

CENTRA GAS MANITOBA INC.
2019/20 GENERAL RATE APPLICATION

LEAD-LAG ANALYSIS

This attachment describes the Lead-Lag Analysis that was conducted based on data from 2017/18, the results of which have been used to calculate the cash working capital requirements for 2018/19 and 2019/20. The last Lead-Lag Study was prepared in 2005 for Centra's 2005/06 & 2006/07 General Rate Application based on data from 2003/04.

A Lead-Lag Analysis is the approved methodology used to calculate a reasonable estimate of the cash requirement component of working capital for regulatory purposes. The comprehensive lead-lag methodology involves an analysis of Centra's revenue lag and the various payment leads that make up the revenue requirement. Once the revenue lag and the payment leads (expressed as a number of days) are determined, they are multiplied by the appropriate average daily revenues and payments. The net of the allowance for the lag and the various leads is then added to Rate Base as a financing requirement.

Centra's original Lead-Lag Analysis was prepared in 1991 and approved by the PUB. The current Lead-Lag Analysis has been prepared on a basis similar to previous Centra filings, with the calculations updated for changes in collection and payment patterns as appropriate.

As the underlying calculations of the analysis require a full 12 months of actual data, the 2019/20 Test Year lead and lag days were determined using the 12-month period April 1, 2017 to March 31, 2018.

1 **1.0 SUMMARY OF LEAD-LAG RESULTS**

2 The following table summarizes the number of days for the revenue lag and
3 payment leads calculated from the Lead-Lag Analysis:

4

Summary (In Days)	2019/20 GRA
Total Revenue Lag	47.7
Cost of Gas Lead	(38.7)
Operating & Administrative Expense Lead	(15.2)
Other Expenses Lead	(15.2)
Capital & Other Taxes Lead	(36.2)
Payroll Tax Lead	(15.2)
Financing Lead – Long-Term Debt	(91.3)
Financing Lead – Short-Term Debt	(16.6)
Corporate Allocation Lead	(15.2)
Non-Cost of Service Tax Collections Lag	(5.0)

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6 **2.0 REVENUE LAG**

7 Revenue lags are calculated for Non-Complex Accounts, which include customers
8 billed through Banner (Centra’s customer information system), and Complex
9 Accounts), which includes larger volume and special contract customers billed
10 through the Power Billing System. These revenue lags are then weighted together
11 based on the relative total revenues for 2017/18 to determine the overall revenue
12 lag. Each revenue lag consists of meter reading, billing, and collection lags. The
13 overall weighted revenue lag is 47.7 days for the 2019/20 Test Year, which
14 represents a decrease of 0.1 days relative to the 2005 study.

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16 The weightings for Non-Complex to Complex Accounts were 89% and 11%,
17 respectively based on 2017/18 data used for the 2019/20 GRA Lead Lag Study. For
18 the 2005 study, the weightings for Non-Complex to Complex Accounts were 86%
19 and 14%, respectively.

1 **2.1 Non-Complex Meter Reading and Billing Lags**

2 The meter reading lag is calculated as the number of days between the mid-point of
3 service to the day that the customer’s meter is read. The billing lag represents the
4 number of days from the meter reading date to the billing date. The meter reading
5 lag is 15.2 days and the billing lag is 3.2 days, which are unchanged from 2005 study.
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7 **2.2 Non-Complex Collection Lag**

8 The collection lag is the number of days from the billing date to the date payment
9 was received from the customer. Consistent with previous filings, Centra has
10 calculated the Non-Complex collection lag using the accounts receivable turnover
11 approach. Under this approach, the average daily accounts receivable balance is
12 divided by the amount of average daily payments. This approach effectively
13 measures the lag for all customers since the payment patterns of all customers are
14 reflected in the average daily accounts receivable balance. This includes customers
15 that are on Centra’s Equal Payment Plan (“EPP”) as well as those that are not on the
16 EPP.
17

18 For the 2019/20 Test Year, the Non-Complex collection lag was calculated at 30.7
19 days, a decrease of 0.8 days relative to the collection lag from the 2005 study of
20 31.5.
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22 Consistent with past filings, an adjustment is made to the Non-Complex collection
23 lag to reflect the different forms of payment available to customers. This adjustment
24 represents the deposit lag/lead between when Centra receives payments from
25 customers and when Centra processes payments to accounts receivable. As a result
26 of this adjustment, there was a minor change in the collection lag of 0.7 days, and as
27 a result, the adjusted Non-Complex collection lag for the 2019/20 Test year is 31.4
28 days, a decrease of 0.6 days relative to the 2005 study.
29

30 The updated total Non-Complex Revenue lag is 49.8 (meter reading lag of 15.2 days
31 plus billing lag of 3.2 days plus the collection lag of 31.4 days).

1 **2.3 Complex Accounts Revenue Lag**

2 The revenue lag related to larger volume customers is 30.8 days, which is a decrease
3 of 1.1 days relative to the 2005 study.

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5 **3.0 COST OF GAS EXPENSE LEAD**

6 The purchased gas expense lead for the 2019/20 Test Year is calculated at 38.7 days,
7 a decrease of 0.5 days relative to the 2005 study. There have been no changes to
8 the contractual payment terms with short term and long term gas supply purchases.

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10 **4.0 OPERATING & ADMINISTRATIVE EXPENSE LEAD**

11 All operating costs are paid for by Manitoba Hydro, as the parent company, and then
12 allocated to the gas or electric operations using an automated month-end expense
13 allocation. Centra incurs operating & administrative expenses at various times
14 throughout the month but is assessed by Manitoba Hydro for the costs of these
15 goods and services once at month-end. As such, the lead days associated with all
16 operating expenses incurred by Centra is determined by considering the number of
17 days between the mid-point of service and the date the charges are assessed, which
18 is at month-end. Therefore, the lead is 15.2 days, which is unchanged from the 2005
19 study.

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21 **5.0 OTHER EXPENSES LEAD**

22 This is a new category of expenses in the 2019/20 GRA as discussed in Section 6.2.8
23 of Tab 6 of the Application. The assumptions used to determine the other expenses
24 lead are the same as those outlined for operating & administrative costs in Section
25 4.0.

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27 **6.0 CAPITAL & OTHER TAXES LEAD**

28 The updated Capital and Other Taxes lead, which includes property taxes, is 36.2
29 days, an increase of 18.5 days relative to the 2005 study. This increase is primarily
30 related to the Property Tax Lead and is the result of a higher proportion of property
31 tax payments being made later in the year relative to the last study.

32 As payroll taxes are paid by Manitoba Hydro and charged to Centra on a monthly
33 basis, the lead with respect to payroll taxes is 15.2 days (the mid-point of service and
34 the date the charges are assessed).

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7.0 FINANCING EXPENSE LEAD

The long-term debt component of the financing expense lead is based on interest paid by Centra on the inter-company loans issued by Manitoba Hydro. The finance expense lead is calculated as the number of days from the midpoint of service to the date the payment is charged to Centra.

Interest has been assessed to Centra semi-annually, in accordance with the interest dates of the loans. The long-term debt lead is 91.3 days, unchanged from the 2005 study.

The short-term debt lead is calculated based on interest charges associated with Centra’s operating line of credit from Manitoba Hydro. Manitoba Hydro determines the amount of interest to be charged to Centra based on the activity in the operating line of credit each month, and assesses these charges the following month. The short-term debt component of the financing expense lead is calculated as the number of days from the mid-point of service to the date Centra is charged interest on its operating line of credit the following month.

Centra is assessed interest on its short-term debt financing on the first business day of the following month, which is the same day Manitoba Hydro pays the interest charges to the lender. For the 2019/20 Test Year, the updated short-term finance expense lead is 16.6 days, a decrease of 0.1 days relative to the 2005 study.

8.0 CORPORATE ALLOCATION LEAD

The corporate allocation is assessed from Manitoba Hydro to Centra on a monthly basis. Consistent with the operating & administrative expense, the corporate allocation lead days are determined by considering the number of days between the mid-point of service and the date the charges are assessed. Therefore, the lead is 15.2 days, which is unchanged from the 2005 study.

9.0 NON-COST OF SERVICE TAX COLLECTIONS LEAD/LAG

This component of the cash requirement of working capital is a combination of a tax collection lead and a GST refund lag. The lead is calculated as the number of days between when Centra receives tax collections for the City of Winnipeg tax, Provincial

1 tax, and GST from customers to when these collections are remitted to the various
2 government departments. The lag is calculated as the number of days between
3 when Centra pays GST on gas costs to when it receives the refunds from the
4 government (GST refund lag).

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6 The updated non-cost of service tax collection has changed from a lag of 1 day to a
7 lead of 5.0 days, which is a change of 6 days relative to the 2005 study. This change
8 is the result of the combination of changes in weightings among the tax collection
9 leads and a GST refund lag resulting from changes in PST and GST tax rates and
10 lower natural gas costs relative to 2005, updates to collection lags for City of
11 Winnipeg tax, Provincial tax, and GST, as well as the use a mid-point of service of
12 15.2 days (versus 30.2 included in previous studies) for the GST-Cost of Gas Lag.