCH 31, 2009**

Fiscal Year	Required Revenue	Received Revenue from Gov't			(Surplus)/ Deficit
		kW.h	Rate / kW.h	Revenue	
Accumulated Balance Carried Forward from 1999/00					\$ 2,433,388
2000/01	\$3,312,683	2,440,870	\$0.448	1,093,510	\$5,318,130
Full Cost Rate Variance	\$665,569				
2001/02	\$3,187,695	2,619,360	\$0.448	1,173,473	\$8,003,714
Full Cost Rate Variance	\$671,362				
2002/03	\$4,510,756	2,554,992	\$0.448	1,144,636	\$12,283,473
Full Cost Rate Variance	\$913,640				
2003/04	\$4,805,643	2,805,553	\$0.448	1,256,888	\$16,934,901
Full Cost Rate Variance	\$1,102,672				
Total	<u>\$58,780,735</u>			<u>\$41,845,834</u>	
Shortfall/(Surplus) negotiated in Settlement					<u>16,934,901</u>
2004/05	\$1,184,626	2,251,712	\$0.692	\$1,558,860	(\$366,280)
Full Cost Rate Variance	\$7,954				
2005/06	\$2,268,521	2,228,290	\$0.692	\$1,542,645	\$517,804
Full Cost Rate Variance	\$158,209				
2006/07	\$2,827,800	2,399,101	\$0.971	\$2,329,359	\$1,313,973
Full Cost Rate Variance	\$297,728				
2007/08	\$3,653,116	2,222,478	\$0.971	\$2,157,871	\$3,250,825
Full Cost Rate Variance	\$441,606				
2008/09 Forecast	\$3,914,509	2,075,400	\$1.886	\$3,914,412	\$3,813,355
Full Cost Rate Variance	\$562,433				

5 Year Amort
\$650,165

SCHEDULE 11
PROSPECTIVE DIESEL COST of SERVICE STUDY
ANALYSIS OF ADDITIONAL CAPITAL EXPENDITURES by YEAR
FROM APRIL 1, 2004 TO MARCH 31, 2009

Community

	Cumulative to		Forecast	Total
	2006/07	2007/08	2008/09	
Brochet	2,940,821	410,137	188,668	3,539,627
Lac Brochet	31,659	497,910	105,668	635,237
Shamattawa	71,870	332,945	495,024	899,839
Tadoule Lake	2,287,872	410,836	2,036,536	4,735,244
	5,332,222	1,651,828	2,825,896	9,809,946
Tadoule Genset Contribution		(1,147,908)		(1,147,908)
Addn Depn Exp	621,980	165,183	282,590	1,069,752
Addn Interest Exp	401,722	102,909	176,053	680,684
	1,023,702	268,092	458,643	1,750,437
kWh Consumption	n/a	11,914,237	12,360,000	12,360,000
Capital Additions				
Unrecovered in Rate	0.0868	0.0225	0.0371	0.1416

Note - Capital additions for year incurred only - depreciation and interest would be similar in subsequent period

**SCHEDULE 12
PROSPECTIVE DIESEL COST OF SERVICE STUDY
ANALYSIS OF CAPITAL CONTRIBUTION FOR SETTLEMENT AGREEMENT
FROM MARCH 31, 2004 to MARCH 31, 2009**

Customer	Total Contrib @ Mar 31, 04	Contribution Paid by Fiscal Year				Balance Outstanding
		2004/05	2005/06	2006/07	2007/08	
Environment Canada Diesel Cont 04/05		(996)				
Environment Canada Diesel Cont 05/06			(801)			
Environment Canada Diesel Cont 06/07				(420)	(868)	(83)
Environment Canada Diesel Contrib Due	(3,168)					-
Health Canada Diesel Contribution 0405	-	(499,457)				
Health Canada Diesel Contribution 05/06	-		(544,185)	(77,362)		
Health Canda Diesel Contribution Due	(1,121,004)					-
RCMP Diesel Contribution	(670,805)	(670,805)				-
Brochet Comm. Coun. Diesel Cont 04/05		(47,114)				
Brochet Comm. Coun. Diesel Cont 05/06				(16,304)		
Brochet Comm. Coun. Diesel Cont Due	(63,417)					1
Frontier School Div. Diesel Cont 04/05		(305,969)				
Frontier School Div. Diesel Cont 05/06			(285,204)			
Frontier School Div. Diesel Cont Due	(591,174)					(1)
Mb Highways Diesel Contribution 04/05	-	(203,641)				
Mb Highways Diesel Contribution 05/06	-		(166,552)			
Mb Highways Diesel Contribution Due	(370,193)					-
INAC Diesel Contribution						19,871,870
Total	(22,691,631)	(1,727,981)	(1,013,046)			19,871,870