

1 Q. **2018 Capital Projects \$500,000 and Over, Terminal Station Refurbishment and**  
 2 **Modernization (2018-2019), Volume I, Page C-42**

3 *“In the 2017 Capital Budget Application, Hydro consolidated program-type terminal*  
 4 *station projects into a single project, Terminal Station Refurbishment and*  
 5 *Modernization.”*

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 7 For the period 2013 to 2017, provide the total capital expenditures by year for the  
 8 terminal station projects that would have been included in a single project under  
 9 the new consolidated approach.

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12 A. For the period 2013 to 2017, the total capital expenditures by year for the Terminal  
 13 Station capital projects that would have been included in a single project under the  
 14 new consolidated approach are as follows:

Past Projects by Year:	Cost (X \$1,000)					
Projects	2013	2014	2015	2016	2017	2018 and Beyond
<b>2013 Projects</b>						
Upgrade Circuit Breakers - Various Sites	2,408.8					
Replace Instrument Transformers - Various Sites	230.7	699.0	755.5	1,190.3	782.9	
Replace Disconnects - Various Sites	360.1					
Perform Grounding Upgrades - Various	507.2	224.0	313.5			
Upgrade Power Transformers - Various Sites	476.0					

Upgrade Terminal Station - Wiltondale	134.0	1,707.7				
Replace Surge Arresters - Various Sites	14.3					
Replace Insulators - Various Sites	67.0	361.3	68.0			
Install Transformer Fans - Conne River	39.9					
Replace 230kV Breaker Controls - Bottom Brook	78.5					
<b>2014 Projects</b>						
Replace Surge Arrestors - Various		61.9				
Upgrade Circuit Breakers - Various		1,571.7	4,167.5			
Replace Disconnects - Various		148.4	939.7			
Replace Optimho Relays on East Coast - Various		18.2	200.7			
Upgrade Power Transformers- Various Sites		1,726.4				
Replace Terminal Station Equipment Foundations - Various		122.8				
<b>2015 Projects</b>						
Replace Disconnects - Various Sites			563.1	946.3		
Replace Surge Arrestors - Various Sites			172.2			
Upgrade Power Transformers - Various Sites			2,357.3	9,472.8		
Upgrade Terminal Station Foundations - Various Sites			313.1			
Upgrade Control Wiring to Terminal			336.3			

Stations - Bay D'Espoir						
Upgrade Transformer Differential Protection - Grandy Brook			75.0			
Supply and Install Fire Protection in 230 kV Station - Various Sites			74.9	458.7		
Upgrade Terminal Station Protection and Control - Various Sites			162.5	734.9		
Install Transformer Online Gas Monitoring - Various Sites			786.5	1,065.6		
Upgrade Circuit Breakers – Various Sites			7,570.4	6,022.4		
<b>2016 Projects</b>						
Upgrade Circuit Breakers - Various Sites				5,599.5	12,178.3	43,682.7
Replace Disconnect Switches - Various Sites				131.7	1,836.1	
Upgrade Digital Fault Recorders				221.2	281.3	
Install Fire Protection in 230kV Stations - Bay D'Espoir				91.4	782.4	
Upgrade Data Alarm Systems - Various Sites				49.7	258.8	
Replace Protective Relays - Various Sites				1,425.8	431.2	
Install Breaker Failure Protection - Various Sites				81.8	195.2	
Upgrade Terminal Station Equipment Foundations - Various Sites				300.2		

Replace Surge Arrestors - Various Sites				175.1	22.3	
<b>2017 Projects</b>						
Terminal Station Refurbishment and Modernization Program					10,831.3	16,550.8
<b>TOTAL</b>	<b>2013*</b>	<b>2014*</b>	<b>2015*</b>	<b>2016*</b>	<b>2017**</b>	<b>2018 and Beyond**</b>
<b>Total Approved 2013</b>	4,316.5	2,992.0	1,137.0	1,190.3	782.9	
<b>Total Approved 2014</b>		3,649.4	5,307.9			
<b>Total Approved 2015</b>			12,411.3	18,700.7		
<b>Total Approved 2016</b>				8,076.4	15,985.6	43,682.7
<b>Total Approved 2017</b>					10,831.3	16,550.8
<b>Total Annual Expenditure</b>	4,316.5	6,417.4	18,542.7	27,967.4	27,599.8	60,233.5

\* Indicates that the numbers provided are actual expenditures.

\*\* Indicates that the numbers provided are budgetary in previously approved projects.