WORKING CASH STUDY

for

TEST YEAR 2016

February 2016

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WORKING CASH ANALYSIS

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WORKING CASH ANALYSIS

1. SUMMARY

This study estimates Gazifere's working cash requirement for 2016.

The approach used in this analysis is consistent with the Régie's findings in the 2005 Rate Case (R-3557-2004, D-2005-58). The actual lag days approved in the 2014 Regulatory Closing of the Books were reviewed and used as the benchmark in determining lag days for revenues, gas costs, O&M expenses and taxes in the Test Year.

The net lag days, revenue lags minus expense lags, were then applied to the forecasted level of 2016 expenses to determine the overall working cash requirement for the Test Year.

The estimated working cash requirement for 2016 is $608.2 thousand, as outlined in Exhibit GI-32, Document 2. This amount includes the impact of the Goods and Services Tax ("GST"), Québec Sales Tax ("QST"), and Uncollectibles.

For comparison, the working cash levels approved for the last five years are listed below:

Test Year	Working Cash (in '000s)
2015	$816.0
2014	$980.1
2013	$881.4
2012	$1,054.7
2011	$875.5

Figure 1 compares the lag days that give rise to the change in working cash requirement from 2015.

Figure 1

LAG DAYS

	Col. 1 2015	Col. 2 2016 - DECISION
Revenues	41.2	40.3
Gas Costs	35.0	35.1
O&M	26.4	26.7
Taxes	(96.2)	(105.3)
Income Taxes	15.2	15.2

2. WORKING CASH AS A COST OF SERVICE

Working cash is a component of the working capital. It is used by the Company to pay for provision of goods and services prior to the receipt of revenues from customers.

In Québec, original cost rate base is employed for rate making purposes. The original cost rate base represents the amount of investor-supplied capital which has been invested in property plant and equipment that is used or useful in rendering utility service. A component of that rate base is the working capital.

3. THEORETICAL APPROACH TO THE ANALYSIS

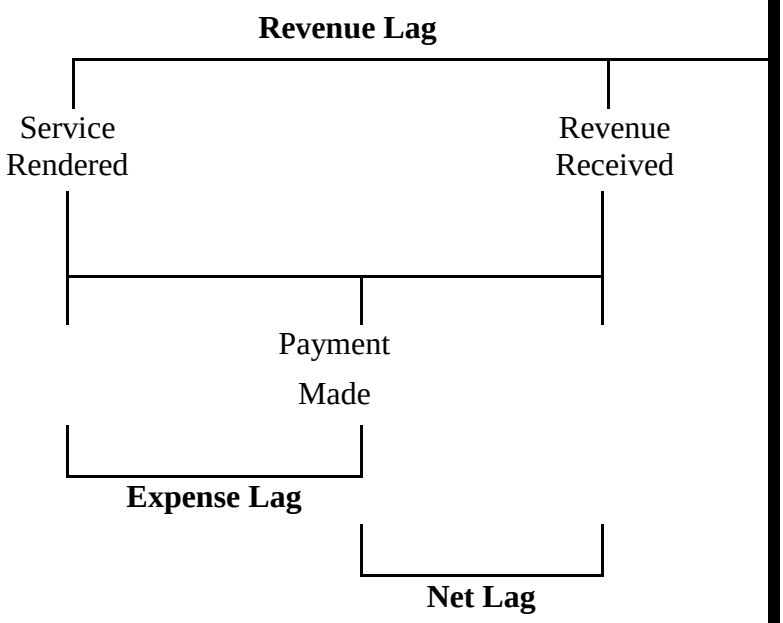
In most utility operations, sales are made to customers on credit terms. Service is received by a customer prior to being billed for the service. Thus, a utility incurs the cost of providing service in advance of the receipt of payment. On the other hand, a utility is often provided certain services on credit terms, which provides operating funds to the business. Working cash is the difference between funds required and funds available.

WORKING CASH ANALYSIS

Figure 2 illustrates working cash requirement by use of a time line drawing. In this figure, the revenue lag, expense lag, and net lag are compared. Both the revenue lag and expense lag are measured from the time a service is rendered.

Figure 2

COMPARISON OF LAG DAYS

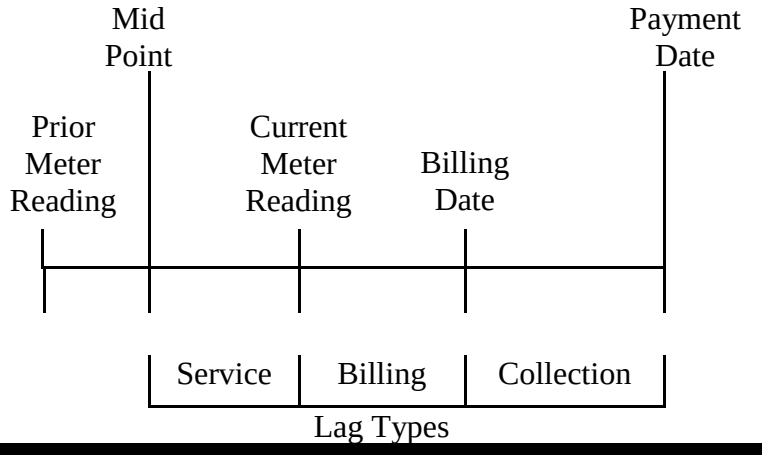


Services rendered could include installation of a service line and meter, which is a one day event, or delivery of gas, which is measured over a period of time, typically one month. As seen in the figure, the revenue lag ends when payment is made to the Company, and the expense lag ends when the Company makes payment for the provision of service. The net lag is the difference between these two lags, and is the period for which working cash is required. Illustrated is a positive lag, indicating that the working cash is provided by the suppliers of capital. A negative lag could also occur, where services, such as consulting fees are paid after revenues are received.

Figure 3 illustrates the components of the revenue lag. This figure uses time lines to illustrate some important dates:

Figure 3

TIME LINES FOR THE REVENUE LAG



Meter reading: On this date two important events occur. The past service period ends and the new service period begins. The differences between the prior read and the current read measures the volumes delivered over that time period.

Billing date: This is the date the bill is posted as a receivable and sent to the customer.

Payment date: This is the date that the payment is credited to the customer's account.

The service period is defined as the period between the prior meter reading and the current meter reading. This is, on average, $1/12^{th}$ of a year. The *service lag* is measured from the mid-point of the service period to the reading date. The time from the meter reading to the billing date is called the *billing lag* and can be measured from Company records. The time from the billing date until the payment date is also measurable and is called the *collection lag*. The total *revenue lag* is from the mid-point of the service period to the payment date.

The expense lag, on the other hand, is determined by examining the Company's cheque vouchers for different expense components, and determining the expense lag by references to the date a service was provided to the Company, and the date that service was settled by payment. The difference in dates is the expense lag.

The development of the lags accounts for the different levels of expenses and revenues that occur in a fiscal year. As a result, the working cash represents the expected average annual level of funds required for a particular year as well as reflecting the time value of money.

Therefore, in estimating the respective lags, dollar weighted days are used. This recognizes that simple interest on one dollar for two days is the same as on two dollars for one day.

In the final step, the analysis nets all expense lags with revenue lags to determine the overall working cash requirement. It does so by analyzing Company records for one year, usually the most recent fiscal year, and adjusts, where necessary, to take into account any expected changes that might increase or decrease a particular lag.

4. ANALYSIS

4.1 REVENUE LAG

The revenue lag is calculated by analyzing the three lags illustrated in Figure 3; the service lag, the billing lag, and the collection lag.

The service lag is a simple mathematical expression;

$$365 \div 12 \div 2 = 15.2 \text{ days.}$$

The service lag is measured from the midpoint of the service period to the meter reading date. This is, on average, $1/24^{th}$ of a year, or 15.2 days. The time from the meter reading to the billing date represents the billing lag, while the time lag from the billing date until payments are received from customers corresponds to the collection lag. The billing lag is derived from the extraction of data

from the billing system. The collection lag is determined by dividing the sum of the daily accounts receivable for the year by the sum of the daily total billings for the same period.

Figure 4

REVENUE LAG
2014
(Lag Days)

Item No.		Col. 1 General Service	Col. 2 Large Volume	Col. 3 Total
1.	Service Lag	15.2	15.2	15.2
2.	Billing Lag	2.0	5.6	2.6
3.	Collection Lag	23.0	19.5	22.5
4.	Total Lag	40.3	40.3	40.3

Figure 4 provides lag day analysis results.

4.2 EXPENSE LAG

Considering the number of transactions under the expense category, not all transactions can be analyzed for lag days. For the most significant cost items, the entire population of transactions is analyzed for lag days while random sampling is used for the other remaining costs. The expense categories that had all transactions analyzed for lag days included:

- Gas supply expenses,
- Labour expenses, and
- Labour related expenses.

The remainder of the expenses were treated as one item and analyzed using a random sample of expense vouchers.

FIGURE 5

GAZIFERE INC.
COMPUTATION OF DISBURSEMENT LAG
GAS COSTS AND O&M EXPENSE
FISCAL 2016

Item No.		Col. 1 Forecasted Costs ($000)	Col. 2 Disbursement Lag Days	Col. 3 Weighted Dollar Days ($000)	Col. 4 Reference
	GAS PURCHASE COSTS				
1.	Total Gas Purchase Costs	33,516.5	35.1	1,176,428.5	Appendix A1
	OPERATING AND MAINTENANCE EXPENSE				
2.1	Labour	5,970.3	14.5	86,399.9	Appendix B1
	EMPLOYEE BENEFITS				
2.2.1	Unemployment Insurance	88.5	16.4	1,451.7	Appendix C1
2.2.2	Québec Pension	254.3	16.4	4,165.6	Appendix C2
2.2.3	Workmen's Compensation	33.6	16.5	554.0	Appendix C3
2.2.4	Québec Health Insurance	339.7	16.7	5,676.0	Appendix C4
2.2.5	Québec Parental Insurance Plan	49.1	16.5	812.0	
2.3	Insurance	258.3	(59.4)	(15,335.9)	Appendix D1
2.4	Voucher Analysis	5,570.2	45.3	252,321.7	
2.	**TOTAL OPERATING AND MAINTENANCE EXPENSE**	12,563.9	26.7 a/	336,045.0	

a/ Total Column 3 divided by Total Column 1.

4.2.1 GAS COSTS

The gas supply expense lag was determined by individual voucher analysis of actual 2014 Rate 200 transactions. The lag days were then applied to 2016 gas cost transactions. The calculated gas cost lag of 35.1 days reflects the anticipated 2016 gas cost lag day. The result is also reasonable when compared with gas cost lag days over the past few years. The gas cost lag day was equal to 34.8 days in 2014 and 35.0 days in 2015. The dollar weighted lag for gas costs is developed in Appendix A1.

4.2.2 O&M EXPENSES

The O&M costs were grouped into a number of categories due to either their similarities or levels of cost. These categories are labour, labour related, insurance and voucher analysis expenses. O&M expense lag days were updated in the 2013 closing of the books, and applied to budgeted 2016 O&M expenses.

A voucher analysis of actual 2013 transactions was performed and a dollar-weighted lag was developed for the following expense accounts:

- Labour,
- Unemployment insurance,
- Québec pension,
- Worker's compensation,
- Group insurance,
- Québec health insurance,
- Health insurance,
- Dental insurance,
- Pension plan,
- Savings plan,
- Long-term disability
- Insurance, and
- Québec Parental Insurance Plan

The results can be seen in Appendix B1 through D1.

4.3 TAXES

A voucher analysis of actual 2014 transactions was undertaken for the municipal taxes, capital tax, the Régie dues, and fees to the Province of Québec. The analysis showed that an early payment of municipal taxes was made on February 18, 2014, 133.5 days from the midpoint of the year (as seen in Item 1.1, Column 2, of Figure 6). Similarly, the Disbursement Lag Day of (18.2) days for Régie dues is a result of voucher analysis showing that monthly payments were made, on average, 18.2 days prior to the midpoint of the month for which the payment is made. Conversely, fees to the Province of Québec were submitted an average of 49.8 days after the midpoint of the month for which the payment is made.

These lag days were then applied to 2016 taxes.

FIGURE 6

GAZIFERE INC.
ANALYSIS OF TAXES
FISCAL 2016

Item No.		Col. 1 Amount ($)	Col. 2 Disbursement Lag Days		Col. 3 Weighted Dollar Days ($)	a/	Col. 4 Reference
1.1	Municipal Taxes	597,840	(133.5)		(79,811,640.0)		Appendix E1.1
1.2	Capital Taxes	0	0.0		0.0		Appendix E1.2
1.3	Régie de l'énergie dues	91,221	(18.2)		(1,660,222.2)		Appendix E1.3
1.4	Régie du bâtiment dues	57,700	49.8		2,873,460.0		Appendix E1.4
1.	Tax Liability	746,761	(105.3)	b/	(78,598,402)		

a/ Column 1 multiplied by Column 2.
b/ Total Column 3 divided by Total Column 1.

4.4 INCOME TAXES

The income taxes expense lag was deemed to be 15.2 days or 1/24th of a year. This approach recognizes that installments are paid monthly to the Government.

5. WORKING CASH REQUIREMENTS FOR THE GOODS AND SERVICES TAXES

5.1 SUMMARY

Gazifère is required to 5% GST on specific items. Likewise, GST is collected on services rendered to customers, and is remitted to the Government. The differences in the levels and timing of the taxes paid and collected impacts the working cash requirement of the Company. For 2016 this results in a working cash requirement of ($181.3) thousand.

The 7.5% QST applies to essentially the same tax base for purchases made in Québec as the GST, and also applies to the total costs incurred, including the GST. The net combined GST and QST are remitted/collected to/from the Québec Government on a similar basis that is in effect for the GST. A difference in treatment arises when the Company is entitled to a refund that was created by its net

position on QST. However, the two taxes can be basically considered as one combined tax in most situations. For 2016, the QST working cash requirement is equal to ($285.5) thousand.

5.2 THEORETICAL FRAMEWORK

The model for GST and QST is detailed in Appendix F1. It determines the impacts on working cash arising from the respective taxes by simulating the actual levels and timing of GST and QST activities. Two estimations are required for the model;

- The GST and QST tax base level, and
- The tax lags for related revenues and expenses.

The GST and QST tax levels are estimated by applying their respective tax rates to:

- revenues,
- O&M expenses excluding labour, and
- capital expenditures.

The QST does not apply to inter-provincial transactions while GST does not apply to transactions between Gazifère, Enbridge Gas Distribution and Enbridge Inc.
The tax acts are specific about the time period for which taxes are collected/paid and for determining when to settle with both levels of Government. Specifically, the tax liability arises on the invoice date, thereby determining the month for which taxes are to apply. Revenues are forecast based on meter reading dates. An adjustment must be made to the revenues if the billing month does not completely coincide with the tax month. Figure 4 indicates that it will take, on average, 2.6 days from reading to billing. Therefore any meter reading preceding the end of the month by two and a half days will be billed in the following month. As an example, a reading on June 29th would be posted on July 1st creating tax revenue for the month of July, not June. The forecasted revenues are therefore accordingly adjusted.

The gas supply related expenses, O&M expenses and capital expenditures are budgeted in the appropriate time period for tax purposes and require no adjustment.

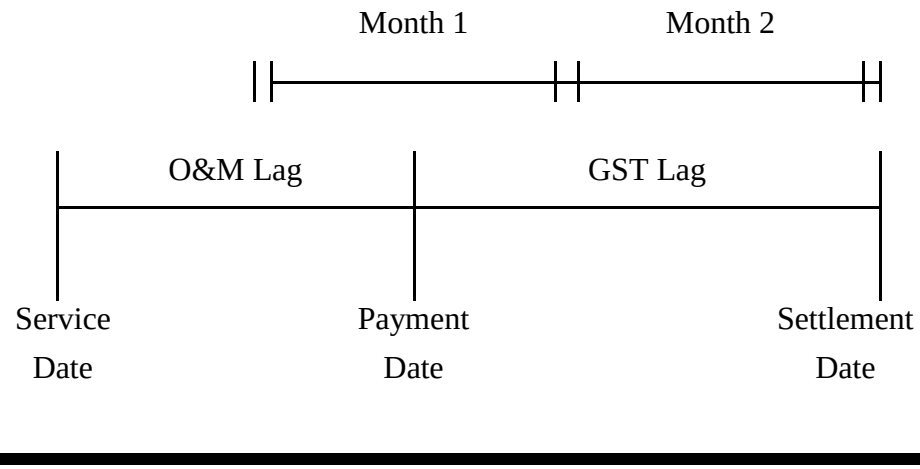
Figure 7 illustrates that the lags for tax purposes are not the same as for standard working cash purposes. The analysis of the lags for revenue and O&M are measured from the service period to

the time the service was paid as illustrated in Figure 2. The appropriate lag for GST and QST purposes starts when the payment is made and ends when the Government and the Company settle.

Figure 7

COMPARISON OF LAGS FOR

O&M AND GST PURPOSES



For taxes collected, for both GST and QST, the settlement is on the last day of the month following the month in which the tax liability was incurred. This is illustrated in Figure 7. As an example, taxes invoiced for collection in June are to be remitted on July 31.

For GST paid, the settlement takes an additional 21 days over the allowed time for collected taxes. That is, for taxes invoiced for payment in June, the Federal Government will settle by August 21. For QST taxes paid, the settlement is extended to 31 days over the allowed time for collected taxes. Therefore for taxes invoiced for payment in June, the Provincial Government will settle by August 31.

In practical terms, only the net of paid and collected for both GST and QST will be settled for each month. The determination of the working cash for GST/QST follows this framework.

5.3 WORKING CASH REQUIREMENT CALCULATION ARISING FROM THE GST/QST

The detailed monthly calculation for the GST and QST can be found in Appendix F1. As an illustration of the detailed calculation, Figure 8 is an extract from Appendix F1 and shows the

computation of the average cash impact from revenues only for the GST and QST, for the months of July to September 2014.

Figure 8

ILLUSTRATION OF THE WORKING CASH

EFFECT ARISING FROM REVENUES

Item No.		Col.1	Col. 2	Col. 3	Col. 13
		July	August	September	Total
1.	Revenue ($000)	(2,644.9)	(1,844.4)	(2,560.7)	(59,722.0)
3.1	GST Amounts ($000)	(132.2)	(92.2)	(128.0)	(2,986.1)
4.1	QST Amounts ($000)	(208.3)	(145.2)	(201.7)	(4,703.1)
	LAG DAYS				
6.1	Average Payment Days	(6.7)	(6.7)	(7.7)	
6.2	Days to Remit/Refund-GST	31.0	30.0	31.0	
6.3	Days to Remit/Refund-QST	31.0	30.0	31.0	
6a.	Revenue Lag Days-GST	24.3	23.3	23.3	
6b.	Revenue Lag Days-QST	24.3	23.3	23.3	
10.1	Revenue Dollar Days-GST	(3,215.7)	(2,150.2)	(2,985.2)	(68,831.3)
11.1	Revenue Dollar Days-QST	(5,064.7)	(3,386.5)	(4,701.7)	(108,409.3)
12.1	Composite Lag Days-GST	24.3	23.3	23.3	23.1
13.1	Composite Lag Days-QST	24.3	23.3	23.3	23.1

The item numbers correlate to the item numbers in the Appendix F1. To keep the detail as clear as possible, Figure 8 includes only three months of the year. The lags for expenses and capital corresponding to GST and QST are calculated in a similar manner.

Item 1 of Figure 8 is the estimated 2016 revenue adjusted by month. Items 3.1 and 4.1 represent the associated GST and QST amounts.

Item 6a is the revenue lag for GST. This lag is the sum of items 6.1 and 6.2, the average payment days and the days to remit/fund. For QST, the revenue lag corresponds to items 6b. It is the sum of items 6.1 and 6.3.

The tax lag on revenue has similar components to those found in Figure 4 except that the billing lag is not included. The GST and QST are based on the billing date and therefore the time span between meter reading and billing is not material to the lag calculation. The volumes and revenues used in the calculation have been adjusted to reflect the lag arising from a month based on the billing date. This eliminates the lag for billing. The revenue lag is simply the lag from the billing date to the date the revenues are received (collection lag) plus the average number of days in the billing period (average service period). This revenue lag is determined in Figure 9.

Figure 9

DETERMINATION OF THE GST/QST PAYMENT DAYS

1.	Average Service Period	15.2
2.	Collection Lag	22.5
3.	Total Lag for GST	37.7

The Total Lag determined in Figure 9 is an annual average and is used consistently for each month. Therefore, the payment lag for July, used in Item 6.1 of Figure 8, is the number of days for July less the lag, resulting in a negative 6.7 days (31.0 days – 37.7 days). That is, it takes on average until the 7th of August to collect the taxes.

The application of the revenue lag of Item 6a to the GST, Item 3.1, produces the weighted dollar days of Item 10.1 in Figure 8.

The sum of the Dollar Days divided by the total taxes arising from revenues results in the average lag days for the year in Item 12.1 Column 13, which is 23.1 days. The same reasoning applies to QST.

Figure 10 is a summary of the results found in the Appendix F1 for the GST. Column 1 is the annual level of GST estimated for each item. The monthly breakdown of these amounts was used in the model for the lag determination. Column 2 is the lag days. The average daily amount, which

is Column 1 divided by 365, is carried for the number of days found in Column 2. This level of funding is found in Column 3. The total of Column 3, $(181.3) thousand is the working cash requirement for 2016.

FIGURE 10

SUMMARY OF GST AMOUNTS
FOR WORKING CASH REQUIREMENT
FISCAL 2016

Item No.		Col. 1 Rev/Exp ($000)	Col. 2 Lag Days	Col. 3 Working Cash Requirement ($000)
1.1	Revenue	(2,986.1)	23.1	(188.1) a/
1.2	O & M	154.2	13.1	5.5 a/
1.3	Capital	(244.6)	(1.8)	1.2 a/
1.	Total			(181.3)

a/ Col. 1 divided by 365 days times Col. 2

Figure 11 is a summary of the results found in Appendix F1 for the QST. The presentation is the same as in Figure 10. The total of Column 3, $(285.5) thousand is the working cash requirement for QST for 2016.

FIGURE 11

SUMMARY OF QST AMOUNTS
FOR WORKING CASH REQUIREMENT
FISCAL 2016

Item No.		Col. 1 Rev/Exp ($000)	Col. 2 Lag Days	Col. 3 Working Cash Requirement ($000)
1.1	Revenue	(4,703.1)	23.1	(296.2) a/
1.2	O & M	245.1	13.1	8.8 a/
1.3	Capital	(388.9)	(1.8)	1.9 a/
1.	Total			(285.5)

a/ Col. 1 divided by 365 days times Col. 2

6. RECOMMENDATIONS

The determination of the working cash requirement for 2016 should be based on:

- revenue lag of 40.3 days,
- gas cost lag of 35.1 days,
- O&M lag of 26.7 days,
- tax lag of (105.3) days,
- income tax lag of 15.2 days,
- a working cash requirement of $(181,300) for GST , and
- a working cash requirement of $(285,500) for QST.

The working cash requirement arising from the application of the net lag days to the forecasted level of expenses for the Test Year and the inclusion of working cash from GST, QST and the uncollectibles, results in a $608,209 debit in rate base, as outlined in Exhibit GI-32, Document 2.

The Company believes these results represent reasonable estimates for the 2016 Test Year.

APPENDICES

(les annexes n'ont pas à être révisées au 2016-02-17, elles sont toujours pertinentes)