Lead/Lag Analysis for Working Capital Requirements for Ontario Power Generation Inc.

Prepared for:

Ontario Power Generation

ONTARIO POWER GENERATION

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TABLE OF CONTENTS

1. Introduction and Methodology 1

1.1 Key Concepts 1

1.1.1 Mid-Point Method 1

1.1.2 Statutory Approach 1

1.1.3 Revenue Lag Components 2

1.1.4 Expense Lead Components 2

1.1.5 Dollar Weighting 2

2. Executive Summary 3

3. Revenue Lags 5

3.1 Revenue Lags for Regulated Hydroelectric Business 6

3.2 Revenue Lags for Nuclear Business 6

4. Expense Leads 7

4.1 Cost of Power 7

4.2 Payments in Lieu of Income Taxes 9

4.3 Interest on Long-Term Debt 9

4.4 Operations, Maintenance & Administration 9

4.5 Property Tax 11

4.6 Harmonized Sales Tax 11

5. Revenue Lags and Expense Leads Summary 12

Appendix A. Detailed Data Tables 14

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1. INTRODUCTION AND METHODOLOGY

Navigant Consulting, Inc., n/k/a Guidehouse Inc. ("Navigant") was retained by Ontario Power Generation Inc. ("OPG") to prepare a lead/lag study to quantify the expense leads and revenue lags associated OPG's cash working capital requirements. This report provides the results of that assessment.

Working capital is the amount of funds that are required to finance the day-to-day operations, and which are included as part of a rate base for ratemaking purposes. A lead-lag study is considered to be the most accurate basis for the determination of working capital.

A lead-lag study analyzes the time between the date customers receive service and the date that customers' payments are available to OPG (or "lag") together with the time between which OPG receives goods and services from its vendors and pays for them at a later date (or "lead"). "Leads" and "Lags" are both measured in days and are dollar-weighted where appropriate. The dollar-weighted net lag (lag minus lead) days is then divided by 365 (or 366 for leap years) and then multiplied by the annual test year expenses to determine the amount of working capital required. The resulting amount of working capital represents the amount to be included in OPG's rate base for the purpose of deriving revenue requirement. This study provides the lead and lag days necessary for this calculation.

1.1 Key Concepts

1.1.1 Mid-Point Method

When a service is provided to (or by) OPG over a period of time, the service is deemed to have been provided (or received) evenly over the midpoint of the period, unless specific information regarding the provision (or receipt) of that service indicates otherwise. If both the service end date ("Y") and the service start date ("X") are known, the mid-point of a service period can be calculated using the formula:

$$Mid - Point = \frac{(Y - X) + 1}{2}$$

When specific start and end dates are unknown, but it is known that a service is evenly distributed over the mid-point of a period, an alternative formula that is generally used is shown below. The formula uses the number of days in a year ("A") and the number of periods in a year ("B"):

$$Mid - Point = \frac{A/B}{2}$$

1.1.2 Statutory Approach

In conjunction with the mid-point method, it is important to note that not all areas of this study may utilize dates on which actual payments were made to (or by) OPG. In some instances, the due dates for payments are established by statute or by regulation. In these instances, the due date established by statute or regulation may be used in lieu of when payments were made.

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1.1.3 Revenue Lag Components

As used in this study, revenue lags are defined to consist of two components:

1. Service Lag component (the midpoint of the generation sales service period; the halfway point between the beginning of the service period and the end of the service period); and,

2. Payment Lag component (the period from when the invoice is generated by OPG to the date that funds are available to OPG).

1.1.4 Expense Lead Components

As used in this study, expense leads are defined to consist of two components:

1. Service Lead component (services are assumed to be provided to OPG evenly around the mid-point of the service period); and,

2. Payment Lead component (the time period from the end of the service period to the time payment was made and funds have left OPG's possession).

1.1.5 Dollar Weighting

Both leads and lags should be dollar-weighted, where appropriate and where data is available, to more accurately reflect the flow of dollars. For example, suppose that a particular transaction has a lead time of 100 days and has a dollar value of $100. Further, suppose that another transaction has a lead time of 30 days with a dollar value of $1 million. A simple un-weighted average of the two transactions would yield a lead time of 65 days ([100+30]/2). However, when these two transactions are dollar weighted, the resulting lead time would be closer to 30 days which is more representative of the actual dollar impact.

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2. EXECUTIVE SUMMARY

The lead/lag days calculated in this study are based on OPG's revenue and expense payments data from 2018. Consistent with the OEB's previously approved approach for OPG, this study separates out the revenue lag days and expense lead days for each of OPG's regulated hydroelectric and nuclear business.

Table 1 and Table 2 below provide a summary of the lead and lag days for the regulated hydroelectric and nuclear businesses respectively. Note that the nuclear business does not include cost of power as its fuel inventory is accounted for separately as a line item within OPG's rate base calculation.

Table 1: Summary of Lead/Lag Days – Regulated Hydroelectric Business

Line No.	Item	Revenue Lag Days	Expense Lead Days	Net Days
		(a)	(b)	(c) = (a) – (b)
1	Cost of Power	35.40	8.22	27.18
2	Income Tax (PILS)	35.40	18.67	16.73
3	Interest Expense	35.40	10.07	25.31
4	Payroll and Payroll Withholdings	35.40	21.74	13.66
5	Performance Incentives	35.40	262.73	(227.33)
6	Pensions	35.40	10.34	25.06
7	Active Benefits	35.40	18.68	16.72
8	OPEB	35.40	13.42	21.98
9	Leases and Utilities	35.40	6.01	29.39
10	Insurance	35.40	(166.68)	202.08
11	Other OM&A	35.40	72.48	(37.08)
12	IT Outsourced Services	35.40	58.25	(22.85)
13	HST – Revenues			(43.29)
14	HST – OM&A Expenses (excl. Payroll and Benefits)			46.21

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Table 2: Summary of Lead/Lag Days – Nuclear Business

Line No.	Item	Revenue Lag Days	Expense Lead Days	Net Days
		(a)	(b)	(c) = (a) – (b)
1	Income Tax (PILS)	35.46	18.67	16.79
2	Interest Expense	35.46	10.07	25.39
3	Payroll and Payroll Withholdings	35.46	21.74	13.72
4	Performance Incentives	35.46	262.73	(227.27)
5	Pensions	35.46	10.34	25.12
6	Active Benefits	35.46	18.68	16.78
7	OPEB	35.46	13.42	22.04
8	Leases and Utilities	35.46	6.01	29.45
9	Insurance	35.46	(166.68)	202.14
10	Other OM&A	35.46	72.48	(37.02)
11	IT Outsourced Services	35.46	58.25	(22.79)
12	Property Tax	35.46	(6.10)	41.56
13	HST – Revenues			(43.21)
14	HST – OM&A Expenses (excl. Payroll and Benefits)			40.48

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3. REVENUE LAGS

A revenue lag represents the number of days from the date that a generation service is rendered by OPG's regulated operations until the date payments are received and funds are available to OPG. Revenue lag consists of the following components:

1. Service lag
2. Payment lag

Service Lag
The service lag is defined as the midpoint of the service period; the halfway point between the beginning of the service period and the end of the service period. For services that are rendered monthly, such as generation sales, the service lag occurs at the midpoint of the calendar month.

Payment Lag
The payment lag is defined as the period from when the invoice is generated by OPG to the date that funds are available in OPG's system. The payment dates provided to Navigant by OPG reflect the dates that funds are available to OPG -- not the date that the payment was made by the Independent Electricity System Operator. As such, this payment is already inclusive of any processing/collections lag.

This section of the report provides the revenue lag days for the regulated hydroelectric business and the nuclear business.

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3.1 Revenue Lags for Regulated Hydroelectric Business

The hydroelectric business has a revenue lag of 35.40 days, calculated based on hydroelectric generation sales as shown in Table 3 below.[1,2]

Table 3: Revenue Lag Days for Hydroelectric Business

Line No.	Item	Payment Amount ($M)	Revenue Lag Days
		(a)	(b)
1	Hydroelectric Generation Revenue	$1,349.9	35.40
	Total	**$1,349.9**	

3.2 Revenue Lags for Nuclear Business

The nuclear business has a calculated revenue lag of 35.46 days. The revenue lag for the nuclear business is based on a weighting of the following revenue components:

- Nuclear generation sales from Pickering facility
- Nuclear generation sales from the Darlington facility

The revenue lag days calculation is shown in Table 4 below.[2]

Table 4: Revenue Lag Days for Nuclear Business

Line No.	Item	Payment Amount ($M)	Revenue Lag Days
		(a)	(b)
1	Nuclear Generation Revenue	$3,082.9	35.46
	Total	**$3,082.9**	

[1] A detailed breakdown of the generation revenue and associated lag days is provided in Appendix A.
[2] Inclusive of ancillary services revenue.

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4. EXPENSE LEADS

The determination of working capital requires both a measurement of the lag in the collection of revenues for services provided by OPG, and the lead times associated with payments for services provided to OPG. This section of the report provides the expense lead days for the regulated hydroelectric business and the nuclear business.

Unless explicitly stated, the expenses and lead/lag days calculated are at the organization-level, and are not specific to one business unit, given the integrated nature of OPG's business and payments data. The following expense leads were calculated:

- Cost of power, including gross revenue charges payable to the Ontario Ministry of Finance ("MOF") and the Ontario Electricity Financial Corporation ("OEFC") and water rentals payable to various parties;
- Interest on OPG's long-term debt;
- Payments in lieu of income taxes ("PILS") payable to the OEFC;
- Operations, Maintenance and Administration ("OM&A") expenses, which, in this report, includes Payroll & Payroll Withholdings, Active Benefits, Pensions, Other Post-Retirement Benefits, Leases & Utilities, IT Outsourced Services and Other OM&A;
- Property Taxes; and,
- Harmonized Sales Tax ("HST").

4.1 Cost of Power

Cost of power expenses for the hydroelectric business unit consist of the following items and are summarized below:

- Gross revenue charges payable to the OEFC (detailed breakdown provided in Table 15 in Appendix A);
- Gross revenue charges payable to the Ministry of Finance (detailed breakdown provided in Table 16 in Appendix A); and,
- Water rentals, payable to individual parties (detailed breakdowns for line items 3 through 5 shown in Table 17 through Table 19 respectively, in Appendix A).

The gross revenue charges ("GRC") are charges that hydroelectric generating stations pay, calculated on their station's gross revenue as prescribed under a regulation. GRC payments occur monthly, with the payment occurring in the middle of the calendar month for which the service occurs. For both the component payable to the OEFC and the component payable to the MOF, a top-up payment from the 2017 year was paid in 2018, occurring mid-March. Water rentals are expenses that OPG pays to specific parties, with payment schedules varying depending on the specific agreement.

Note that the nuclear business does not include cost of power as Navigant understands that its fuel inventory is accounted for separately as a line item within OPG's rate base calculation.

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Table 5: Cost of Power Expense Leads

Line No.	Item	Payment Amount ($M)	Expense Lead Days	Weighting Factor	Weighted Expense Lead Days
		(a)	(b)	(c)	(d)
1	GRC - Graduated - Payable to OEFC	$203.7	2.28	62.6%	1.43
2	GRC - Water Rentals - Payable to MOF	$99.4	(24.92)	30.6%	(1.50)
3	St. Lawrence Seaway Management Corp	$3.0	38.11	0.9%	0.35
4	Quebec Water Rentals	$10.7	213.50	3.3%	7.04
5	Niagara Parks Commission	$7.2	4.18	2.2%	0.09
6	Parks Canada Water Rentals	$1.0	281.50	0.3%	0.84
7	Hydro Quebec Dozois Agreement	$1.3	0.00	0.4%	0.00
	Total	**$326.3**		**100.0%**	**8.22**

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4.2 Payments in Lieu of Income Taxes

OPG is required to make payments to the Ontario Electricity Financial Corporation in lieu of federal and provincial corporate tax – these expenses are calculated and made for OPG as a whole and are called payments in lieu of taxes.

Installment payments are made monthly by OPG, occurring close to the calendar end-of-month. In 2018, OPG made 12 monthly payments, as well as a one-time top-up payment from the 2017 tax year, which occurred in February. A detailed breakdown of PILS payments is provided in Table 21 in Appendix A.

Table 6: Income Tax (PILS) Expense Leads

Line No.	Item	Payment Amount ($M)	Expense Lead Days
		(a)	(b)
1	PILS	$167.8	18.67
	Total	**$167.8**	

4.3 Interest on Long-Term Debt

OPG makes interest payments on long-term debt. A detailed breakdown of these long-term debt interest payments is provided in Table 20 in Appendix A.[3] Interest expense has been included as an expense lead, as it often represents a cash expense for the business unit.

Table 7: Long-Term Debt Interest Expense Leads

Line No.	Item	Payment Amount ($M)	Expense Lead Days
		(a)	(b)
1	Interest on Long-Term Debt	$186.5	10.07
	Total	**$186.5**	

4.4 Operations, Maintenance & Administration

For the purposes of this lead-lag study, the following costs are included in the calculation of lead days for OM&A expenses. These costs represent the payments that OPG makes to its employees, vendors and other entities for services rendered to maintain OPG's nuclear and regulated hydroelectric lines of business from a working capital perspective.

1. **Labour - Payroll**. This line item includes represented employee and management payroll and payroll withholdings for several categories of payroll, with pay schedules varying by category. A detailed breakdown of payroll expenses is provided in Table 22 in Appendix A;

[3] In all previous cash working capital studies conducted by Guidehouse, interest expense has been included as an expense lead. Guidehouse requested 2018 expense data from OPG for inclusion in this study.

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2. **Performance Incentives**. This line item includes annual performance incentives provided to OPG management employees.

3. **Pensions.** This line item includes registered pension plan contributions, summarized monthly. A detailed breakdown of the pension contributions is provided in Table 24 in Appendix A;

4. **Active Benefits.** This line item includes costs associated with Group Life Insurance, Employee Health Tax, Workplace Safety and Insurance Board, and Active Health and Dental. A detailed breakdown of benefits payments is provided in Table 25 in Appendix A;

5. **OPEB.** This line item includes all costs associated with other post-employment benefits, such as long-term disability, post-retirement benefits including health, dental and Group Life Insurance, and supplementary pension plan.

6. **Leases and Utilities.** This line item includes expenses associated with Real Estate and utility payments.

7. **Insurance.** This line item includes expenses related to premiums for OPG's insurance coverage. These payments are typically made annually, at the beginning of the coverage period. A detailed breakdown of Insurance payments is provided in Table 27 in Appendix A;

8. **IT Outsourced Services.** This line item includes expenses related to a major IT services vendor.

9. **Other OM&A.** This line item includes various costs associated with consultants, augmented staff, licenses & membership fees, and others. A detailed breakdown is provided in Table 28 in Appendix A. To calculate the service lead for Other OM&A, Navigant requested a sample of invoices from OPG for each resource category – selecting invoices for all vendors that account for 80% of annual payments within the categories. Navigant based the service periods and payment dates for the category based on this sample. In instances where more than one vendor accounted for the sample payments, Navigant calculated the weighted average lead time based on magnitude of payment; and,

Table 8: OM&A Expense Leads

Line No.	Item	Payment Amount ($M)	Expense Lead Days
		(a)	(b)
1	Payroll and Payroll Withholdings	$1,322.5	21.74
2	Performance Incentives	$31.1	262.73
3	Pensions	$180.5	10.34
4	Active Benefits	$83.4	18.68
5	OPEB	$92.6	13.42
6	Leases and Utilities	$23.3	6.01
7	Insurance	$34.0	(166.68)
8	IT Outsourced Services	$95.0	58.25
9	Other OM&A	$398.4	72.48

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4.5 Property Tax

For the nuclear business, OPG makes property tax payments to the City of Pickering, and the Municipality of Clarington. These payments are made throughout the year and are paid in various installments. A detailed breakdown is provided in Table 29 in Appendix A. Furthermore, OPG makes monthly payments in lieu of property tax to the OEFC, which is provided in Table 29 in Appendix A. Outside of GRC, OPG makes minimal property tax payments related to the hydroelectric business and as such they were not analyzed.

Table 9. Property Tax Expense Leads

Line No.	Item	Payment Amount ($M)	Expense Lead Days
		(a)	(b)
1	Property Tax	$14.0	(6.10)
	Total	**$14.0**	

4.6 Harmonized Sales Tax

The lead times associated with the following items that attract HST were considered in OPG's lead-lag study:

- Revenues; and,
- OM&A, excluding payroll and benefits.

A summary of the expense lead times associated with each of the line items above is provided in Table 10. Note that the statutory approach described in Section 1.1.2 was used to determine the expense lead times associated with OPG's remittances and disbursements of HST (i.e., remittances are generally on the last day of the month following the date of the applicable period).

Table 10. Summary of HST Leads

Description	Regulated Hydroelectric HST Lead Time Days	Nuclear HST Lead Time Days
Revenues	(43.29)	(43.21)
OM&A Expenses	46.21	40.48

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5. REVENUE LAGS AND EXPENSE LEADS SUMMARY

Navigant calculated the revenue lags and expense leads related to OPG's operations, which are necessary to calculate the working capital requirements for the regulated hydroelectric and nuclear businesses. Table 11 and Table 12 below summarize OPG's lead/lag days.

Table 11: Regulated Hydroelectric Business Summary

Line No.	Item	Revenue Lag Days	Expense Lead Days	Net Days
		(a)	(b)	(c) = (a) – (b)
1	Cost of Power	35.40	8.22	27.18
2	PILS	35.40	18.67	16.73
3	Interest Expense	35.40	10.07	25.31
4	Payroll and Payroll Withholdings	35.40	21.74	13.66
5	Performance Incentives	35.40	262.73	(227.33)
6	Pensions	35.40	10.34	25.06
7	Active Benefits	35.40	18.68	16.72
8	OPEB	35.40	13.42	21.98
9	Leases and Utilities	35.40	6.01	29.39
10	Insurance	35.40	(166.68)	202.08
11	Other OM&A	35.40	72.48	(37.08)
12	IT Outsourced Services	35.40	58.25	(22.85)
13	HST – Revenues			(43.29)
14	HST – OM&A Expenses (excl. Payroll and Benefits)			45.71

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Table 12: Nuclear Business Summary

Line No.	Item	Revenue Lag Days	Expense Lead Days	Net Days
		(a)	(b)	(c) = (a) – (b)
1	PILS	35.46	18.67	16.79
2	Interest Expense	35.46	10.07	25.39
3	Payroll and Payroll Withholdings	35.46	21.74	13.72
4	Performance Incentives	35.46	262.73	(227.27)
5	Pensions	35.46	10.34	25.12
6	Active Benefits	35.46	18.68	16.78
7	OPEB	35.46	13.42	22.04
8	Leases and Utilities	35.46	6.01	29.45
9	Insurance	35.46	(166.68)	202.14
10	Other OM&A	35.46	72.48	(37.02)
11	IT Outsourced Services	35.46	58.25	(22.79)
12	Property Tax	35.46	(6.10)	41.56
13	HST – Revenues			(43.21)
14	HST – OM&A Expenses (excl. Payroll and Benefits)			40.48

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APPENDIX A. DETAILED DATA TABLES

This appendix provides a detailed breakdown of all 2018 revenues and payment amounts used to calculate the revenue lag and expense lead times in this study.[4]

Table 13: Hydroelectric Generation Revenue Lag

Service Period Start	Service Period Ending	Invoice Date	Payment Date	Payment Amount ($M)	Service Lag Days	Payment Lag Days	Total Revenue Lag Days	Weighting Factor	Weighted Revenue Lag Days
1/1/2018	1/31/2018	2/14/2018	2/21/2018	$117.7	15.50	21.00	36.50	8.7%	3.18
2/1/2018	2/28/2018	3/14/2018	3/20/2018	$108.7	14.00	20.00	34.00	8.0%	2.74
3/1/2018	3/31/2018	4/16/2018	4/20/2018	$113.9	15.50	20.00	35.50	8.4%	3.00
4/1/2018	4/30/2018	5/14/2018	5/18/2018	$107.0	15.00	18.00	33.00	7.9%	2.62
5/1/2018	5/31/2018	6/14/2018	6/20/2018	$121.5	15.50	20.00	35.50	9.0%	3.20
6/1/2018	6/30/2018	7/16/2018	7/20/2018	$114.3	15.00	20.00	35.00	8.5%	2.96
7/1/2018	7/31/2018	8/15/2018	8/21/2018	$111.0	15.50	21.00	36.50	8.2%	3.00
8/1/2018	8/31/2018	9/17/2018	9/21/2018	$108.0	15.50	21.00	36.50	8.0%	2.92
9/1/2018	9/30/2018	10/15/2018	10/19/2018	$103.7	15.00	19.00	34.00	7.7%	2.61
10/1/2018	10/31/2018	11/15/2018	11/21/2018	$103.8	15.50	21.00	36.50	7.7%	2.81
11/1/2018	11/30/2018	12/14/2018	12/20/2018	$113.8	15.00	20.00	35.00	8.4%	2.95
12/1/2018	12/31/2018	1/15/2019	1/21/2019	$126.4	15.50	21.00	36.50	9.4%	3.42
Total				**$1,349.9**					**35.40**

[4] Note: Due to rounding, some totals may not correspond with the sum of the individual line items.

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Table 14: Nuclear Generation Revenue Lag

Service Period Start	Service Period Ending	Invoice Date	Payment Date	Payment Amount ($M)	Service Lag Days	Payment Lag Days	Total Revenue Lag Days	Weighting Factor	Weighted Revenue Lag Days
1/1/2018	1/31/2018	2/14/2018	2/21/2018	$106.5	15.50	21.00	36.50	3.5%	1.26
2/1/2018	2/28/2018	3/14/2018	3/20/2018	$85.7	14.00	20.00	34.00	2.8%	0.95
3/1/2018	3/31/2018	4/16/2018	4/20/2018	$118.7	15.50	20.00	35.50	3.9%	1.37
4/1/2018	4/30/2018	5/14/2018	5/18/2018	$121.3	15.00	18.00	33.00	3.9%	1.30
5/1/2018	5/31/2018	6/14/2018	6/20/2018	$136.4	15.50	20.00	35.50	4.4%	1.57
6/1/2018	6/30/2018	7/16/2018	7/20/2018	$121.4	15.00	20.00	35.00	3.9%	1.38
7/1/2018	7/31/2018	8/15/2018	8/21/2018	$150.8	15.50	21.00	36.50	4.9%	1.79
8/1/2018	8/31/2018	9/17/2018	9/21/2018	$155.0	15.50	21.00	36.50	5.0%	1.84
9/1/2018	9/30/2018	10/15/2018	10/19/2018	$131.4	15.00	19.00	34.00	4.3%	1.45
10/1/2018	10/31/2018	11/15/2018	11/21/2018	$147.1	15.50	21.00	36.50	4.8%	1.74
11/1/2018	11/30/2018	12/14/2018	12/20/2018	$139.1	15.00	20.00	35.00	4.5%	1.58
12/1/2018	12/31/2018	1/15/2019	1/21/2019	$153.2	15.50	21.00	36.50	5.0%	1.81
1/1/2018	1/31/2018	2/14/2018	2/21/2018	$104.3	15.50	21.00	36.50	3.4%	1.23
2/1/2018	2/28/2018	3/14/2018	3/20/2018	$103.6	14.00	20.00	34.00	3.4%	1.14
3/1/2018	3/31/2018	4/16/2018	4/20/2018	$142.2	15.50	20.00	35.50	4.6%	1.64
4/1/2018	4/30/2018	5/14/2018	5/18/2018	$107.5	15.00	18.00	33.00	3.5%	1.15
5/1/2018	5/31/2018	6/14/2018	6/20/2018	$101.9	15.50	20.00	35.50	3.3%	1.17
6/1/2018	6/30/2018	7/16/2018	7/20/2018	$99.8	15.00	20.00	35.00	3.2%	1.13
7/1/2018	7/31/2018	8/15/2018	8/21/2018	$120.8	15.50	21.00	36.50	3.9%	1.43
8/1/2018	8/31/2018	9/17/2018	9/21/2018	$142.1	15.50	21.00	36.50	4.6%	1.68
9/1/2018	9/30/2018	10/15/2018	10/19/2018	$142.3	15.00	19.00	34.00	4.6%	1.57
10/1/2018	10/31/2018	11/15/2018	11/21/2018	$152.6	15.50	21.00	36.50	4.9%	1.81
11/1/2018	11/30/2018	12/14/2018	12/20/2018	$144.7	15.00	20.00	35.00	4.7%	1.64
12/1/2018	12/31/2018	1/15/2019	1/21/2019	$154.4	15.50	21.00	36.50	5.0%	1.83
Total				**$3,082.9**					**35.46**

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Table 15: Cost of Power Leads: Gross Revenue Charge -- OEFC Expenses

Service Period Start	Service Period Ending	Invoice Date	Payment Date	Payment Amount ($M)	Service Lead Days	Payment Lead Days	Total Expense Lead Days	Weighting Factor	Weighted Expense Lead Days
1/1/2018	1/31/2018	1/16/2018	1/16/2018	$16.9	15.50	(15.00)	0.50	8.3%	0.04
2/1/2018	2/28/2018	2/16/2018	2/16/2018	$16.7	14.00	(12.00)	2.00	8.2%	0.16
3/1/2018	3/31/2018	3/16/2018	3/16/2018	$16.9	15.50	(15.00)	0.50	8.3%	0.04
1/1/2017	12/31/2017	3/16/2018	3/16/2018	$1.4	182.50	75.00	257.50	0.7%	1.74
4/1/2018	4/30/2018	4/16/2018	4/16/2018	$16.9	15.00	(14.00)	1.00	8.3%	0.08
5/1/2018	5/31/2018	5/16/2018	5/16/2018	$16.9	15.50	(15.00)	0.50	8.3%	0.04
6/1/2018	6/30/2018	6/15/2018	6/15/2018	$16.9	15.00	(15.00)	0.00	8.3%	0.00
7/1/2018	7/31/2018	7/16/2018	7/16/2018	$16.9	15.50	(15.00)	0.50	8.3%	0.04
8/1/2018	8/31/2018	8/16/2018	8/16/2018	$16.8	15.50	(15.00)	0.50	8.3%	0.04
9/1/2018	9/30/2018	9/14/2018	9/14/2018	$16.9	15.00	(16.00)	(1.00)	8.3%	(0.08)
10/1/2018	10/31/2018	10/16/2018	10/16/2018	$17.0	15.50	(15.00)	0.50	8.3%	0.04
11/1/2018	11/30/2018	11/16/2018	11/16/2018	$16.9	15.00	(14.00)	1.00	8.3%	0.08
12/1/2018	12/31/2018	12/16/2018	12/16/2018	$16.9	15.50	(15.00)	0.50	8.3%	0.04
Total				**$203.7**				**100.0%**	**2.28**

Table 16: Cost of Power: Gross Revenue Charge -- MOF Expenses

Service Period Start	Service Period Ending	Invoice Date	Payment Date	Payment Amount ($M)	Service Lead Days	Payment Lead Days	Total Expense Lead Days	Weighting Factor	Weighted Expense Lead Days
1/1/2018	1/31/2018	1/16/2018	1/16/2018	$8.6	15.50	(15.00)	0.50	8.6%	0.04
2/1/2018	2/28/2018	2/16/2018	2/16/2018	$8.8	14.00	(12.00)	2.00	8.8%	0.18
3/1/2018	3/31/2018	3/16/2018	3/16/2018	$8.6	15.50	(15.00)	0.50	8.6%	0.04
1/1/2017	12/31/2017	3/16/2018	3/16/2018	($2.1)	182.50	75.00	257.50	(2.1%)	(5.48)
4/1/2018	4/30/2018	4/16/2018	4/16/2018	$8.6	15.00	(14.00)	1.00	8.6%	0.09
5/1/2018	5/31/2018	5/16/2018	5/16/2018	$8.6	15.50	(15.00)	0.50	8.6%	0.04
6/1/2018	6/30/2018	6/15/2018	6/15/2018	$8.6	15.00	(15.00)	0.00	8.6%	0.00
7/1/2018	7/31/2018	7/16/2018	7/16/2018	$8.6	15.50	(15.00)	0.50	8.6%	0.04
8/1/2018	8/31/2018	8/16/2018	8/16/2018	$8.2	15.50	(15.00)	0.50	8.3%	0.04
9/1/2018	9/30/2018	9/14/2018	9/14/2018	$8.2	15.00	(16.00)	(1.00)	8.3%	(0.08)
10/1/2018	10/31/2018	10/16/2018	10/16/2018	$8.3	15.50	(15.00)	0.50	8.3%	0.04
11/1/2018	11/30/2018	11/16/2018	11/16/2018	$8.3	15.00	(14.00)	1.00	8.3%	0.08
12/1/2018	12/31/2018	12/16/2018	12/16/2018	$8.3	15.50	(15.00)	0.50	8.4%	0.04
Total				**$99.4**				**100.0%**	**(4.92)**

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Table 17: Cost of Power: Expenses to St. Lawrence Seaway Management Corp.

Service Period Start	Service Period Ending	Invoice Date	Payment Date	Payment Amount ($M)	Service Lead Days	Payment Lead Days	Total Expense Lead Days	Weighting Factor	Weighted Expense Lead Days
12/1/2017	12/31/2017	1/22/2018	1/22/2018	$0.3	15.50	22.00	37.50	8.4%	3.15
7/1/2017	12/31/2017	1/29/2018	1/29/2018	($0.0)	92.00	29.00	121.00	(1.3%)	(1.63)
1/1/2018	1/31/2018	2/26/2018	2/26/2018	$0.3	15.50	26.00	41.50	9.5%	3.96
2/1/2018	2/28/2018	3/26/2018	3/26/2018	$0.3	14.00	26.00	40.00	8.7%	3.46
3/1/2018	3/31/2018	4/26/2018	4/26/2018	$0.3	15.50	26.00	41.50	9.6%	3.97
4/1/2018	4/30/2018	5/25/2018	5/25/2018	$0.3	15.00	25.00	40.00	8.9%	3.57
5/1/2018	5/31/2018	6/26/2018	6/26/2018	$0.3	15.50	26.00	41.50	9.3%	3.87
6/1/2018	6/30/2018	7/25/2018	7/25/2018	$0.3	15.00	25.00	40.00	8.8%	3.54
7/1/2018	7/31/2018	8/27/2018	8/27/2018	$0.2	15.50	27.00	42.50	7.3%	3.10
1/1/2018	6/30/2018	8/7/2018	8/7/2018	($0.0)	90.50	38.00	128.50	(1.6%)	(2.07)
8/1/2018	8/31/2018	9/25/2018	9/25/2018	$0.3	15.50	25.00	40.50	9.1%	3.70
9/1/2018	9/30/2018	10/25/2018	10/25/2018	$0.3	15.00	25.00	40.00	9.1%	3.64
10/1/2018	10/31/2018	11/26/2018	11/26/2018	$0.2	15.50	26.00	41.50	7.5%	3.10
11/1/2018	11/30/2018	12/26/2018	12/26/2018	$0.2	15.00	26.00	41.00	6.7%	2.75
Total				**$3.0**				**100.0%**	**38.11**

Table 18: Cost of Power: Expenses for Quebec Water Rentals

Service Period Start	Service Period Ending	Invoice Date	Payment Date	Payment Amount ($M)	Service Lead Days	Payment Lead Days	Total Expense Lead Days	Weighting Factor	Weighted Expense Lead Days
4/1/2017	3/31/2018	5/31/2018	5/1/2018	$10.7	182.50	31.00	213.50	100.0%	213.50
Total				**$10.7**				**100.0%**	**213.50**

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Table 19: Cost of Power: Expenses to Niagara Parks Commission

Service Period Start	Service Period Ending	Invoice Date	Payment Date	Payment Amount ($M)	Service Lead Days	Payment Lead Days	Total Expense Lead Days	Weighting Factor	Weighted Expense Lead Days
1/1/2018	1/31/2018	1/5/2018	1/15/2018	$0.6	15.50	(16.00)	(0.50)	8.1%	(0.04)
2/1/2018	2/28/2018	2/5/2018	2/16/2018	$0.6	14.00	(12.00)	2.00	8.2%	0.16
1/1/2017	12/31/2017	2/5/2018	2/16/2018	$0.1	182.50	47.00	229.50	1.6%	3.73
3/1/2018	3/31/2018	3/6/2018	3/16/2018	$0.6	15.50	(15.00)	0.50	8.2%	0.04
4/1/2018	4/30/2018	4/9/2018	4/16/2018	$0.6	15.00	(14.00)	1.00	8.2%	0.08
5/1/2018	5/31/2018	5/2/2018	5/16/2018	$0.6	15.50	(15.00)	0.50	8.2%	0.04
6/1/2018	6/30/2018	6/5/2018	6/15/2018	$0.6	15.00	(15.00)	0.00	8.2%	0.00
7/1/2018	7/31/2018	7/6/2018	7/16/2018	$0.6	15.50	(15.00)	0.50	8.2%	0.04
8/1/2018	8/31/2018	8/2/2018	8/16/2018	$0.6	15.50	(15.00)	0.50	8.2%	0.04
9/1/2018	9/30/2018	8/28/2018	9/14/2018	$0.6	15.00	(16.00)	(1.00)	8.2%	(0.08)
10/1/2018	10/31/2018	10/9/2018	10/16/2018	$0.6	15.50	(15.00)	0.50	8.2%	0.04
11/1/2018	11/30/2018	11/2/2018	11/16/2018	$0.6	15.00	(14.00)	1.00	8.2%	0.08
12/1/2018	12/31/2018	12/6/2018	12/16/2018	$0.6	15.50	(15.00)	0.50	8.2%	0.04
Total				**$7.2**				**100.0%**	**4.18**

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Table 20. Interest on Long-Term Debt Leads

Fiscal Period Beginning	Fiscal Period Ending	Payment Date	Principal Amount ($M)	Payment Amount ($M)	Service Lead Days	Payment Lead Days	Total Expense Lead Days	Weighting Factor	Weighted Expense Lead Days
1/1/2018	12/31/2018	3/22/2018	$200.0	$5.1	182.50	(284.00)	(101.50)	2.73%	(2.77)
1/1/2018	12/31/2018	3/22/2018	$100.0	$2.8	182.50	(284.00)	(101.50)	1.51%	(1.54)
1/1/2018	12/31/2018	9/22/2018	$100.0	$2.8	182.50	(100.00)	82.50	1.51%	1.25
1/1/2019	12/31/2019	3/22/2019	$100.0	$0.0	182.50	(284.00)	(101.50)	0.00%	0.00
1/1/2018	12/31/2018	3/22/2018	$230.0	$5.4	182.50	(284.00)	(101.50)	2.88%	(2.93)
1/1/2018	12/31/2018	9/22/2018	$230.0	$5.4	182.50	(100.00)	82.50	2.88%	2.38
1/1/2019	12/31/2019	3/22/2019	$230.0	$0.0	182.50	(284.00)	(101.50)	0.00%	0.00
1/1/2018	12/31/2018	3/22/2018	$230.0	$5.0	182.50	(284.00)	(101.50)	2.71%	(2.75)
1/1/2018	12/31/2018	9/22/2018	$230.0	$5.0	182.50	(100.00)	82.50	2.71%	2.23
1/1/2019	12/31/2019	3/22/2019	$230.0	$0.0	182.50	(284.00)	(101.50)	0.00%	0.00
1/1/2018	12/31/2018	3/22/2018	$150.0	$4.0	182.50	(284.00)	(101.50)	2.17%	(2.20)
1/1/2018	12/31/2018	9/22/2018	$150.0	$4.0	182.50	(100.00)	82.50	2.17%	1.79
1/1/2019	12/31/2019	3/22/2019	$150.0	$0.0	182.50	(284.00)	(101.50)	0.00%	0.00
1/1/2018	12/31/2018	3/22/2018	$150.0	$3.6	182.50	(284.00)	(101.50)	1.91%	(1.93)
1/1/2018	12/31/2018	9/22/2018	$150.0	$3.6	182.50	(100.00)	82.50	1.91%	1.57
1/1/2019	12/31/2019	3/22/2019	$150.0	$0.0	182.50	(284.00)	(101.50)	0.00%	0.00
1/1/2018	12/31/2018	3/22/2018	$200.0	$4.4	182.50	(284.00)	(101.50)	2.34%	(2.37)
1/1/2018	12/31/2018	9/22/2018	$200.0	$4.4	182.50	(100.00)	82.50	2.34%	1.93
1/1/2019	12/31/2019	3/22/2019	$200.0	$0.0	182.50	(284.00)	(101.50)	0.00%	0.00
1/1/2018	12/31/2018	5/22/2018	$50.0	$0.8	182.50	(223.00)	(40.50)	0.41%	(0.16)
1/1/2018	12/31/2018	11/22/2018	$50.0	$0.8	182.50	(39.00)	143.50	0.41%	0.58
1/1/2019	12/31/2019	5/22/2019	$50.0	$0.0	182.50	(223.00)	(40.50)	0.00%	0.00
1/1/2018	12/31/2018	5/22/2018	$50.0	$1.0	182.50	(223.00)	(40.50)	0.54%	(0.22)
1/1/2018	12/31/2018	11/22/2018	$50.0	$1.0	182.50	(39.00)	143.50	0.54%	0.77
1/1/2019	12/31/2019	5/22/2019	$50.0	$0.0	182.50	(223.00)	(40.50)	0.00%	0.00
1/1/2018	12/31/2018	1/1/2018	$15.0	$0.2	182.50	(364.00)	(181.50)	0.12%	(0.22)
1/1/2018	12/31/2018	4/1/2018	$15.0	$0.2	182.50	(274.00)	(91.50)	0.13%	(0.12)
1/1/2018	12/31/2018	7/1/2018	$15.0	$0.2	182.50	(183.00)	(0.50)	0.13%	(0.00)
1/1/2018	12/31/2018	10/1/2018	$15.0	$0.2	182.50	(91.00)	91.50	0.13%	0.12
1/1/2019	12/31/2019	1/1/2019	$15.0	$0.0	182.50	(364.00)	(181.50)	0.00%	0.00
1/1/2018	12/31/2018	2/22/2018	$200.0	$4.1	182.50	(312.00)	(129.50)	2.21%	(2.86)
1/1/2018	12/31/2018	8/22/2018	$200.0	$4.1	182.50	(131.00)	51.50	2.21%	1.14
1/1/2019	12/31/2019	2/22/2019	$200.0	$0.0	182.50	(312.00)	(129.50)	0.00%	0.00
1/1/2018	12/31/2018	6/22/2018	$100.0	$1.8	182.50	(192.00)	(9.50)	0.98%	(0.09)
1/1/2018	12/31/2018	12/22/2018	$100.0	$1.8	182.50	(9.00)	173.50	0.98%	1.70
1/1/2019	12/31/2019	6/22/2019	$100.0	$0.0	182.50	(192.00)	(9.50)	0.00%	0.00
1/1/2018	12/31/2018	2/22/2018	$100.0	$1.9	182.50	(312.00)	(129.50)	1.03%	(1.34)

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Fiscal Period Beginning	Fiscal Period Ending	Payment Date	Principal Amount ($M)	Payment Amount ($M)	Service Lead Days	Payment Lead Days	Total Expense Lead Days	Weighting Factor	Weighted Expense Lead Days
1/1/2018	12/31/2018	8/22/2018	$100.0	$1.9	182.50	(131.00)	51.50	1.03%	0.53
1/1/2019	12/31/2019	2/22/2019	$100.0	$0.0	182.50	(312.00)	(129.50)	0.00%	0.00
1/1/2018	12/31/2018	3/22/2018	$400.0	$8.1	182.50	(284.00)	(101.50)	4.36%	(4.43)
1/1/2018	12/31/2018	9/22/2018	$400.0	$8.1	182.50	(100.00)	82.50	4.36%	3.60
1/1/2019	12/31/2019	3/22/2019	$400.0	$0.0	182.50	(284.00)	(101.50)	0.00%	0.00
1/1/2018	12/31/2018	4/2/2018	$496.5	$8.2	182.50	(273.00)	(90.50)	4.41%	(3.99)
1/1/2018	12/31/2018	10/2/2018	$496.5	$8.2	182.50	(90.00)	92.50	4.41%	4.08
1/1/2019	12/31/2019	4/2/2019	$496.5	$0.0	182.50	(273.00)	(90.50)	0.00%	0.00
1/1/2018	12/31/2018	4/1/2018	$4.3	$0.1	182.50	(274.00)	(91.50)	0.05%	(0.04)
1/1/2018	12/31/2018	7/1/2018	$4.3	$0.1	182.50	(183.00)	(0.50)	0.05%	(0.00)
1/1/2018	12/31/2018	10/1/2018	$4.3	$0.1	182.50	(91.00)	91.50	0.05%	0.05
1/1/2019	12/31/2019	1/1/2019	$4.3	$0.0	182.50	(364.00)	(181.50)	0.00%	0.00
1/1/2018	12/31/2018	7/22/2018	$200.0	$7.7	182.50	(162.00)	20.50	4.15%	0.85
1/1/2019	12/31/2019	1/22/2019	$200.0	$0.0	182.50	(343.00)	(160.50)	0.00%	0.00
1/1/2018	12/31/2018	9/22/2018	$400.0	$16.0	182.50	(100.00)	82.50	8.57%	7.07
1/1/2019	12/31/2019	3/22/2019	$400.0	$0.0	182.50	(284.00)	(101.50)	0.00%	0.00
1/1/2018	12/31/2018	12/22/2018	$342.0	$17.3	182.50	(9.00)	173.50	9.26%	16.07
1/1/2019	12/31/2019	6/22/2019	$342.0	$0.0	182.50	(192.00)	(9.50)	0.00%	0.00
1/1/2019	12/31/2019	4/1/2019	$2.2	$0.0	182.50	(274.00)	(91.50)	0.00%	0.00
1/1/2018	12/31/2018	1/22/2018	$40.0	$2.1	182.50	(343.00)	(160.50)	1.12%	(1.80)
1/1/2018	12/31/2018	4/22/2018	$30.0	$1.6	182.50	(253.00)	(70.50)	0.87%	(0.62)
1/1/2018	12/31/2018	1/22/2018	$30.0	$0.8	182.50	(343.00)	(160.50)	0.44%	(0.71)
1/1/2018	12/31/2018	7/22/2018	$30.0	$0.8	182.50	(162.00)	20.50	0.44%	0.09
1/1/2018	12/31/2018	1/22/2018	$30.0	$0.9	182.50	(343.00)	(160.50)	0.50%	(0.80)
1/1/2018	12/31/2018	7/22/2018	$30.0	$0.9	182.50	(162.00)	20.50	0.50%	0.10
1/1/2019	12/31/2019	1/22/2019	$30.0	$0.0	182.50	(343.00)	(160.50)	0.00%	0.00
1/1/2018	12/31/2018	4/22/2018	$35.0	$1.0	182.50	(253.00)	(70.50)	0.53%	(0.37)
1/1/2018	12/31/2018	10/22/2018	$35.0	$1.0	182.50	(70.00)	112.50	0.53%	0.59
1/1/2019	12/31/2019	4/22/2019	$35.0	$0.0	182.50	(253.00)	(70.50)	0.00%	0.00
1/1/2018	12/31/2018	1/22/2018	$35.0	$1.8	182.50	(343.00)	(160.50)	0.97%	(1.56)
1/1/2019	12/31/2019	7/22/2019	$35.0	$0.0	182.50	(162.00)	20.50	0.00%	0.00
1/1/2019	12/31/2019	1/22/2019	$35.0	$0.0	182.50	(343.00)	(160.50)	0.00%	0.00
1/1/2018	12/31/2018	4/22/2018	$50.0	$1.2	182.50	(253.00)	(70.50)	0.65%	(0.46)
1/1/2018	12/31/2018	10/22/2018	$50.0	$1.2	182.50	(70.00)	112.50	0.65%	0.73
1/1/2019	12/31/2019	4/22/2019	$50.0	$0.0	182.50	(253.00)	(70.50)	0.00%	0.00
1/1/2018	12/31/2018	1/22/2018	$50.0	$1.2	182.50	(343.00)	(160.50)	0.62%	(0.99)
1/1/2018	12/31/2018	7/22/2018	$50.0	$1.2	182.50	(162.00)	20.50	0.62%	0.13
1/1/2019	12/31/2019	1/22/2019	$50.0	$0.0	182.50	(343.00)	(160.50)	0.00%	0.00

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Lead/Lag Analysis for Working Capital Requirements for Ontario Power Generation Inc.

Fiscal Period Beginning	Fiscal Period Ending	Payment Date	Principal Amount ($M)	Payment Amount ($M)	Service Lead Days	Payment Lead Days	Total Expense Lead Days	Weighting Factor	Weighted Expense Lead Days
1/1/2018	12/31/2018	4/22/2018	$65.0	$1.6	182.50	(253.00)	(70.50)	0.86%	(0.61)
1/1/2018	12/31/2018	10/22/2018	$65.0	$1.6	182.50	(70.00)	112.50	0.86%	0.97
1/1/2019	12/31/2019	4/22/2019	$65.0	$0.0	182.50	(253.00)	(70.50)	0.00%	0.00
1/1/2018	12/31/2018	1/22/2018	$35.0	$0.8	182.50	(343.00)	(160.50)	0.44%	(0.70)
1/1/2018	12/31/2018	7/22/2018	$35.0	$0.8	182.50	(162.00)	20.50	0.44%	0.09
1/1/2019	12/31/2019	1/22/2019	$35.0	$0.0	182.50	(343.00)	(160.50)	0.00%	0.00
1/1/2018	12/31/2018	4/22/2018	$50.0	$1.0	182.50	(253.00)	(70.50)	0.55%	(0.39)
1/1/2018	12/31/2018	10/22/2018	$50.0	$1.0	182.50	(70.00)	112.50	0.55%	0.62
1/1/2019	12/31/2019	4/22/2019	$50.0	$0.0	182.50	(253.00)	(70.50)	0.00%	0.00
1/1/2018	12/31/2018	1/22/2018	$40.0	$0.9	182.50	(343.00)	(160.50)	0.49%	(0.79)
1/1/2018	12/31/2018	7/22/2018	$40.0	$0.9	182.50	(162.00)	20.50	0.49%	0.10
1/1/2019	12/31/2019	1/22/2019	$40.0	$0.0	182.50	(343.00)	(160.50)	0.00%	0.00
1/1/2018	12/31/2018	4/22/2018	$35.0	$0.8	182.50	(253.00)	(70.50)	0.43%	(0.31)
1/1/2018	12/31/2018	10/22/2018	$35.0	$0.8	182.50	(70.00)	112.50	0.43%	0.49
1/1/2019	12/31/2019	4/22/2019	$35.0	$0.0	182.50	(253.00)	(70.50)	0.00%	0.00
1/1/2018	12/31/2018	1/22/2018	$50.0	$1.0	182.50	(343.00)	(160.50)	0.56%	(0.89)
1/1/2018	12/31/2018	7/22/2018	$50.0	$1.0	182.50	(162.00)	20.50	0.56%	0.11
1/1/2019	12/31/2019	1/22/2019	$50.0	$0.0	182.50	(343.00)	(160.50)	0.00%	0.00
1/1/2018	12/31/2018	4/22/2018	$60.0	$1.2	182.50	(253.00)	(70.50)	0.64%	(0.45)
1/1/2018	12/31/2018	10/22/2018	$60.0	$1.2	182.50	(70.00)	112.50	0.64%	0.72
1/1/2019	12/31/2019	4/22/2019	$60.0	$0.0	182.50	(253.00)	(70.50)	0.00%	0.00
1/1/2018	12/31/2018	1/22/2018	$40.0	$0.7	182.50	(343.00)	(160.50)	0.38%	(0.62)
1/1/2018	12/31/2018	7/22/2018	$40.0	$0.7	182.50	(162.00)	20.50	0.38%	0.08
1/1/2019	12/31/2019	1/22/2019	$40.0	$0.0	182.50	(343.00)	(160.50)	0.00%	0.00
1/1/2018	12/31/2018	4/22/2018	$35.0	$0.6	182.50	(253.00)	(70.50)	0.33%	(0.23)
1/1/2018	12/31/2018	10/22/2018	$35.0	$0.6	182.50	(70.00)	112.50	0.33%	0.37
1/1/2019	12/31/2019	4/22/2019	$35.0	$0.0	182.50	(253.00)	(70.50)	0.00%	0.00
1/1/2018	12/31/2018	1/22/2018	$45.0	$0.7	182.50	(343.00)	(160.50)	0.36%	(0.58)
1/1/2018	12/31/2018	7/22/2018	$45.0	$0.7	182.50	(162.00)	20.50	0.36%	0.07
1/1/2019	12/31/2019	1/22/2019	$45.0	$0.0	182.50	(343.00)	(160.50)	0.00%	0.00
1/1/2018	12/31/2018	4/22/2018	$30.0	$0.5	182.50	(253.00)	(70.50)	0.25%	(0.18)
1/1/2018	12/31/2018	10/22/2018	$30.0	$0.5	182.50	(70.00)	112.50	0.25%	0.29
1/1/2019	12/31/2019	4/22/2019	$30.0	$0.0	182.50	(253.00)	(70.50)	0.00%	0.00
1/1/2018	12/31/2018	1/22/2018	$20.0	$0.3	182.50	(343.00)	(160.50)	0.18%	(0.28)
1/1/2018	12/31/2018	7/22/2018	$20.0	$0.3	182.50	(162.00)	20.50	0.18%	0.04
1/1/2019	12/31/2019	1/22/2019	$20.0	$0.0	182.50	(343.00)	(160.50)	0.00%	0.00
1/1/2018	12/31/2018	4/22/2018	$20.0	$0.3	182.50	(253.00)	(70.50)	0.16%	(0.11)
1/1/2018	12/31/2018	10/22/2018	$20.0	$0.3	182.50	(70.00)	112.50	0.16%	0.18

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Lead/Lag Analysis for Working Capital Requirements for Ontario Power Generation Inc.

Fiscal Period Beginning	Fiscal Period Ending	Payment Date	Principal Amount ($M)	Payment Amount ($M)	Service Lead Days	Payment Lead Days	Total Expense Lead Days	Weighting Factor	Weighted Expense Lead Days
1/1/2019	12/31/2019	4/22/2019	$20.0	$0.0	182.50	(253.00)	(70.50)	0.00%	0.00
				$186.5				**100.00%**	**10.07**

Table 21. PILS Expense Leads

Service Period Start	Service Period Ending	Payment Date	Payment Amount ($M)	Service Lead Days	Payment Lead Days	Total Expense Lead Days	Weighting Factor	Weighted Expense Lead Days
1/1/2018	1/31/2018	1/31/2018	$9.8	15.50	0.00	15.50	5.9%	0.91
1/1/2018	2/28/2018	2/28/2018	$36.9	29.50	0.00	29.50	22.0%	6.49
2/1/2018	2/28/2018	2/28/2018	$9.8	14.00	0.00	14.00	5.9%	0.82
3/1/2018	3/30/2018	4/3/2018	$9.8	15.00	4.00	19.00	5.9%	1.12
4/1/2018	4/30/2018	4/30/2018	$5.5	15.00	0.00	15.00	3.3%	0.49
5/1/2018	5/31/2018	5/31/2018	$5.5	15.50	0.00	15.50	3.3%	0.51
8/1/2018	8/31/2018	8/10/2018	$7.7	15.50	0.00	15.5	4.6%	0.71
9/1/2018	9/30/2018	10/1/2018	$7.7	15.00	1.00	16.00	4.6%	0.73
10/1/2018	10/31/2018	10/31/2018	$49.9	15.50	0.00	15.50	29.7%	4.61
11/1/2018	11/30/2018	11/30/2018	$12.0	15.00	0.00	15.00	7.2%	1.08
12/1/2018	12/31/2018	12/31/2018	$13.1	15.50	0.00	15.50	7.2%	1.21
Total			**$167.8**				**100.0%**	**18.67**

Table 22: Payroll and Payroll Withholdings Expense Leads

Payroll Type	Total Payment ($M)	Total Expense Lead Days	Weighting Factor	Weighted Expense Lead Days
Bi-weekly Payroll	$1,116.9	24.50	84.45%	20.69
Monthly Payroll	$146.9	3.59	11.1%	0.40
EPSCA Payroll	$58.0	14.63	4.4%	0.64
Other Payroll	$0.7	20.28	0.0%	0.01
Total	**$1,322.5**		**100.0**	**21.74**

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Lead/Lag Analysis for Working Capital Requirements for Ontario Power Generation Inc.

Table 23. Performance Incentives Expense Leads

Description	Service Period Start	Service Period Ending	Payment Date	Payment Amount ($M)	Service Lead Days	Payment Lead Days	Total Expense Lead Days	Weighting Factor	Weighted Expense Lead Days
Performance Incentive	1/1/2017	12/31/2017	3/15/2018	$14.5	182.50	74.00	256.50	43.3%	111.14
Withholdings on Incentive	1/1/2017	12/31/2017	3/26/2018	$19.0	182.50	85.00	267.50	56.7%	151.60
Total				**$31.1**				**100.0%**	**262.73**

Table 24: Pension Contributions Expense Leads

Service Period Start	Service Period Ending	Payment Date	Payment Amount ($M)	Service Lead Days	Payment Lead Days	Total Expense Lead Days	Weighting Factor	Weighted Expense Lead Days
1/1/2018	1/31/2018	1/25/2018	$16.7	15.50	(6.00)	9.50	9.2%	0.88
2/1/2018	2/28/2018	2/26/2018	$16.7	14.00	(2.00)	12.00	9.2%	1.11
3/1/2018	3/31/2018	3/26/2018	$16.7	15.50	(5.00)	10.50	9.2%	0.97
4/1/2018	4/30/2018	4/25/2018	$16.7	15.00	(5.00)	10.00	9.2%	0.92
5/1/2018	5/31/2018	5/25/2018	$16.7	15.50	(6.00)	9.50	9.2%	0.88
6/1/2018	6/30/2018	6/25/2018	$16.7	15.00	(5.00)	10.00	9.2%	0.92
7/1/2018	7/31/2018	7/25/2018	$16.7	15.50	(6.00)	9.50	9.2%	0.88
8/1/2018	8/31/2018	8/27/2018	$16.7	15.50	(4.00)	11.50	9.2%	1.06
9/1/2018	9/30/2018	9/25/2018	$16.7	15.00	(5.00)	10.00	9.2%	0.92
10/1/2018	10/31/2018	10/25/2018	$10.1	15.50	(6.00)	9.50	5.6%	0.53
11/1/2018	11/30/2018	11/26/2018	$10.1	15.00	(4.00)	11.00	5.6%	0.62
12/1/2018	12/31/2018	12/27/2018	$10.1	15.50	(4.00)	11.50	5.6%	0.65
Total			**$180.5**				**100.0%**	**10.34**

Table 25: Active Benefits Expense Leads

Item	Payment Amount ($M)	Total Expense Lead Days	Weighting Factor	Weighted Expense Lead Days
WSIB	$7.3	44.92	8.1%	3.66
Group Life Insurance	$8.6	14.02	9.5%	1.33
Employer Health Tax	$28.8	30.23	32.0%	9.67
Health and Dental	$45.3	7.98	50.4%	4.02
Total	**$90.0**		**100%**	**18.68**

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Lead/Lag Analysis for Working Capital Requirements for Ontario Power Generation Inc.

Table 26. Other Post-Employment Benefits Leads

Item	Payment Amount ($M)	Total Expense Lead Days	Weighting Factor	Weighted Expense Lead Days
Supplementary Pension Plan	$15.5	(10.52)	15.5%	(1.64)
Long-Term Disability Benefits	$19.8	34.56	19.8%	6.85
Long-Term Disability Health & Dental	$2.9	8.53	2.9%	0.24
Other Post-Retirement Health & Dental	$50.0	8.34	50.0%	4.17
Other	$11.7	32.24	11.8%	3.79
Total	**$99.9**		**100.0%**	**13.42**

Table 27. Insurance Expense Leads

Period Beginning	Period Ending	Payment Date	Payment Amount ($)	Service Lead Days	Payment Lead Days	Total Expense Lead Days	Weighting Factor	Weighted Expense Lead Days
1/31/2018	1/31/2019	2/7/2018	$3,315	183.00	(358.00)	(175.00)	0%	(0.02)
1/31/2018	1/31/2019	2/7/2018	$20,513	183.00	(358.00)	(175.00)	0%	(0.11)
2/28/2018	2/28/2019	3/5/2018	$8,334	183.00	(360.00)	(177.00)	0%	(0.04)
2/28/2018	2/28/2019	3/9/2018	$25,035	183.00	(356.00)	(173.00)	0%	(0.13)
5/31/2018	5/31/2019	6/1/2018	$18,841	183.00	(364.00)	(181.00)	0%	(0.10)
11/30/2018	11/30/2019	12/19/2018	$6,745,866	183.00	(346.00)	(163.00)	20%	(32.23)
11/30/2018	11/30/2019	12/21/2018	$15,316	183.00	(344.00)	(161.00)	0%	(0.07)
11/30/2018	11/30/2019	12/21/2018	$278	183.00	(344.00)	(161.00)	0%	(0.00)
11/30/2018	11/30/2019	12/21/2018	$79,605	183.00	(344.00)	(161.00)	0%	(0.38)
11/30/2018	11/30/2019	12/21/2018	$21,526	183.00	(344.00)	(161.00)	0%	(0.10)
11/30/2018	11/30/2019	12/21/2018	$503,285	183.00	(344.00)	(161.00)	1%	(2.38)
1/31/2018	1/31/2019	2/15/2018	$9,293,297	183.00	(350.00)	(167.00)	27%	(45.49)
2/28/2018	2/28/2019	3/9/2018	$572	183.00	(356.00)	(173.00)	0%	(0.00)
2/28/2018	2/28/2019	3/9/2018	$7,089	183.00	(356.00)	(173.00)	0%	(0.04)
2/28/2018	2/28/2019	3/9/2018	$142,500	183.00	(356.00)	(173.00)	0%	(0.72)
2/28/2018	2/28/2019	3/9/2018	$35,000	183.00	(356.00)	(173.00)	0%	(0.18)
2/28/2018	2/28/2019	3/16/2018	$120,478	183.00	(349.00)	(166.00)	0%	(0.59)
2/28/2018	2/28/2019	3/16/2018	$9,189	183.00	(349.00)	(166.00)	0%	(0.04)
2/28/2018	2/28/2019	3/16/2018	$102	183.00	(349.00)	(166.00)	0%	(0.00)
2/28/2018	2/28/2019	3/16/2018	$2,935	183.00	(349.00)	(166.00)	0%	(0.01)
3/31/2018	3/31/2019	4/9/2018	$6,375	183.00	(356.00)	(173.00)	0%	(0.03)
3/31/2018	3/31/2019	4/9/2018	$63,760	183.00	(356.00)	(173.00)	0%	(0.32)
3/31/2018	3/31/2019	4/9/2018	$29,827	183.00	(356.00)	(173.00)	0%	(0.15)
3/31/2018	3/31/2019	4/9/2018	$53,790	183.00	(356.00)	(173.00)	0%	(0.27)
3/31/2018	3/31/2019	4/9/2018	$21,929	183.00	(356.00)	(173.00)	0%	(0.11)
3/31/2018	3/31/2019	4/9/2018	$21,826	183.00	(356.00)	(173.00)	0%	(0.11)
3/31/2018	3/31/2019	4/9/2018	$54,566	183.00	(356.00)	(173.00)	0%	(0.28)
3/31/2018	3/31/2019	4/9/2018	$21,826	183.00	(356.00)	(173.00)	0%	(0.11)

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Lead/Lag Analysis for Working Capital Requirements for Ontario Power Generation Inc.

Period Beginning	Period Ending	Payment Date	Payment Amount ($)	Service Lead Days	Payment Lead Days	Total Expense Lead Days	Weighting Factor	Weighted Expense Lead Days
3/31/2018	3/31/2019	4/9/2018	$150,615	183.00	(356.00)	(173.00)	0%	(0.76)
3/31/2018	3/31/2019	4/9/2018	$1,614	183.00	(356.00)	(173.00)	0%	(0.01)
3/31/2018	3/31/2019	4/9/2018	$33,451	183.00	(356.00)	(173.00)	0%	(0.17)
3/31/2018	3/31/2019	4/9/2018	$36,855	183.00	(356.00)	(173.00)	0%	(0.19)
3/31/2018	3/31/2019	4/9/2018	$61,560	183.00	(356.00)	(173.00)	0%	(0.31)
3/31/2018	3/31/2019	4/9/2018	$114,000	183.00	(356.00)	(173.00)	0%	(0.58)
3/31/2018	3/31/2019	4/9/2018	$1,106	183.00	(356.00)	(173.00)	0%	(0.01)
3/31/2018	3/31/2019	4/9/2018	$16,993	183.00	(356.00)	(173.00)	0%	(0.09)
3/31/2018	3/31/2019	4/17/2018	$53,737	183.00	(348.00)	(165.00)	0%	(0.26)
3/31/2018	3/31/2019	4/24/2018	$8,099	183.00	(341.00)	(158.00)	0%	(0.04)
3/31/2018	3/31/2019	4/26/2018	$234,809	183.00	(339.00)	(156.00)	1%	(1.07)
3/31/2018	3/31/2019	4/26/2018	$77,983	183.00	(339.00)	(156.00)	0%	(0.36)
4/30/2018	4/30/2019	5/24/2018	$22,050	183.00	(341.00)	(158.00)	0%	(0.10)
4/30/2018	4/30/2019	5/25/2018	$43,000	183.00	(340.00)	(157.00)	0%	(0.20)
5/31/2018	5/31/2019	6/11/2018	$1,200	183.00	(354.00)	(171.00)	0%	(0.01)
5/31/2018	5/31/2019	6/29/2018	$5,509	183.00	(336.00)	(153.00)	0%	(0.02)
5/31/2018	5/31/2019	6/29/2018	$5,527	183.00	(336.00)	(153.00)	0%	(0.02)
6/30/2018	6/30/2019	7/9/2018	$19,201	183.00	(356.00)	(173.00)	0%	(0.10)
6/30/2018	6/30/2019	7/24/2018	$55,704	183.00	(341.00)	(158.00)	0%	(0.26)
6/30/2018	6/30/2019	7/24/2018	$3,041,804	183.00	(341.00)	(158.00)	9%	(14.09)
6/30/2018	6/30/2019	7/24/2018	$75,000	183.00	(341.00)	(158.00)	0%	(0.35)
6/30/2018	6/30/2019	7/24/2018	$29,500	183.00	(341.00)	(158.00)	0%	(0.14)
6/30/2018	6/30/2019	7/24/2018	$23,000	183.00	(341.00)	(158.00)	0%	(0.11)
6/30/2018	6/30/2019	7/24/2018	$12,000	183.00	(341.00)	(158.00)	0%	(0.06)
6/30/2018	6/30/2019	7/24/2018	$335,972	183.00	(341.00)	(158.00)	1%	(1.56)
6/30/2018	6/30/2019	7/24/2018	$37,500	183.00	(341.00)	(158.00)	0%	(0.17)
6/30/2018	6/30/2019	7/27/2018	$3,055,150	183.00	(338.00)	(155.00)	9%	(13.88)
6/30/2018	6/30/2019	7/27/2018	$3,652	183.00	(338.00)	(155.00)	0%	(0.02)
6/30/2018	6/30/2019	7/27/2018	$56,591	183.00	(338.00)	(155.00)	0%	(0.26)
6/30/2018	6/30/2019	7/27/2018	$210,627	183.00	(338.00)	(155.00)	1%	(0.96)
6/30/2018	6/30/2019	7/27/2018	$192,126	183.00	(338.00)	(155.00)	1%	(0.87)
6/30/2018	6/30/2019	7/27/2018	$58,000	183.00	(338.00)	(155.00)	0%	(0.26)
7/31/2018	7/31/2019	8/2/2018	$31,708	183.00	(363.00)	(180.00)	0%	(0.17)
7/31/2018	7/31/2019	8/2/2018	$38,045	183.00	(363.00)	(180.00)	0%	(0.20)
7/31/2018	7/31/2019	8/2/2018	$48,322	183.00	(363.00)	(180.00)	0%	(0.25)
7/31/2018	7/31/2019	8/2/2018	$77,105	183.00	(363.00)	(180.00)	0%	(0.41)
7/31/2018	7/31/2019	8/2/2018	$850,000	183.00	(363.00)	(180.00)	2%	(4.48)
7/31/2018	7/31/2019	8/2/2018	$6,457,009	183.00	(363.00)	(180.00)	19%	(34.07)
7/31/2018	7/31/2019	8/10/2018	$119,316	183.00	(355.00)	(172.00)	0%	(0.60)
7/31/2018	7/31/2019	8/16/2018	$30,588	183.00	(349.00)	(166.00)	0%	(0.15)

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Period Beginning	Period Ending	Payment Date	Payment Amount ($)	Service Lead Days	Payment Lead Days	Total Expense Lead Days	Weighting Factor	Weighted Expense Lead Days
7/31/2018	7/31/2019	8/16/2018	$50,522	183.00	(349.00)	(166.00)	0%	(0.25)
7/31/2018	7/31/2019	8/22/2018	$9,760	183.00	(343.00)	(160.00)	0%	(0.05)
11/30/2018	11/30/2019	12/19/2018	$888,411	183.00	(346.00)	(163.00)	3%	(4.24)
11/30/2018	11/30/2019	12/21/2018	$82,500	183.00	(344.00)	(161.00)	0%	(0.39)
11/30/2018	11/30/2019	12/21/2018	$31,250	183.00	(344.00)	(161.00)	0%	(0.15)
Total			**$34,115,446**					**(166.68)**

Table 28: Other OM&A Expense Leads

Cost Category	Payment Amount ($M)	Total Expense Lead Days	Weighting Factor	Weighted Expense Lead Days
Computer Equipment, Software, Licenses and Telecommunications	$36.3	138.08	9.1%	12.59
Other Purchased Services	$267.4	$70.9	67.1%	47.57
Augmented Staff	$43.1	59.95	10.8%	6.49
Operating Licenses	$39.4	36.95	9.9%	3.65
Other Misc. OM&A	$12.2	71.37	3.1%	2.19
Total	**$398.4**		**100.0%**	**72.48**

Table 29. Nuclear Property Tax Expenses

Municipality	Period Beginning	Period Ending	Payment Date	Payment Amount	Service Lead Days	Payment Lead Days	Total Expense Lead Days	Weighting Factor	Weighted Expense Lead Days
Clarington	1/1/2018	12/31/2018	2/15/2018	$0.5	182.50	(319.00)	(136.50)	6.2%	(8.41)
Clarington	1/1/2018	12/31/2018	4/19/2018	$0.5	182.50	(256.00)	(73.50)	6.2%	(4.53)
Clarington	1/1/2018	12/31/2018	6/21/2018	$0.6	182.50	(193.00)	(10.50)	6.5%	(0.69)
Clarington	1/1/2018	12/31/2018	9/20/2018	$0.6	182.50	(102.00)	80.50	6.5%	5.26
Clarington	1/1/2018	12/31/2018	2/15/2018	$0.5	182.50	(319.00)	(136.50)	6.2%	(8.48)
Clarington	1/1/2018	12/31/2018	4/19/2018	$0.5	182.50	(256.00)	(73.50)	6.2%	(4.57)
Clarington	1/1/2018	12/31/2018	8/16/2018	$0.6	182.50	(137.00)	45.50	6.8%	3.09
Clarington	1/1/2018	12/31/2018	9/20/2018	$0.6	182.50	(102.00)	80.50	6.8%	5.46
Clarington	1/1/2018	12/31/2018	8/14/2018	($0.2)	182.50	(139.00)	43.50	(2.5%)	(1.11)
Clarington	1/1/2018	12/31/2018	8/14/2018	$0.2	182.50	(139.00)	43.50	2.8%	1.20
Pickering	1/1/2018	12/31/2018	2/27/2018	$1.1	182.50	(307.00)	(124.50)	12.7%	(15.80)
Pickering	1/1/2018	12/31/2018	4/27/2018	$1.1	182.50	(248.00)	(65.50)	12.7%	(8.31)
Pickering	1/1/2018	12/31/2018	9/27/2018	$2.0	182.50	(95.00)	87.50	23.0%	20.14
Total				**$8.6**				**100.0%**	**(16.73)**

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Table 30: Nuclear PILS Property Tax Expenses

Period Beginning	Period Ending	Payment Date	Payment Amount ($M)	Service Lead Days	Payment Lead Days	Total Expense Lead Days	Weighting Factor	Weighted Expense Lead Days
1/1/2018	1/31/2018	1/16/18	$0.4	15.50	(15.00)	0.50	8.1%	0.04
2/1/2018	2/28/2018	2/16/18	$0.4	14.00	(12.00)	2.00	8.1%	0.16
3/1/2018	3/31/2018	3/16/18	$0.4	15.50	(15.00)	0.50	8.1%	0.04
4/1/2018	4/30/2018	4/16/18	$0.4	15.00	(14.00)	1.00	8.1%	0.08
5/1/2018	5/31/2018	5/16/18	$0.4	15.50	(15.00)	0.50	8.1%	0.04
6/1/2018	6/30/2018	6/15/18	$0.4	15.00	(15.00)	0.00	8.1%	0.00
7/1/2018	7/31/2018	7/16/18	$0.4	15.50	(15.00)	0.50	8.1%	0.04
8/1/2018	8/31/2018	8/16/18	$0.4	15.50	(15.00)	0.50	8.1%	0.04
9/1/2018	9/30/2018	9/14/18	$0.4	15.00	(16.00)	(1.00)	8.1%	(0.08)
10/1/2018	10/31/2018	10/16/18	$0.5	15.50	(15.00)	0.50	9.0%	0.05
11/1/2018	11/30/2018	11/16/18	$0.5	15.00	(14.00)	1.00	9.0%	0.09
12/1/2018	12/31/2018	12/16/18	$0.5	15.50	(15.00)	0.50	9.0%	0.05
Total			**$5.4**				**100.0%**	**0.55**

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