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Joanne Richardson
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Regulatory Affairs

BY COURIER

October 1, 2018

Ms. Kirsten Walli
Board Secretary
Ontario Energy Board
Suite 2700, 2300 Yonge Street
P.O. Box 2319
Toronto, ON M4P 1E4

Dear Ms. Walli:

EB-2017-0364 - Hydro One Networks Inc.'s Section 92 - Lake Superior Link Project – Updated Interrogatory Responses

Hydro One is providing the following updated interrogatory responses, in Attachments 1-8 of this letter, to be filed on the public record.

- Attachment 1 provides an update to Exhibit I, Tab 5, Schedule 21. Hydro One noticed that the entire table was redacted, however the intent was to only redact a portion of that table.
- Attachment 2 provides a photo simulation of the new tower design proposed through Pukaskwa National Park as described in Exhibit I, Tab 1, Schedule 2. This tower design drawing is similar to the tower design that was shared with Pukaskwa National Park.
- Attachment 3 provides an Attachment to Exhibit I, Tab 2, Exhibit 6 that was inadvertently missed during the compiling of the responses.
- Attachment 4 provides the response to Exhibit I, Tab 2, Schedule 50 part c).
- Attachments 5-8 provides the attachments requested in Exhibit I, Tab 5, Schedule 22. These will be referenced as Attachments 1-4 of Exhibit I, Tab 5, Schedule 22.

An electronic copy of this has been filed through the Ontario Energy Board's Regulatory Electronic Submission System (RESS).

Sincerely,

ORIGINAL SIGNED BY JOANNE RICHARDSON

Joanne Richardson

School Energy Coalition Interrogatory # 21

Reference:

[Exhibit B-7-1]

Interrogatory:

Please provide a more detailed breakdown of the forecast construction costs.

Response:

More detailed breakdown of the updated construction cost is shown in Figure 1 below

Category / Sub-item	Cost k\$	Item Total k\$
SNC-Lavalin EPC Fixed Price		
Construction		354,030
- Foundation Installation		
- Transmission Installation		
- Indirects		
- Field Management		
Other Costs (EPC Insurance & Bonds)		9,451
Site Clearing, Preparation & Site Remediation		104,339
- Clearing & Access		
- Remediation & Restoration		
- First Nation and Metis Participation		
- Environmental Mitigation		
Material		58,713
- Lattice Towers		
- Foundations		
- Hardware		
- Conductor & Wires		
Construction Management, Engineering, Design & Procurement		16,124
EPC Construction Phase Sub Total		542,657
Hydro One Costs		
Project Management		6,085
Real Estate / Land Rights		10,558
First Nations & Métis Consultations		3,615
Other Consultations		30

Updated: 2018-10-01

EB-2017-0364

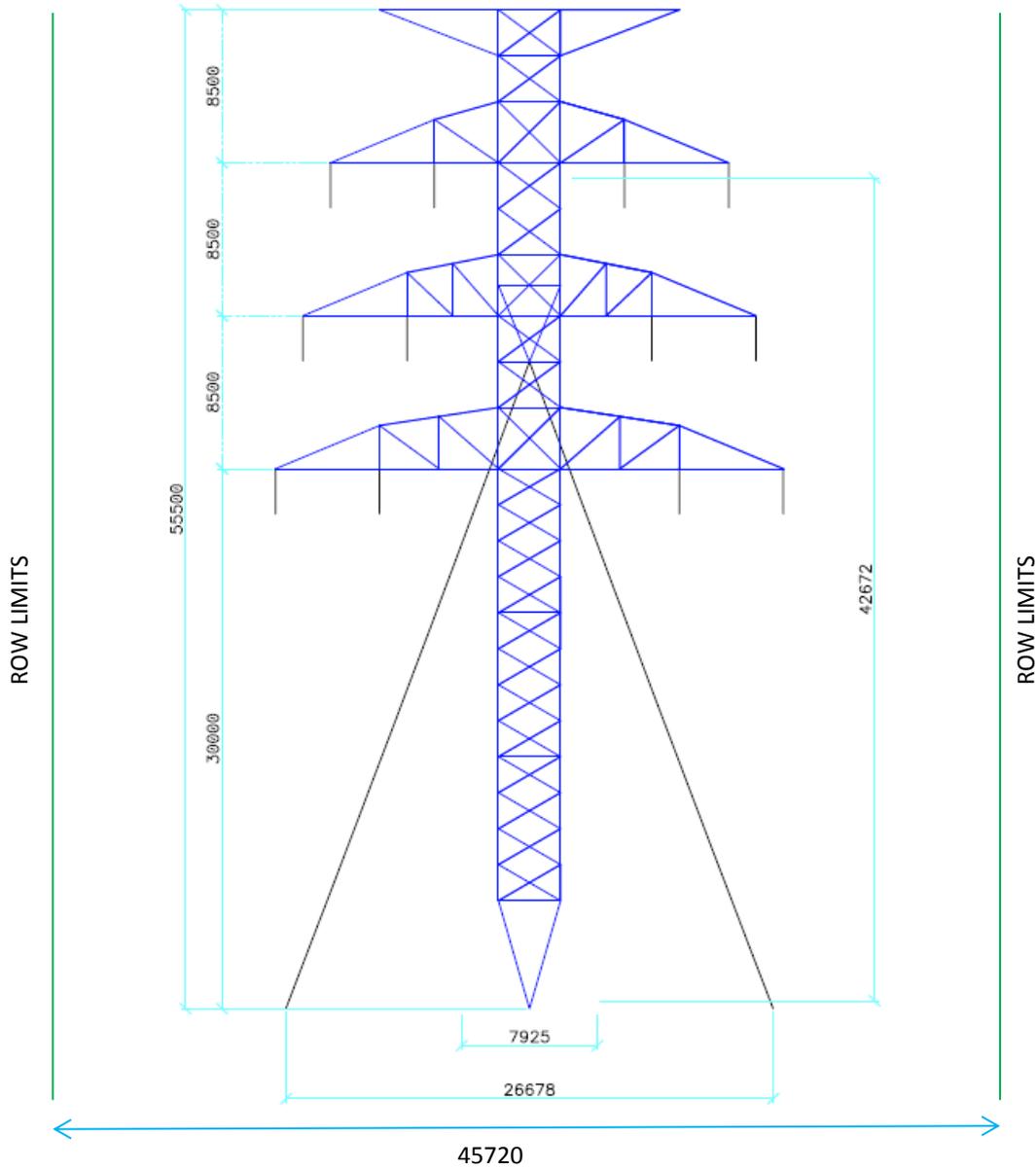
Exhibit I

Tab 5

Schedule 21

Page 2 of 2

Environmental Approval		2,423
Owner Engineering Review		180
T1M Relocation		1,500
Contingency		5,401
Interest During Construction("IDC")		43,845
Overhead		8,506
	Hydro One Sub Total	82,143
Total Construction Cost		624,800



From: [Peter Gregg](#)
To: [SCHMIDT Mayo](#)
Subject: Re: East West Tie
Date: Thursday, February 15, 2018 9:27:22 PM

Thanks Mayo. I truly enjoyed spending time with the Board and your senior management team.

Great news on the EW Tie. Good luck with the application.

Would love to get together. I will have Dianne reach out to your assistant.

Peter

Sent from my iPhone

On Feb 15, 2018, at 5:18 PM, "Mayo.Schmidt@HydroOne.com" <Mayo.Schmidt@HydroOne.com> wrote:

Hi Peter,

Thank you again for your presence at the Board dinner. The Board was very impressed with your leadership of the ISO and the new initiatives you communicated. I look forward to further discussions with you on advancing modernization of our industry. Your leadership is needed and will be key to success.

I reached out to you earlier to give you advanced notice that at business close today we will be filing our Section 92, "leave to construct" for the East West Tie – what we call the "Lake Superior Link" - with the Ontario Energy Board.

I hoped to deliver the good news in person, but wanted to ensure you had the benefit of knowing ahead of time.

I would very much like to meet with you in the near term to discuss the role you see unfolding for the IESO over the coming months and how Hydro One Leadership can be helpful in new processes with your team.

My best,

Mayo

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Lake Superior Link

Briefing for the Minister of Energy

March 26, 2018

Background



- In 2012 the OEB initiated a competitive process to designate an electricity transmitter to develop a 230kV high voltage transmission line between Thunder Bay and Wawa.
- In 2013 a proponent was chosen by the OEB
- In 2016, through an Order-in-Council, the East-West Tie was declared a priority project
- Summer 2017, The existing proponent's Leave to Construct substantially exceeded the costs submitted in the designation proceeding
- In fall 2017 the Minister of Energy asked the IESO to explore options and update the Needs Assessment of the project. This was reconfirmed on December 1, 2017.

Lake Superior Link



- Hydro One has been following the development work closely.
- In light of the disclosure of the substantially higher cost to construct the designated line, Hydro One felt compelled, on behalf of Ontario ratepayers, to assess its own ability to construct the line
- On February 15, 2018 Hydro One filed a Section 92 Leave to Construct with the OEB for new a transmission facility - "**Lake Superior Link**"



Lake Superior Link Project Map





Benefits of the Lake Superior Link

Hydro One's proposal is a **cost-effective solution** to deliver the required power supply to northwestern Ontario and **minimizes impacts on the environment**

Project cost savings in excess of
\$100M

50km
shorter

Operating & maintenance cost savings of
\$3M annually

We will be engaging **with communities along the route**, including Indigenous communities, to hear directly what **tangible benefits** we can bring to the region



The Hydro One advantage

We have more than

400

Employees in the
North

We have been doing
this for more than

100 years

We have a proven
track record

We own and operate

98%

of the transmission
system across
Ontario

Powering northern Ontario is an important part of our future

Thunder Bay Nipigon Marathon Algoma

We are part of these communities,

maintaining a large and highly skilled workforce



Community Outreach

- Key to project success is ensuring that local residents, businesses and community leaders understand the project and its benefits.
- A tour was undertaken as an initial touch-point with communities.
- Further similar tours will take place in the spring, summer and fall, 2018 including municipal councils, NOMA, Bamkushwada and First Nations Communities.

March 19th

- Dorion
- Nipigon
- Red Lake FN

March 20th

- Thunder Bay
- Schreiber

March 21st

- Terrace Bay
- Marathon

March 22nd

- White River
- Wawa



Next steps

- Environmental Assessment work with MOECC
- Waiting on a procedural order from the OEB
- Engaging communities along the route



Thank You

LSL - Projected Spend Rate in Construction Phase, starting Feb 2019 (\$)

	2019				2020				2021				2022
	Feb-Mar	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1
Construction	27,669,116	27,669,116	37,060,653	57,069,196	110,897,244	174,393,023	238,154,705	290,208,399	320,732,444	381,243,485	348,457,100	355,530,004	355,530,004
Site Clearing, Preparation & Site Remediation	0	0	9,384,358	43,715,721	83,652,078	94,197,770	100,005,528	101,183,556	102,361,584	103,350,355	104,339,126	104,339,126	104,339,126
Material	2,920,333	29,473,315	53,320,510	53,320,510	53,320,510	58,713,000	58,713,000	58,713,000	58,713,000	58,713,000	58,713,000	58,713,000	58,713,000
Other Costs	3,297,780	3,297,780	3,297,780	6,623,871	6,623,871	6,623,871	6,623,871	9,450,540	9,450,540	9,450,540	9,450,540	9,450,540	9,450,540
Construction Management, Engineering, Design & Procurement	833,188	1,666,377	3,266,377	4,801,377	6,456,422	8,111,467	9,668,213	11,208,213	11,224,213	12,874,213	14,724,213	16,304,213	16,304,213
Project Management	325,000	725,000	1,105,000	1,455,000	1,990,000	2,545,000	3,100,000	3,655,000	4,210,000	4,765,000	5,340,000	5,915,000	6,085,000
Real Estate	1,000,000	2,500,000	4,000,000	7,950,000	8,400,000	8,850,000	9,150,000	9,450,000	9,700,000	10,000,000	10,300,000	10,558,004	\$10,558,004
First Nations & Métis Consultations	160,000	400,000	640,000	880,000	1,120,000	1,360,000	1,600,000	1,840,000	2,160,000	2,520,000	2,880,000	3,200,000	3,614,637
Environmental Approval	200,000	500,000	800,000	1,100,000	1,350,000	1,500,000	1,650,000	1,800,000	1,950,000	2,100,000	2,250,000	2,400,000	2,422,851
Other Consultations	6,000	15,000	24,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000
Contingency	100,000	250,000	400,000	550,000	1,000,000	1,450,000	1,900,000	2,350,000	2,800,000	3,250,000	3,700,000	4,550,000	5,401,254
Interest During Construction ("IDC")	261,399	1,011,251	2,161,634	4,014,197	6,536,804	10,302,247	15,024,348	20,628,637	26,943,830	33,922,136	41,447,498	43,845,139	43,845,139
Overhead	550,492	1,119,441	1,853,497	3,009,244	4,176,915	5,191,847	6,090,696	6,854,267	7,347,710	8,164,587	8,052,414	8,355,445	8,506,571
Total Construction Cost	37,323,308	68,627,279	117,313,808	184,519,117	285,553,844	373,268,226	451,710,362	517,371,612	557,623,321	630,383,317	609,683,892	623,190,471	624,800,339

Date:	9-Feb-18
#REF!	25032

SUMMARY OF CONTRIBUTION CALCULATIONS
Network Pool - Estimated cost

Updated: 2018-10-01
EB-2017-0364
Exhibit I-5-22
Attachment 1
Page 1 of 2

Facility Name:	Hydro One Lake Superior Link Proposal															
Description:	2016 Rates															
Customer:	Lake Superior Link Proposal															
		In-Service Date	<-----	Project year ended - annualized from In-Service Date												----->
	Month	Oct-26	Oct-26	Oct-26	Oct-26	Oct-26	Oct-26	Oct-26	Oct-26	Oct-26	Oct-26	Oct-26	Oct-26	Oct-26	Oct-26	
	Year	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033		
		0	1	2	3	4	5	6	7	8	9	10	11	12		
Revenue & Expense Forecast																
Load Forecast (MW)			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Load adjustments (MW)			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Tariff Applied (\$/kW/Month)			3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66		
Incremental Revenue - \$M			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Removal Costs - \$M		(20.6)														
On-going OM&A Costs - \$M		0.0	(1.5)	(1.5)	(1.5)	(1.5)	(1.5)	(1.5)	(1.5)	(1.5)	(1.5)	(1.5)	(1.5)	(1.5)		
Municipal Tax - \$M			(2.7)	(2.7)	(2.7)	(2.7)	(2.7)	(2.7)	(2.7)	(2.7)	(2.7)	(2.7)	(2.7)	(2.7)		
Net Revenue/(Costs) before taxes - \$M		(20.6)	(4.2)	(4.2)	(4.2)	(4.2)	(4.2)	(4.2)	(4.2)	(4.2)	(4.2)	(4.2)	(4.2)	(4.2)		
Income Taxes		5.5	7.8	13.9	12.9	11.9	11.1	10.3	9.5	8.9	8.2	7.7	7.1	6.7		
Operating Cash Flow (after taxes) - \$M		(15.1)	3.6	9.7	8.7	7.7	6.9	6.1	5.3	4.7	4.1	3.5	3.0	2.5		
		Cumulative PV @														
		5.78%														
PV Operating Cash Flow (after taxes) - \$M (A)	37.0	(15.1)	3.5	8.9	7.5	6.4	5.3	4.5	3.7	3.1	2.5	2.0	1.6	1.3		
Capital Expenditures - \$M																
Upfront - capital cost before overheads & AFUDC		(590.9)														
- Overheads		(8.5)														
- AFUDC		(42.6)														
Total upfront capital expenditures		(642.0)														
On-going capital expenditures			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
PV On-going capital expenditures		0.0														
Total capital expenditures - \$M		(642.0)														
Capital Expenditures - \$M																
PV CCA Residual Tax Shield - \$M		3.1														
PV Working Capital - \$M		0.0														
PV Capital (after taxes) - \$M (B)	(638.9)	(638.9)														
Cumulative PV Cash Flow (after taxes) - \$M (A) + (B)	(601.9)	(654.0)	(650.5)	(641.6)	(634.1)	(627.7)	(622.4)	(617.9)	(614.2)	(611.1)	(608.6)	(606.6)	(605.0)	(603.7)		

Discounted Cash Flow Summary	
Economic Study Horizon - Years:	25
Discount Rate - %	5.78%
	Before Cont
	-\$M
PV Incremental Revenue	0.0
PV OM&A Costs	(40.7)
PV Municipal Tax	(36.1)
PV Income Taxes	20.4
PV CCA Tax Shield	96.6
PV Capital - Upfront	(642.0)
Add: PV Capital Contribution	0.0
PV Capital - On-going	0.0
PV Working Capital	0.0
PV Surplus / (Shortfall)	(601.9)
Profitability Index*	0.1

Other Assumptions	
In-Service Date:	26-Oct-21
Payback Year:	2046
No. of years required for payback:	25

Notes:
*PV of total cash flow, excluding net capital expenditure & on-going capital & proceeds on disposal / PV of net capital expenditure & on-going capital & proceeds on disposal

Date: 9-Feb-18
 Project # 25032

SUMMARY OF CONTRIBUTION CALCULATIONS
Network Pool - Estimated cost

Facility Name: Hydro One Lake Superior Link Proposal
 Description: 2016 Rates
 Customer: Lake Superior Link Proposal

	Month Year	Project year ended - annualized from In-Service Date											
		Oct-26 <u>2034</u> 13	Oct-26 <u>2035</u> 14	Oct-26 <u>2036</u> 15	Oct-26 <u>2037</u> 16	Oct-26 <u>2038</u> 17	Oct-26 <u>2039</u> 18	Oct-26 <u>2040</u> 19	Oct-26 <u>2041</u> 20	Oct-26 <u>2042</u> 21	Oct-26 <u>2043</u> 22	Oct-26 <u>2044</u> 23	Oct-26 <u>2045</u> 24
Revenue & Expense Forecast													
Load Forecast (MW)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Load adjustments (MW)		<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>
Tariff Applied (\$/kW/Month)		<u>3.66</u>	<u>3.66</u>	<u>3.66</u>	<u>3.66</u>	<u>3.66</u>	<u>3.66</u>	<u>3.66</u>	<u>3.66</u>	<u>3.66</u>	<u>3.66</u>	<u>3.66</u>	<u>3.66</u>
Incremental Revenue - \$M		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Removal Costs - \$M													
On-going OM&A Costs - \$M		(1.5)	(1.5)	(1.5)	(1.5)	(1.5)	(1.5)	(1.5)	(1.5)	(1.5)	(1.5)	(1.5)	(1.5)
Municipal Tax - \$M		<u>(2.7)</u>	<u>(2.7)</u>	<u>(2.7)</u>	<u>(2.7)</u>	<u>(2.7)</u>	<u>(2.7)</u>	<u>(2.7)</u>	<u>(2.7)</u>	<u>(2.7)</u>	<u>(2.7)</u>	<u>(2.7)</u>	<u>(2.7)</u>
Net Revenue/(Costs) before taxes - \$M		(4.2)	(4.2)	(4.2)	(4.2)	(4.2)	(4.2)	(4.2)	(4.2)	(4.2)	(4.2)	(4.2)	(4.2)
Income Taxes		<u>6.2</u>	<u>5.8</u>	<u>5.4</u>	<u>5.1</u>	<u>4.8</u>	<u>4.5</u>	<u>4.2</u>	<u>4.0</u>	<u>3.7</u>	<u>3.5</u>	<u>3.3</u>	<u>3.0</u>
Operating Cash Flow (after taxes) - \$M		<u>2.0</u>	<u>1.6</u>	<u>1.2</u>	<u>0.9</u>	<u>0.6</u>	<u>0.3</u>	<u>0.0</u>	<u>(0.2)</u>	<u>(0.5)</u>	<u>(0.7)</u>	<u>(0.9)</u>	<u>(1.2)</u>
PV Operating Cash Flow (after taxes) - \$M (A)		<u>1.0</u>	<u>0.8</u>	<u>0.6</u>	<u>0.4</u>	<u>0.2</u>	<u>0.1</u>	<u>0.0</u>	<u>(0.1)</u>	<u>(0.1)</u>	<u>(0.2)</u>	<u>(0.2)</u>	<u>(0.3)</u>
Capital Expenditures - \$M													
Upfront - capital cost before overheads & AFUDC													
- Overheads													
- AFUDC													
Total upfront capital expenditures													
On-going capital expenditures		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PV On-going capital expenditures													
Total capital expenditures - \$M													
Capital Expenditures - \$M													
PV CCA Residual Tax Shield - \$M													
PV Working Capital - \$M													
PV Capital (after taxes) - \$M (B)													
Cumulative PV Cash Flow (after taxes) - \$M (A) + (B)		<u>(602.7)</u>	<u>(601.9)</u>	<u>(601.3)</u>	<u>(601.0)</u>	<u>(600.7)</u>	<u>(600.6)</u>	<u>(600.6)</u>	<u>(600.7)</u>	<u>(600.8)</u>	<u>(601.0)</u>	<u>(601.3)</u>	<u>(601.6)</u>

Date:	9-Feb-18
#REF!	25032

SUMMARY OF CONTRIBUTION CALCULATIONS
Network Pool - Estimated cost

Updated: 2018-10-01
EB-2017-0364
Exhibit I-5-22
Attachment 2
Page 1 of 2

Facility Name:	NextBridge East West Proposal															
Description:	2016 Rates															
Customer:	Next Bridge Proposal															
		In-Service Date	<-----	Project year ended - annualized from In-Service Date												----->
	Month Year	Oct-26 <u>2021</u>	Oct-26 <u>2022</u>	Oct-26 <u>2023</u>	Oct-26 <u>2024</u>	Oct-26 <u>2025</u>	Oct-26 <u>2026</u>	Oct-26 <u>2027</u>	Oct-26 <u>2028</u>	Oct-26 <u>2029</u>	Oct-26 <u>2030</u>	Oct-26 <u>2031</u>	Oct-26 <u>2032</u>	Oct-26 <u>2033</u>		
		0	1	2	3	4	5	6	7	8	9	10	11	12		
Revenue & Expense Forecast																
Load Forecast (MW)			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Load adjustments (MW)			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Tariff Applied (\$/kW/Month)			3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66		
Incremental Revenue - \$M			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Removal Costs - \$M		(18.0)														
On-going OM&A Costs - \$M		0.0	(4.7)	(4.7)	(4.7)	(4.7)	(4.7)	(4.7)	(4.7)	(4.7)	(4.7)	(4.7)	(4.7)	(4.7)		
Municipal Tax - \$M			(3.3)	(3.3)	(3.3)	(3.3)	(3.3)	(3.3)	(3.3)	(3.3)	(3.3)	(3.3)	(3.3)	(3.3)		
Net Revenue/(Costs) before taxes - \$M		(18.0)	(8.0)	(8.0)	(8.0)	(8.0)	(8.0)	(8.0)	(8.0)	(8.0)	(8.0)	(8.0)	(8.0)	(8.0)		
Income Taxes		4.8	10.3	17.9	16.7	15.5	14.4	13.4	12.5	11.7	10.9	10.2	9.6	9.0		
Operating Cash Flow (after taxes) - \$M		(13.2)	2.4	10.0	8.7	7.5	6.5	5.5	4.6	3.7	3.0	2.3	1.6	1.0		
		Cumulative PV @ 5.78%														
PV Operating Cash Flow (after taxes) - \$M (A)	24.0	(13.2)	2.3	9.2	7.6	6.2	5.0	4.0	3.2	2.5	1.8	1.3	0.9	0.5		
Capital Expenditures - \$M																
Upfront - capital cost before overheads & AFUDC		(777.2)														
- Overheads		0.0														
- AFUDC		0.0														
Total upfront capital expenditures		(777.2)														
On-going capital expenditures			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
PV On-going capital expenditures		0.0														
Total capital expenditures - \$M		(777.2)														
Capital Expenditures - \$M																
PV CCA Residual Tax Shield - \$M		3.8														
PV Working Capital - \$M		0.0														
PV Capital (after taxes) - \$M (B)	(773.4)	(773.4)														
Cumulative PV Cash Flow (after taxes) - \$M (A) + (B)	(749.4)	(786.6)	(784.3)	(775.1)	(767.5)	(761.3)	(756.3)	(752.3)	(749.1)	(746.6)	(744.8)	(743.5)	(742.6)	(742.0)		

Discounted Cash Flow Summary	
Economic Study Horizon - Years:	25
Discount Rate - %	5.78%
	Before Cont
	-\$M
PV Incremental Revenue	0.0
PV OM&A Costs	(81.1)
PV Municipal Tax	(43.7)
PV Income Taxes	33.1
PV CCA Tax Shield	119.5
PV Capital - Upfront	(777.2)
Add: PV Capital Contribution	0.0
PV Capital - On-going	0.0
PV Working Capital	0.0
PV Surplus / (Shortfall)	(749.4)
Profitability Index*	0.0

Other Assumptions	
In-Service Date:	26-Oct-21
Payback Year:	2046
No. of years required for payback:	25

Notes:
*PV of total cash flow, excluding net capital expenditure & on-going capital & proceeds on disposal / PV of net capital expenditure & on-going capital & proceeds on disposal

Date: 9-Feb-18
 Project # 25032

SUMMARY OF CONTRIBUTION CALCULATIONS
Network Pool - Estimated cost

Facility Name: NextBridge East West Proposal
 Description: 2016 Rates
 Customer: Next Bridge Proposal

Month Year	Project year ended - annualized from In-Service Date													
	Oct-26 <u>2034</u> 13	Oct-26 <u>2035</u> 14	Oct-26 <u>2036</u> 15	Oct-26 <u>2037</u> 16	Oct-26 <u>2038</u> 17	Oct-26 <u>2039</u> 18	Oct-26 <u>2040</u> 19	Oct-26 <u>2041</u> 20	Oct-26 <u>2042</u> 21	Oct-26 <u>2043</u> 22	Oct-26 <u>2044</u> 23	Oct-26 <u>2045</u> 24	Oct-26 <u>2046</u> 25	
Revenue & Expense Forecast														
Load Forecast (MW)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Load adjustments (MW)	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>
Tariff Applied (\$/kW/Month)	<u>3.66</u>	<u>3.66</u>	<u>3.66</u>	<u>3.66</u>	<u>3.66</u>	<u>3.66</u>	<u>3.66</u>	<u>3.66</u>	<u>3.66</u>	<u>3.66</u>	<u>3.66</u>	<u>3.66</u>	<u>3.66</u>	<u>3.66</u>
Incremental Revenue - \$M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Removal Costs - \$M														
On-going OM&A Costs - \$M	(4.7)	(4.7)	(4.7)	(4.7)	(4.7)	(4.7)	(4.7)	(4.7)	(4.7)	(4.7)	(4.7)	(4.7)	(4.7)	(4.7)
Municipal Tax - \$M	<u>(3.3)</u>	<u>(3.3)</u>	<u>(3.3)</u>	<u>(3.3)</u>	<u>(3.3)</u>	<u>(3.3)</u>	<u>(3.3)</u>	<u>(3.3)</u>	<u>(3.3)</u>	<u>(3.3)</u>	<u>(3.3)</u>	<u>(3.3)</u>	<u>(3.3)</u>	<u>(3.3)</u>
Net Revenue/(Costs) before taxes - \$M	(8.0)	(8.0)	(8.0)	(8.0)	(8.0)	(8.0)	(8.0)	(8.0)	(8.0)	(8.0)	(8.0)	(8.0)	(8.0)	(8.0)
Income Taxes	<u>8.4</u>	<u>7.9</u>	<u>7.5</u>	<u>7.0</u>	<u>6.6</u>	<u>6.3</u>	<u>5.9</u>	<u>5.6</u>	<u>5.4</u>	<u>5.1</u>	<u>4.9</u>	<u>4.6</u>	<u>4.4</u>	<u>4.4</u>
Operating Cash Flow (after taxes) - \$M	<u>0.5</u>	<u>(0.0)</u>	<u>(0.5)</u>	<u>(0.9)</u>	<u>(1.3)</u>	<u>(1.7)</u>	<u>(2.0)</u>	<u>(2.3)</u>	<u>(2.6)</u>	<u>(2.9)</u>	<u>(3.1)</u>	<u>(3.3)</u>	<u>(3.5)</u>	<u>(3.5)</u>
PV Operating Cash Flow (after taxes) - \$M (A)	<u>0.2</u>	<u>(0.0)</u>	<u>(0.2)</u>	<u>(0.4)</u>	<u>(0.5)</u>	<u>(0.6)</u>	<u>(0.7)</u>	<u>(0.8)</u>	<u>(0.8)</u>	<u>(0.9)</u>	<u>(0.9)</u>	<u>(0.9)</u>	<u>(0.9)</u>	<u>(0.9)</u>
Capital Expenditures - \$M														
Upfront - capital cost before overheads & AFUDC														
- Overheads														
- AFUDC														
Total upfront capital expenditures														
On-going capital expenditures	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PV On-going capital expenditures														
Total capital expenditures - \$M														
Capital Expenditures - \$M														
PV CCA Residual Tax Shield - \$M														
PV Working Capital - \$M														
PV Capital (after taxes) - \$M (B)														
Cumulative PV Cash Flow (after taxes) - \$M (A) + (B)	<u>(741.8)</u>	<u>(741.8)</u>	<u>(742.0)</u>	<u>(742.4)</u>	<u>(742.9)</u>	<u>(743.6)</u>	<u>(744.3)</u>	<u>(745.0)</u>	<u>(745.9)</u>	<u>(746.7)</u>	<u>(747.6)</u>	<u>(748.5)</u>	<u>(749.4)</u>	<u>(749.4)</u>

Date: 9-Feb-18
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SUMMARY OF CONTRIBUTION CALCULATIONS
Network Pool - Estimated cost

Updated: 2018-10-01
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Facility Name: Hydro One Lake Superior Link proposal
Description: Lake Superior Link 2018 Rates
Customer: Lake Superior Link Project

	Month Year	In-Service Date Oct-26 2021	Project year ended - annualized from In-Service Date												
			----->												
			Oct-26 2022	Oct-26 2023	Oct-26 2024	Oct-26 2025	Oct-26 2026	Oct-26 2027	Oct-26 2028	Oct-26 2029	Oct-26 2030	Oct-26 2031	Oct-26 2032	Oct-26 2033	
Revenue & Expense Forecast															
Load Forecast (MW)			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Load adjustments (MW)			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tariff Applied (\$/kW/Month)			3.59	3.59	3.59	3.59	3.59	3.59	3.59	3.59	3.59	3.59	3.59	3.59	3.59
Incremental Revenue - \$M			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Removal Costs - \$M		(20.6)													
On-going OM&A Costs - \$M		0.0	(1.5)	(1.5)	(1.5)	(1.5)	(1.5)	(1.5)	(1.5)	(1.5)	(1.5)	(1.5)	(1.5)	(1.5)	(1.5)
Municipal Tax - \$M			(2.4)	(2.4)	(2.4)	(2.4)	(2.4)	(2.4)	(2.4)	(2.4)	(2.4)	(2.4)	(2.4)	(2.4)	(2.4)
Net Revenue/(Costs) before taxes - \$M		(20.6)	(3.9)	(3.9)	(3.9)	(3.9)	(3.9)	(3.9)	(3.9)	(3.9)	(3.9)	(3.9)	(3.9)	(3.9)	(3.9)
Income Taxes		5.5	7.7	13.8	12.8	11.9	11.0	10.2	9.5	8.8	8.2	7.6	7.1	6.6	6.6
Operating Cash Flow (after taxes) - \$M		(15.1)	3.8	9.9	8.9	7.9	7.1	6.3	5.5	4.9	4.2	3.7	3.1	2.7	2.7
			Cumulative PV @ 5.59%												
PV Operating Cash Flow (after taxes) - \$M (A)		40.1	(15.1)	3.7	9.1	7.7	6.6	5.5	4.6	3.9	3.2	2.7	2.2	1.8	1.4
Capital Expenditures - \$M															
Upfront - capital cost before overheads & AFUDC		(590.9)													
- Overheads		(8.5)													
- AFUDC		(42.6)													
Total upfront capital expenditures		(642.0)													
On-going capital expenditures			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PV On-going capital expenditures		0.0													
Total capital expenditures - \$M		(642.0)													
Capital Expenditures - \$M															
PV CCA Residual Tax Shield - \$M		3.3													
PV Working Capital - \$M		(0.0)													
PV Capital (after taxes) - \$M (B)		(638.7)													
Cumulative PV Cash Flow (after taxes) - \$M (A) + (B)		(598.7)	(653.9)	(650.2)	(641.1)	(633.3)	(626.8)	(621.3)	(616.6)	(612.7)	(609.5)	(606.8)	(604.6)	(602.8)	(601.4)

Discounted Cash Flow Summary

Economic Study Horizon - Years:	25
Discount Rate - %	5.59%
	Before Cont
	\$M
PV Incremental Revenue	0.0
PV OM&A Costs	(41.1)
PV Municipal Tax	(33.1)
PV Income Taxes	19.7
PV CCA Tax Shield	97.9
PV Capital - Upfront	(642.0)
Add: PV Capital Contribution	0.0
PV Capital - On-going	0.0
PV Working Capital	(0.0)
PV Surplus / (Shortfall)	(598.7)
Profitability Index*	0.1

Other Assumptions

In-Service Date: 26-Oct-21
Payback Year: 2046
No. of years required for payback: 25

Notes:
*PV of total cash flow, excluding net capital expenditure & on-going capital & proceeds on disposal / PV of net capital expenditure & on-going capital & proceeds on disposal

Date: 9-Feb-18
 Project # 25032

SUMMARY OF CONTRIBUTION CALCULATIONS
Network Pool - Estimated cost

Facility Name: Hydro One Lake Superior Link proposal
 Description: Lake Superior Link 2018 Rates
 Customer: Lake Superior Link Project

	Month Year	Project year ended - annualized from In-Service Date												
		Oct-26 <u>2034</u> 13	Oct-26 <u>2035</u> 14	Oct-26 <u>2036</u> 15	Oct-26 <u>2037</u> 16	Oct-26 <u>2038</u> 17	Oct-26 <u>2039</u> 18	Oct-26 <u>2040</u> 19	Oct-26 <u>2041</u> 20	Oct-26 <u>2042</u> 21	Oct-26 <u>2043</u> 22	Oct-26 <u>2044</u> 23	Oct-26 <u>2045</u> 24	Oct-26 <u>2046</u> 25
Revenue & Expense Forecast														
Load Forecast (MW)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Load adjustments (MW)		<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>
Tariff Applied (\$/kW/Month)		<u>3.59</u>	<u>3.59</u>	<u>3.59</u>	<u>3.59</u>	<u>3.59</u>	<u>3.59</u>	<u>3.59</u>	<u>3.59</u>	<u>3.59</u>	<u>3.59</u>	<u>3.59</u>	<u>3.59</u>	<u>3.59</u>
Incremental Revenue - \$M		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Removal Costs - \$M														
On-going OM&A Costs - \$M		(1.5)	(1.5)	(1.5)	(1.5)	(1.5)	(1.5)	(1.5)	(1.5)	(1.5)	(1.5)	(1.5)	(1.5)	(1.5)
Municipal Tax - \$M		<u>(2.4)</u>	<u>(2.4)</u>	<u>(2.4)</u>	<u>(2.4)</u>	<u>(2.4)</u>	<u>(2.4)</u>	<u>(2.4)</u>	<u>(2.4)</u>	<u>(2.4)</u>	<u>(2.4)</u>	<u>(2.4)</u>	<u>(2.4)</u>	<u>(2.4)</u>
Net Revenue/(Costs) before taxes - \$M		(3.9)	(3.9)	(3.9)	(3.9)	(3.9)	(3.9)	(3.9)	(3.9)	(3.9)	(3.9)	(3.9)	(3.9)	(3.9)
Income Taxes		<u>6.1</u>	<u>5.7</u>	<u>5.4</u>	<u>5.0</u>	<u>4.7</u>	<u>4.4</u>	<u>4.1</u>	<u>3.9</u>	<u>3.7</u>	<u>3.5</u>	<u>3.3</u>	<u>3.1</u>	<u>2.9</u>
Operating Cash Flow (after taxes) - \$M		<u>2.2</u>	<u>1.8</u>	<u>1.4</u>	<u>1.1</u>	<u>0.8</u>	<u>0.5</u>	<u>0.2</u>	<u>(0.0)</u>	<u>(0.3)</u>	<u>(0.5)</u>	<u>(0.7)</u>	<u>(0.8)</u>	<u>(1.0)</u>
PV Operating Cash Flow (after taxes) - \$M (A)		<u>1.1</u>	<u>0.9</u>	<u>0.7</u>	<u>0.5</u>	<u>0.3</u>	<u>0.2</u>	<u>0.1</u>	<u>(0.0)</u>	<u>(0.1)</u>	<u>(0.1)</u>	<u>(0.2)</u>	<u>(0.2)</u>	<u>(0.3)</u>
Capital Expenditures - \$M														
Upfront - capital cost before overheads & AFUDC														
- Overheads														
- AFUDC														
Total upfront capital expenditures														
On-going capital expenditures		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PV On-going capital expenditures														
Total capital expenditures - \$M														
Capital Expenditures - \$M														
PV CCA Residual Tax Shield - \$M														
PV Working Capital - \$M														
PV Capital (after taxes) - \$M (B)														
Cumulative PV Cash Flow (after taxes) - \$M (A) + (B)		<u>(600.3)</u>	<u>(599.4)</u>	<u>(598.8)</u>	<u>(598.3)</u>	<u>(598.0)</u>	<u>(597.8)</u>	<u>(597.7)</u>	<u>(597.7)</u>	<u>(597.8)</u>	<u>(598.0)</u>	<u>(598.2)</u>	<u>(598.4)</u>	<u>(598.7)</u>

Date:	9-Feb-18
#REF!	25032

SUMMARY OF CONTRIBUTION CALCULATIONS
Network Pool - Estimated cost

Updated: 2018-10-01
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Facility Name:	NextBridge East West Proposal															
Description:	2018 Rates															
Customer:	Next Bridge Proposal															
		In-Service Date	<-----	Project year ended - annualized from In-Service Date												----->
	Month	Oct-26	Oct-26	Oct-26	Oct-26	Oct-26	Oct-26	Oct-26	Oct-26	Oct-26	Oct-26	Oct-26	Oct-26	Oct-26	Oct-26	
	Year	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033		
		0	1	2	3	4	5	6	7	8	9	10	11	12		
Revenue & Expense Forecast																
Load Forecast (MW)			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Load adjustments (MW)			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Tariff Applied (\$/kW/Month)			3.59	3.59	3.59	3.59	3.59	3.59	3.59	3.59	3.59	3.59	3.59	3.59		
Incremental Revenue - \$M			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Removal Costs - \$M		(18.0)														
On-going OM&A Costs - \$M		0.0	(4.7)	(4.7)	(4.7)	(4.7)	(4.7)	(4.7)	(4.7)	(4.7)	(4.7)	(4.7)	(4.7)	(4.7)		
Municipal Tax - \$M			(2.9)	(2.9)	(2.9)	(2.9)	(2.9)	(2.9)	(2.9)	(2.9)	(2.9)	(2.9)	(2.9)	(2.9)		
Net Revenue/(Costs) before taxes - \$M		(18.0)	(7.6)	(7.6)	(7.6)	(7.6)	(7.6)	(7.6)	(7.6)	(7.6)	(7.6)	(7.6)	(7.6)	(7.6)		
Income Taxes		4.8	10.3	17.8	16.6	15.4	14.3	13.4	12.4	11.6	10.8	10.1	9.5	8.9		
Operating Cash Flow (after taxes) - \$M		(13.2)	2.6	10.2	8.9	7.8	6.7	5.7	4.8	4.0	3.2	2.5	1.9	1.3		
		Cumulative PV @ 5.59%														
PV Operating Cash Flow (after taxes) - \$M (A)	27.2	(13.2)	2.6	9.4	7.8	6.4	5.2	4.2	3.4	2.6	2.0	1.5	1.0	0.7		
Capital Expenditures - \$M																
Upfront - capital cost before overheads & AFUDC		(777.2)														
- Overheads		0.0														
- AFUDC		0.0														
Total upfront capital expenditures		(777.2)														
On-going capital expenditures			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
PV On-going capital expenditures		0.0														
Total capital expenditures - \$M		(777.2)														
Capital Expenditures - \$M																
PV CCA Residual Tax Shield - \$M		4.0														
PV Working Capital - \$M		(0.1)														
PV Capital (after taxes) - \$M (B)	(773.2)	(773.2)														
Cumulative PV Cash Flow (after taxes) - \$M (A) + (B)	(746.0)	(786.5)	(783.9)	(774.5)	(766.7)	(760.3)	(755.0)	(750.8)	(747.4)	(744.8)	(742.7)	(741.2)	(740.2)	(739.5)		

Discounted Cash Flow Summary	
Economic Study Horizon - Years:	25
Discount Rate - %	5.59%
	Before Cont
	-\$M
PV Incremental Revenue	0.0
PV OM&A Costs	(82.2)
PV Municipal Tax	(40.1)
PV Income Taxes	32.4
PV CCA Tax Shield	121.1
PV Capital - Upfront	(777.2)
Add: PV Capital Contribution	0.0
PV Capital - On-going	0.0
PV Working Capital	(0.1)
PV Surplus / (Shortfall)	(746.0)
Profitability Index*	0.0

Other Assumptions	
In-Service Date:	26-Oct-21
Payback Year:	2046
No. of years required for payback:	25

Notes:
*PV of total cash flow, excluding net capital expenditure & on-going capital & proceeds on disposal / PV of net capital expenditure & on-going capital & proceeds on disposal

Date: 9-Feb-18
 Project # 25032

SUMMARY OF CONTRIBUTION CALCULATIONS
Network Pool - Estimated cost

Facility Name: NextBridge East West Proposal
 Description: 2018 Rates
 Customer: Next Bridge Proposal

	Month Year	Project year ended - annualized from In-Service Date											
		Oct-26 <u>2034</u> 13	Oct-26 <u>2035</u> 14	Oct-26 <u>2036</u> 15	Oct-26 <u>2037</u> 16	Oct-26 <u>2038</u> 17	Oct-26 <u>2039</u> 18	Oct-26 <u>2040</u> 19	Oct-26 <u>2041</u> 20	Oct-26 <u>2042</u> 21	Oct-26 <u>2043</u> 22	Oct-26 <u>2044</u> 23	Oct-26 <u>2045</u> 24
Revenue & Expense Forecast													
Load Forecast (MW)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Load adjustments (MW)		<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>
Tariff Applied (\$/kW/Month)		<u>3.59</u>	<u>3.59</u>	<u>3.59</u>	<u>3.59</u>	<u>3.59</u>	<u>3.59</u>	<u>3.59</u>	<u>3.59</u>	<u>3.59</u>	<u>3.59</u>	<u>3.59</u>	<u>3.59</u>
Incremental Revenue - \$M		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Removal Costs - \$M													
On-going OM&A Costs - \$M		(4.7)	(4.7)	(4.7)	(4.7)	(4.7)	(4.7)	(4.7)	(4.7)	(4.7)	(4.7)	(4.7)	(4.7)
Municipal Tax - \$M		<u>(2.9)</u>	<u>(2.9)</u>	<u>(2.9)</u>	<u>(2.9)</u>	<u>(2.9)</u>	<u>(2.9)</u>	<u>(2.9)</u>	<u>(2.9)</u>	<u>(2.9)</u>	<u>(2.9)</u>	<u>(2.9)</u>	<u>(2.9)</u>
Net Revenue/(Costs) before taxes - \$M		(7.6)	(7.6)	(7.6)	(7.6)	(7.6)	(7.6)	(7.6)	(7.6)	(7.6)	(7.6)	(7.6)	(7.6)
Income Taxes		<u>8.3</u>	<u>7.8</u>	<u>7.4</u>	<u>6.9</u>	<u>6.6</u>	<u>6.2</u>	<u>5.9</u>	<u>5.5</u>	<u>5.3</u>	<u>5.0</u>	<u>4.8</u>	<u>4.5</u>
Operating Cash Flow (after taxes) - \$M		<u>0.7</u>	<u>0.2</u>	<u>(0.3)</u>	<u>(0.7)</u>	<u>(1.1)</u>	<u>(1.4)</u>	<u>(1.8)</u>	<u>(2.1)</u>	<u>(2.4)</u>	<u>(2.6)</u>	<u>(2.9)</u>	<u>(3.1)</u>
PV Operating Cash Flow (after taxes) - \$M (A)		<u>0.4</u>	<u>0.1</u>	<u>(0.1)</u>	<u>(0.3)</u>	<u>(0.4)</u>	<u>(0.6)</u>	<u>(0.7)</u>	<u>(0.7)</u>	<u>(0.8)</u>	<u>(0.8)</u>	<u>(0.8)</u>	<u>(0.9)</u>
Capital Expenditures - \$M													
Upfront - capital cost before overheads & AFUDC													
- Overheads													
- AFUDC													
Total upfront capital expenditures													
On-going capital expenditures		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PV On-going capital expenditures													
Total capital expenditures - \$M													
Capital Expenditures - \$M													
PV CCA Residual Tax Shield - \$M													
PV Working Capital - \$M													
PV Capital (after taxes) - \$M (B)													
Cumulative PV Cash Flow (after taxes) - \$M (A) + (B)		<u>(739.2)</u>	<u>(739.1)</u>	<u>(739.2)</u>	<u>(739.5)</u>	<u>(739.9)</u>	<u>(740.5)</u>	<u>(741.1)</u>	<u>(741.9)</u>	<u>(742.6)</u>	<u>(743.4)</u>	<u>(744.3)</u>	<u>(745.1)</u>