Glen A. Winn
14 Carlton St.
Toronto, Ontario
M5B 1K5

Telephone: 416.542.2517
Facsimile: 416.542.3024
regulatoryaffairs@torontohydro.com

toronto hydro electric system

January 31, 2011

via email – signed original to follow by courier

Ms. Kirsten Walli
Board Secretary
Ontario Energy Board
PO Box 2319
2300 Yonge St, 27th floor
Toronto, ON M4P 1E4

Dear Ms. Walli:

Re: Application by 1798594 Ontario Inc. for a Distribution Licence;
Applications by Toronto Hydro Energy Services Inc. ("THESI") and 1798594 Ontario Inc. for leave to sell street lighting assets; and
Application by Toronto Hydro-Electric System Limited ("THESL") and 1798594 Ontario Inc. for leave to amalgamate
Board File Nos. EB-2009-0180, EB-2009-0181, EB-2009-0182 and EB-2009-0183

Pursuant to the Board's February 11, 2010 Decision and March 9, 2010 Letter, enclosed are two copies of THESL's Additional Evidence Regarding the Transfer of Streetlighting Assets.

Please contact me if you have any questions or comments.

Yours truly,

[original signed by]

Glen A. Winn
Manager
Regulatory Applications & Compliance

encl.

:GAW/acc

cc: J. Mark Rodger, Counsel for THESL
Intervenors of Record for EB-2009-0180 to -0183

TORONTO HYDRO-ELECTRIC SYSTEM LIMITED

TORONTO HYDRO ENERGY SERVICES INC.

1798594 ONTARIO INC.

ADDITIONAL EVIDENCE REGARDING THE TRANSFER OF STREETLIGHTING ASSETS

OEB File No. EB-2009-0180/0181/0182/0183

Filed: January 31, 2011

Background and Summary

The Initial Streetlighting Applications

On June 15, 2009, Toronto Hydro-Electric System Limited ("THESL"), Toronto Hydro Energy Services Inc. ("THESI"), and 1798594 Ontario Inc. ("NewCo"), all subsidiaries of Toronto Hydro Corporation and collectively referred to herein as the "Applicants", filed applications (the "Initial Applications", EB-2009-0180, 0181, 0182, 0183) with the Ontario Energy Board ("Board") seeking a declaration by the Board that the street and expressway lighting assets in the City of Toronto (the "SEL System"), currently owned by THESI, be deemed to be a distribution system, and approval to make the SEL System, through a series of transactions, part of a new amalgamated distribution company consisting of THESL and 1798594 Ontario Inc. ("NewTHESL").

The Initial Applications contemplated the transfer, in their entirety, of all the SEL assets, and those applications contained supporting material describing transactions and setting out certain other matters based on that assumption.

The Board's Decision and Direction in EB-2009-0180 et al

On February 11, 2010, the Board issued its Decision and Order ("Decision") approving the transfer of a subset of the SEL System assets. The Board's approval of the asset transfer was conditional on THESL filing additional evidence within 90 days of the Decision, providing an asset valuation and setting out the revised transactions. On March 4, 2010, THESL requested, and was granted by the Board, an extension to the time allowed for the filing of the additional evidence to January 31, 2011. THESL's request was based on the fact that the criteria for the determination of the transferrable assets referred to characteristics of the assets, such as the environment in which they existed and whether they served only streetlighting functions, which were not recorded by THESL in its existing asset registry information and which would therefore require new and comprehensive study to establish.

In its Decision, the Board approved "the transfer of the distribution assets which have been specifically identified in this Decision". In summary, the Board found that SEL assets which served only a streetlighting function would not be considered part of an electricity distribution system and would not be eligible to be transferred to NewTHESL. Assets in the ineligible category included luminaires, streetlight brackets and conductors contained on or within them, and all streetlighting equipment in residential settings with underground service, except for the distribution cable between the poles. However, the Board found that assets intended to serve more than one end-use load could be considered distribution assets, and this finding applied to much of the asset base described by the Board as existing in a 'mixed-use urban setting'.

Given the nature of its Decision, the Board found that additional evidence would be required to support the transfer of the 'specifically identified' assets. In accordance with the Decision, THESL herewith submits to the Board the requested additional evidence, comprising:

1. a description of the studies and processes for enumerating and categorizing the SEL assets;
2. an asset valuation for the total SEL System;
3. an asset valuation for those categories of assets which the Board has determined are distribution assets;
4. an asset valuation for those categories of assets which the Board has determined are not distribution assets;
5. further evidence on the categorization of expressway lighting assets, explaining that the Applicant's withdraw their request that these assets be transferred on the basis that they do not fall within the criteria established by the Board in the Decision for distribution assets; and
6. a statement of the revised transaction amounts for which approval is sought hereby. Upon request of the Board, the Applicants will also provide an Amended and Restated Asset Purchase Agreement setting out the revised transaction details once the specific transfer amounts are ultimately approved by the Board.

The Studies Undertaken by the Applicants

In response to the Decision, the Applicants undertook studies for two distinct but inter-related purposes. First, an exhaustive enumeration of all streetlighting assets on public property within the City of Toronto was conducted in order to develop an inventory of those assets and to create a database including, for each of the identified assets, further characteristics necessary for the purpose of classifying those assets as transferable or non-transferable according to the terms of the Decision (the "Inventory Study").

The Inventory Study findings were then used as input to a second study (the "Valuation Study") conducted to establish a valuation for the assets, in all the categories required by the Decision, by means of the Depreciated Replacement Cost ("DRC") methodology. Both of these studies are described in further detail below.

In the Decision, the Board stated:

> With respect to the asset valuation, the Board notes that the Deloitte methodology is not one that is typically employed for regulatory purposes. As SEC noted, the Deloitte valuation is a revenue-based fair market valuation; it is not a physical valuation of the assets. The Board will require an asset valuation to be prepared for the physical assets and will determine at that point, and on the basis of the revised transaction, the appropriate amount for inclusion in rate base.

THESL has endeavoured to meet the Board's requirement to produce a 'physical' valuation of the SEL assets under the DRC methodology.

Valuation Findings

Table 1 presents in summary format the categorical valuations of the streetlighting assets.

Table 1: Streetlighting Asset Valuation Findings

	Depreciated Replacement Cost Valuation $millions	Proportion of Total SEL Assets
Streetlighting Assets Eligible for Transfer	45.976	46.4%
Streetlighting Assets not Transferred	37.760	38.1%
Expressway Lighting Assets not Transferred	15.404	15.5%
Total SEL Assets	99.141	100.0%

Amount Requested for Transfer Not Greater than Net Book Value

Notwithstanding THESL's position that the valuation study and findings summarized above meet the Board's direction regarding further evidence concerning asset valuation, THESL does not request for transfer to distribution any amount greater than the amount determined by applying the percentage of total SEL assets eligible for transfer (46.4%) to the 2010 year end net book value of the total SEL assets. Subject to audit verification, the total 2010 year end net book value of the SEL assets is $63.453 million; 46.4% of that amount, or **$29.418** million, is proposed as consideration to be paid by THESL in return for the transfer of distribution assets.

Relief Requested

The Applicants continue to rely generally on the substance of and relief sought through the Initial Applications, as modified herein to give effect to the Decision. Specifically, the Applicants seek the following items of relief:

1. a finding by the Board that the assets described herein as distribution assets in accordance with the Decision, in the total amount of $**29.418** million, are eligible for transfer to NewTHESL by the same means and structure of transactions (but with revised amounts) as set out in the Initial Applications and approved in the Decision; and
2. findings by the Board that the ratebase, revenue requirement, and rate consequences of the transfer will be determined in the context of THESL's general application for 2012 rates commencing May 1, 2012.

THESL does not seek recovery through rates of the costs of the studies required by the Decision.

Implementation of the Decision

The Inventory Study

General Features of the SEL System

The SEL system as it now exists has evolved over decades under the stewardship (in the last century) of six separate utilities. It serves widely varied urban and suburban environments, as well as certain limited-access expressways within the City of Toronto. As such, the designs of the systems, as well as the assets themselves, are heterogeneous.

Streetlighting fixtures are predominantly suspended from poles of various types, erected by various authorities. However, in some circumstances the fixtures are suspended from other forms of infrastructure such as underpasses, and not all fixtures are suspended on poles that are now, or were at any time, owned by any subsidiary of

Toronto Hydro Corporation or its predecessors. Some are attached to poles owned by other entities such as the TTC and Bell Canada. (Poles owned by other authorities have been excluded for the purposes of asset valuation.) However, the majority of fixtures are attached either to dedicated streetlight poles that do not suspend other distribution conductors or to distribution system poles. As a result differences exist between the total number of luminaires and the total number of poles counted for the purpose of asset valuation.

Conceptual Basis of the Inventory Study

A notable feature of the Decision is that it defined two bases for the classification of SEL assets. The first is the observable character of the unit itself, in isolation. For some classes of assets such as brackets and luminaires, the definition of the asset is determinative of whether it can be considered a distribution asset or not. Apart from counting and valuing assets in those classes, no further analysis is necessary.

In other cases, that of poles for example, the second basis of classification defined by the Board, namely 'intended use', becomes relevant. The characteristic of intended use is not always directly observable by considering the asset unit itself in isolation, but must rather be inferred based on the environment in which the unit exists and how the unit fits into the distribution system (if at all). For example, in some locales minor or major arterial roads may be the sites for equipment that requires power (phone booths, bus shelters, crosswalk lighting etc.) but the only overhead infrastructure locally available to conduct power to the loads is a streetlighting pole that at present only supports a streetlight. As explained in greater detail below, while in most cases the observed features of the asset unit in isolation have been sufficient to determine its categorization, in some limited circumstances THESL has had to apply further 'intended use' analysis to determine the categorization of certain assets.

Otherwise the survey undertaken by THESL (using contracted resources) was designed and conducted primarily to collect the items of information that were critical to carrying out the intent of the Decision, for both categorization and valuation purposes. (THESL also used the opportunity to collect other asset information that

will be useful for planning and operational purposes.) Those items of critical information included:

- For Luminaires:
  - Type, mounting, condition, quantity
- For Brackets:
  - Type, condition, quantity
- For Poles (including foundations as applicable):
  - Ownership, type, condition, quantity
- For handwells, relays, and wiring:
  - Condition, quantity
- For locations:
  - Street type (Overhead supply, Residential underground supply, mixed use)

Conduct of the Study

External Resources

As explained earlier, to implement the Decision it was necessary for THESL to conduct an exhaustive study of the SEL assets across the entire City of Toronto. While THESL provided oversight and project management resources, it engaged the firm of HDR/iTRANS to conduct the patrol and data gathering exercise.

HDR/iTRANS is a respected engineering consulting firm active in several areas of infrastructure consulting. It completed a similar assignment for the City of Markham in 2008.

Training, Equipment, and Process Design

Prior to the commencement of the Inventory Study, THESL was aware that almost 200,000 locations across the entire city would need to be visited by surveyors. That volume of data gathering and the demands for accuracy and completeness of that data

in turn required specialized training for the surveyors and specialized handheld data entry equipment and software.

HDR/iTRANS, with the assistance of THESL, developed a specially-designed training program for the field surveyors. Each field surveyor received a 112 page training materials binder, and attended one day of classroom training, followed by two days of field training and refresher training on an as-needed basis. Field surveyors were trained in the following areas:

Part 1: Pole Attributes
Part 2: Bracket Attributes
Part 3: Luminaire Attributes
Part 4: Attachments Inventory
Part 5: Street Area Type (Overhead, U/G Residential, or Mixed Use)
Part 6: Ownership
Part 7: Hardware and Software
Part 8: Examples

As part of the overall field survey project plan, a limited area Pilot Project was initiated on June 7, 2010 and run until June 18, 2010. The Pilot Project was used to evaluate the field surveyors, the handheld devices, the customized software, the training, and the quality of the data being collected. At the conclusion of the Pilot Project, HDR/iTRANS and THESL reviewed the results and were satisfied that the project could proceed to a full deployment field survey.

The full deployment field survey commenced June 21, 2010 and was completed by September 1, 2010. The survey involved an exhaustive walking patrol of all roads and laneways in the City of Toronto, wherein each streetlight was approached by a surveyor who then recorded all the required equipment attributes in the database used for that purpose. A pre-existing database of THESL's streetlights was used as the base database, and it was then augmented with the additional information gathered in the survey. The survey was determinative of the existing equipment, and any errors or omissions in the base database were corrected as part of the Inventory Study.

Data Validation

The Inventory Study project employed a number of Quality Assurance and Quality Control (QAQC) methods, undertaken by THESL and HDR/iTRANS, to validate the completeness and accuracy of the collected data.

The detailed QAQC plan provided by iTRANS is attached in Appendix A. The quality control methods implemented included:

1) Field Visit Validation - This involved re-surveying a subzone which had been completed and confirming the data which had been collected, thus essentially doing a double-check of the field data.

2) Input Logic Checks - The design of the software used for data collection had several input-validation checks built-in to prevent invalid data from being inadvertently entered. In addition, the collected data were compiled and sorted in different dimensions to detect any missing information.

3) GIS Map Inspection – This involved displaying the collected data on a geographic information system map, and then comparing that data to existing GEAR data (i.e., THESL's geographic asset database) to detect any poles that had been missed in the field survey.

4) Field Audits – This QAQC statistical analysis method consisted of conducting spot field audits of the critical data attributes at a sample of locations to determine the overall accuracy of the data population. A random selection of 384 locations was made. The audited field location data was deemed to be accurate if the critical data attributes at that location were found to be correct. The critical data attributes for inspected locations were: streetlight pole ownership, streetlight pole material, street area type (overhead supply, residential setting underground supply, mixed use setting), and luminaire mounting. All other data attributes were deemed to be non-critical, as those attributes had no or negligible impact on the asset categorization. The field audit found 14 critical errors at the 384 audited locations, which represents a 3.6% critical error rate and is accurate

as an estimate of the population error rate to within +/- 1.87 percentage points 19 times out of 20.

Classification of Assets as Distribution or Streetlighting

Assets that are Categorically Streetlighting

The Decision established that luminaires, brackets, conductors on or within brackets, streetlighting-only poles in residential (non-mixed use) areas served by an underground system together with conductors within those poles, and streetlight relays are streetlighting assets by definition.

A summary table providing the quantification and classification of these assets appears below.

Categorization of Expressway Lighting Assets

THESL assessed the function and asset configuration of the expressway lighting system in light of the Decision. Based on that assessment, THESL concluded that the expressway lighting system does not meet the criteria set out in the Decision for categorization as a distribution asset, since beyond the point of demarcation with the distribution system (at the distribution assemblies) it does not provide distribution capability for loads other than expressway lighting.

Accordingly the Applicants withdraw this aspect of the Initial Applications and do not seek transfer of the expressway lighting system assets. For the Board's information and to meet the Board's direction, a summary table providing the quantification and classification of these assets appears below.

Assets that are Categorically Distribution

In accordance with the Decision, THESL has categorized as distribution assets streetlighting poles in overhead supply or mixed use areas, together with any associated pole foundations, conductors used to supply streetlights exclusive of

conductor running up non-distribution streetlight poles and along or within brackets, and handwells containing connections to streetlighting circuits.

Assets Requiring Analysis for Classification - "Intended Use" Analysis

As indicated above, in most cases the asset definitions or street types are determinative of the categorization of the assets as either distribution or streetlighting, and the intended use of the assets is evident by observation. Despite this, in some cases the intended use of the assets (principally poles, together with associated conductors) at a given location may not be evident by observing their existing configuration.

To be clear, the 'intended use' analysis conducted in some cases by THESL did not override the asset definitions for purposes of asset classification. For example, in no case were luminaires or brackets classified as distribution assets as a result of the intended use analysis.

However, in certain settings poles and associated conductors may have been intended to supply future or potential scattered loads such as bus shelters and phone booths, and may in fact be the only overhead infrastructure locally available to meet those needs. This can occur in situations where roads are not strictly for 'local' use but are instead minor or major arterial roads or collector roads supporting commuter traffic and bus routes, and generally providing 'through' transportation routes. These roads typically occur on the borders of areas otherwise served by local roads.

The Board noted this configuration at page 8 of the Decision, where it stated:

> Similarly, if the distribution circuits are underground in a mixed use urban setting, then the poles can appropriately be considered distribution system assets. The urban landscape, with its signage, traffic lights, phone booths, etc., is such that the functionality or intended use of the poles is part of a distribution system serving multiple connections to multiple users.

In order to determine the 'mixed use' character of certain roads with underground supplies, THESL used the City of Toronto's Road Classification System. This system is described in the document (City of Toronto 2008 Road Classification System) available at the City of Toronto website[1] (at URL www.toronto.ca/transportation/road_class/pdf/rc_document.pdf). In that system, roads are classified as

- Local
- Collector
- Arterial (major and minor)
- Expressway

The Toronto Road Classification System provides that the normal characteristics of Collector and Arterial Roads are that they support bus routes (with lit and unlit bus shelters), traffic signals and pedestrian crossings. Conversely, the document shows that Local Roads do not have bus routes, traffic signals and pedestrian crossings, along with their associated load connections.

Accordingly, on the premise that Collector and Arterial streets have existing and future bus shelters, traffic signals and pedestrian crossings which presently do or will require connection to the distribution system, THESL has deemed all Collector and Arterial Streets as meeting the Board's criteria for Mixed Use Areas. Therefore, THESL has assigned all otherwise eligible streetlight assets (such as poles, but excluding luminaires and brackets) on Collector and Arterial Roads as distribution assets, effectively determining that the assets along Collector and Arterial Roads that feed into Residential Setting Underground Supply qualify as distribution assets. The result of this process using the Road Classification methodology to categorize all Toronto streets provides a comprehensive and correct implementation of the functionality or intended use of assets aspect of the Decision.

[1] Although this document is publicly available it is electronically protected and is technically unable to be electronically compiled in this evidence.

A summary table providing the quantification and classification of these assets (poles and conductors) appears below.

Table 2: Quantification and Classification of SEL Assets

	Classified Distribution		Classified Streetlighting		Total
Asset Group	Count	%	Count	%	
Streetlighting					
Luminaires		0%	161,790	100%	161,790
Brackets		0%	155,888	100%	155,888
Relays		0%	3,086	100%	3,086
Handwells	6,844	100%		0%	6,844
Poles	40,274	74%	14,400	26%	54,674
Pole Foundations	8,374	100%		0%	8,374
Conductors (metres)	1,366,856	65%	748,428	35%	2,115,284
Expressway Lighting					
High Mast Poles		0%	178	100%	178
Conventional Poles		0%	1,477	100%	1,477
High Mast Luminaires		0%	989	100%	989
Conventional Luminaires		0%	1,583	100%	1,583
Distribution Assemblies		0%	25	100%	25
Conductors (metres)		0%	39,000	100%	39,000
Conduit (metres)		0%	39,000	100%	39,000

The Valuation Study

The Initial Applications explained that given the unique history and evolution of ownership of the streetlighting system in Toronto, continuous records of historical gross asset cost and associated accumulated depreciation were not available.

In the Decision the Board discussed the matter of asset valuation. Starting at page 16 the Board summarized the positions of parties as follows:

> The intervenors were generally of the view that the valuation methodology used to calculate the proposed amount of $66 million to be added to rate base was inappropriate. While the Applicants agreed that the Deloitte valuation was not intended to assess the value of the streetlight assets, which would be the normal process in establishing the value to be included in rate base, they argued that an asset valuation would produce a level even higher.
>
> SEC argued that the Deloitte valuation, while appropriate for a business valuation, was not appropriate for regulatory purposes because it is derived from a revenue-based fair market value not the physical value of the assets. VECC submitted that THESL should either provide appropriate evidence that the actual net book value would be higher than the Deloitte evaluation, or, if the actual net book value is lower than the value proposed, establish that lower value.
>
> In reply, the Applicants stated that the valuation approach undertaken by Deloitte should be accepted by the Board as reasonable and appropriate in the unique circumstances associated with streetlighting. Alternatively, the Applicants submitted THESL would be prepared to retain another valuator to prepare a new fair market valuation for the streetlighting assets as at December 31, 2009.

And at page 19, the Board stated:

> With respect to the asset valuation, the Board notes that the Deloitte methodology is not one that is typically employed for regulatory purposes. As SEC noted, the Deloitte valuation is a revenue-based fair market valuation; it is not a physical valuation of the assets. The Board will require an asset valuation to be prepared for the physical assets and will determine at that point, and on the basis of the revised transaction, the appropriate amount for inclusion in rate base.

Given that it was clear to the Board and all parties that a conventional historic-cost valuation of the assets in question was not and could not be made available, THESL commissioned a physical valuation study. The study was conducted by ValuQuest, a respected firm in this area. ValuQuest's full report (the "ValuQuest Report") is attached to this Application as Appendix B. Section 9 of that report, under the heading Fair Market Value, explains the alternative approaches generally available by which to conduct an asset valuation.

As set out in greater detail in the ValuQuest Report, three approaches generally used for valuation purposes are the market approach, the income approach, and the Depreciated Replacement Cost (DRC) approach. Of these, the market approach is most suited to assets for which there is an active, liquid market in fungible or highly interchangeable goods, which is not the case for the SEL assets, and the Board expressed its reservations with respect to the income approach in the Decision. ValuQuest concluded that the Depreciated Replacement Cost methodology was the appropriate approach to take in the prevailing circumstances.

In summary, under that methodology, a (new) replacement cost for the inventory of assets is determined at a detailed level by asset group by gathering information as to market prices and installation costs for new replacements of the assets in question, and applying that information to the quantities of those assets. The resulting Replacement Cost – New ("RCN") is then used as a base from which are deducted estimates of accumulated physical depreciation (based on asset ages and normal useful asset lives) as well as further adjustments reflecting functional obsolescence and in some circumstances economic obsolescence. Since economic obsolescence is caused

by broad factors affecting an entire business it was not applicable to or included in the ValuQuest streetlighting valuation study.

In the prevailing circumstances the Applicants submit that the Depreciated Replacement Cost methodology yields a result which most closely approaches the Board's requirement for "an asset valuation to be prepared for the physical assets". It is cost-based and is not dependent on an assumed revenue stream derived from the assets to determine their value. Furthermore it closely approximates the value represented by the assets in their current, partially depreciated condition and is not simply a replacement cost analysis.

Nevertheless the Applicants acknowledge that the DRC methodology is not a perfect proxy for continuous historical cost information that normally underlies recognized asset values for the purpose of rate setting. A significant conceptual difference between these two approaches is that the DRC method adopts (as it must) the current replacement cost as the basis for the calculation, whereas historical cost accounting naturally reflects a lower nominal historical acquisition cost since that is built up over time as equipment is acquired, and partially reflects lower nominal acquisition costs prevailing several decades ago without the effect of intervening inflation.

Counterbalancing this effect is the converse overstatement of accumulated depreciation, which results from the deduction of the estimate of physical depreciation from the RCN based on implicitly valuing that physical depreciation at current replacement cost rates. This effectively assumes that the depreciation cost per year for the assets is 1/nth (where n is the depreciation life of the asset) of the current replacement cost, not 1/nth of the initial acquisition cost, the latter of which for aged assets would be significantly lower in nominal terms. Under the normal historical acquisition cost method, the existing assets of earliest vintage would have the lowest nominal acquisition cost and would also be fully or nearly fully depreciated, such that the historic cost net book value of the assets would be predominantly determined by the recently acquired assets with significant remaining lives.

Valuation Results

Table 3 below sets out the detailed (non-rounded) valuation results by asset group and classification (i.e., distribution or streetlighting). In summary, the ValuQuest Report finds a total DRC value of the subject assets of $99.266 million (a sum of individually rounded figures). That valuation is sub-divided by ValuQuest into components of $83.820 million for streetlighting and $15.446 million for expressway lighting. The non-rounded figures upon which the Applicants rely are slightly lower. Of these figures, the (rounded) $83.820 million for streetlighting assets needed to be further decomposed into the distribution and streetlighting classifications, which task was carried out by THESL rather than ValuQuest. As indicated above, THESL views the expressway lighting assets as being categorically non-distribution assets according to the terms of the Decision.

Table 3: DRC Valuations by Asset Group and Classification

	Total Asset Group			Classified Distribution		Classified Streetlighting		Total
Asset Group	Count	Group DRC	Unit DRC	Count	Dist. DRC	Count	SL DRC	
Streetlighting								
Luminaires	161,790	$ 15,295,780	$ 94.54	-	$ -	161,790	$ 15,295,780	$ 15,295,780
Brackets	155,888	$ 10,459,560	$ 67.10	-	$ -	155,888	$ 10,459,560	$ 10,459,560
Relays	3,086	$ 20,830	$ 6.75	-	$ -	3,086	$ 20,830	$ 20,830
Handwells	6,844	$ 6,882,860	$ 1,005.68	6,844	$ 6,882,860		$ -	$ 6,882,860
Poles	54,674	$ 37,972,290	$ 694.52	40,274	$ 27,971,175	14,400	$ 10,001,115	$ 37,972,290
Pole Foundations	8,374	$ 7,500,120	$ 895.64	8,374	$ 7,500,120		$ -	$ 7,500,120
Conductors (metres)	2,115,284	$ 5,605,050	$ 2.65	1,366,856	$ 3,621,876	748,428	$ 1,983,174	$ 5,605,050
Sub-Total		$ 83,736,490			$ 45,976,031		$ 37,760,459	$ 83,736,490
Expressway Lighting								
High Mast Poles	178	$ 9,665,970	$ 54,303.20	-	$ -	178	$ 9,665,970	$ 9,665,970
Conventional Poles	1,477	$ 2,427,530	$ 1,643.55	-	$ -	1,477	$ 2,427,530	$ 2,427,530
High Mast Luminaires	989	$ 1,164,180	$ 1,177.13	-	$ -	989	$ 1,164,180	$ 1,164,180
Conventional Luminaires	1,583	$ 164,400	$ 103.85	-	$ -	1,583	$ 164,400	$ 164,400
Distribution Assemblies	25	$ 277,300	$ 11,092.00	-	$ -	25	$ 277,300	$ 277,300
Conductors (metres)	39,000	$ 278,550	$ 7.14	-	$ -	39,000	$ 278,550	$ 278,550
Conduit (metres)	39,000	$ 1,426,500	$ 36.58	-	$ -	39,000	$ 1,426,500	$ 1,426,500
Sub-Total		$ 15,404,430			$ -		$ 15,404,430	$ 15,404,430
Grand Total		$ 99,140,920			$ 45,976,031		$ 53,164,889	$ 99,140,920

Adjustment to Current Net Book Value Basis

The aggregate SEL asset net book value at 2010 year end is $63.453 million (unaudited), or $35.688 million less than the DRC value of $99.141 million. The Applicants do not request a transfer value greater than the proportionate net book value for assets eligible to be transferred. The ValuQuest Report together with the Applicant's classification of the assets into the Streetlighting and Distribution categories can be used to determine the proportions of the total current NBV represented by the transferrable assets along with the streetlighting assets. Table 4 below presents the decomposition of the current NBV into asset groups and classifications.

Table 4: Derivation of NBV by Asset Group and Classification

			Classified Distribution			Classified Streetlighting			Total NBV
Asset Group	Group DRC	Group NBV	Dist. DRC	Dist. DRC %	Dist NBV	SL DRC	SL DRC %	SL NBV	
Streetlighting									
Luminaires	$ 15,295,780	$ 9,787,225	$ -	0.00%	$ -	$ 15,295,780	100.00%	$ 9,787,225	$ 9,787,225
Brackets	$ 10,459,560	$ 6,692,700	$ -	0.00%	$ -	$ 10,459,560	100.00%	$ 6,692,700	$ 6,692,700
Relays	$ 20,830	$ 13,328	$ -	0.00%	$ -	$ 20,830	100.00%	$ 13,328	$ 13,328
Handwells	$ 6,882,860	$ 4,404,097	$ 6,882,860	100.00%	$ 4,404,097	$ -	0.00%	$ -	$ 4,404,097
Poles	$ 37,972,290	$ 24,297,117	$ 27,971,175	73.66%	$ 17,897,759	$ 10,001,115	26.34%	$ 6,399,358	$ 24,297,117
Pole Foundations	$ 7,500,120	$ 4,799,060	$ 7,500,120	100.00%	$ 4,799,060	$ -	0.00%	$ -	$ 4,799,060
Conductors (metres)	$ 5,605,050	$ 3,586,472	$ 3,621,876	64.62%	$ 2,317,510	$ 1,983,174	35.38%	$ 1,268,963	$ 3,586,472
Sub-Total	$ 83,736,490	**$ 53,580,000**	$ 45,976,031	54.91%	**$ 29,418,426**	$ 37,760,459	45.09%	**$ 24,161,574**	**$ 53,580,000**
Expressway Lighting									
High Mast Poles	$ 9,665,970	$ 6,195,109	$ -	0.00%		$ 9,665,970	100.00%	$ 6,195,109	$ 6,195,109
Conventional Poles	$ 2,427,530	$ 1,555,851	$ -	0.00%		$ 2,427,530	100.00%	$ 1,555,851	$ 1,555,851
High Mast Luminaires	$ 1,164,180	$ 746,146	$ -	0.00%		$ 1,164,180	100.00%	$ 746,146	$ 746,146
Conventional Luminaires	$ 164,400	$ 105,367	$ -	0.00%		$ 164,400	100.00%	$ 105,367	$ 105,367
Distribution Assemblies	$ 277,300	$ 177,727	$ -	0.00%		$ 277,300	100.00%	$ 177,727	$ 177,727
Conductors (metres)	$ 278,550	$ 178,528	$ -	0.00%		$ 278,550	100.00%	$ 178,528	$ 178,528
Conduit (metres)	$ 1,426,500	$ 914,272	$ -	0.00%		$ 1,426,500	100.00%	$ 914,272	$ 914,272
Sub-Total	$ 15,404,430	**$ 9,873,000**	$ -	0.00%		$ 15,404,430	100.00%	$ 9,873,000	**$ 9,873,000**
Grand Total	$ 99,140,920	**$ 63,453,000**	$ 45,976,031	46.37%	**$ 29,418,426**	$ 53,164,889	53.63%	**$ 34,034,574**	**$ 63,453,000**

Satisfaction of Board Directives

The Applicants submit that the evidence contained herein together with the associated appendices fully meet the requirements and directions set out in the Decision. Specifically, this evidence

1. Exhaustively enumerates the assets which were the subject of the Decision;
2. Properly categorizes those assets according to the criteria set out in the Decision into Distribution and Streetlighting classifications;
3. Provides further evidence as to the classification of Expressway Lighting assets as Streetlighting in accordance with the Decision criteria;
4. Provides valuations of the physical assets by asset group and classification;
5. Adjusts the physical valuations downward proportionately to agree with the currently recorded net book value of the entire SEL system; and
6. Establishes the amount of $29,418,426 as the proposed revised transaction amount, approved in principle by the Board in the Decision.

The Applicants acknowledge that the 2010 year-end net book value of the entire SEL system is subject to audit confirmation, which will be available shortly. Nevertheless, to meet the Board's directive regarding the filing date of this further evidence, the Applicants provide the information set out herein and undertake to confirm the audited NBV of the SEL system when that information is available and to make any adjustments required to reflect that information by way of an update to this evidence.

The Applicants submit that should the Board approve the transaction as described herein, and subject to obtaining all necessary approvals, the Applicants intend to proceed with a transaction which is substantially similar to the transaction evidenced in the Initial Applications, except that the Asset Purchase Agreement will be updated, amended and restated to, among other matters, exclude all non-distribution assets, and the purchase price for the assets will be revised as described herein. Should the Board require an updated Amended and Restated Asset Purchase Agreement reflecting the amounts and assets approved for transfer by the Board, the Applicants will provide that upon the Board's final determination of those amounts and assets.

The Applicants therefore submit that the Board should approve the revised transaction at the amount set out above, subject to audit confirmation, in accordance with the Decision.

Toronto Hydro-Electric System Ltd.

Streetlighting Division

Quality Assurance and Quality Control Plan for Streetlight Inventory

Toronto, Ontario

June 2010

Toronto Hydro-Electric System Ltd.

Streetlighting Division

Quality Assurance and Quality Control Plan for Streetlight Inventory

Toronto, Ontario

June 2010

HDR | iTRANS
100 York Blvd., Suite 300
Richmond Hill, ON L4B 1J8
Tel: (905) 882-4100
Fax: (905) 882-1557
www.hdrinc.com
www.itransconsulting.com

Project # 5041

Client Project Team

Project Manager	Phil Dubeski
Project Team	Richard Cook Glenn Winn Gary Soper Greg Russell John Farancato Robert McNabney Tony Huynh Andrew Herczeg

HDR | iTRANS Project Team

Principal	Chris Philp
Project Manager	Maurice Masliah
Technical Team	Kevin Shen Andrew O'Connor Barry McLaughlin
Quality Assurance	Scott Prugh
Data Collection	Horizon Data Services Ltd.

TABLE OF CONTENTS

Appendices

Tables

1. PURPOSE

The HDR | iTRANS Quality Assurance and Quality Control plan defines the attributes and values for the Toronto Hydro Streetlight Inventory project. In addition, this plan provides the specifications, minimum standards, and procedures for the data to be delivered to Toronto Hydro.

The quality control and quality assurance procedure is for HDR | iTRANS, and does not specify the procedures used by Horizon Data Services Limited or Toronto Hydro-Electric System Ltd.

2. ATTRIBUTES AND VALUES

An *attribute* is a category that is assessed for a streetlight, such as for example "Pole Ownership". A *value* is the option or answer that the corresponding attribute can take, such as "Streetlighting", "Distribution", "Bell", or "TTC". The source for the data is derived either from the Toronto Hydro GEAR System which is then validated during the field data collection, or is collected directly from the field site visit. Mandatory values are values which must be collected as part of the minimum data requirements.

The selection of attributes and values was determined through a serious of working meetings between HDR | iTRANS and Toronto Hydro.

The attributes and values are broken up into five categories and provided in the following tables:

Table 1: Pole
Table 2: Bracket
Table 3: Luminaire
Table 4: Street Area Type
Table 5: Photos

Table 1: Pole

POLE			
ATTRIBUTE	**VALUE**	**SOURCE**	**MANDATORY**
GEAR FID #		Toronto Hydro Gear System	Y
Pole Ownership		Field Collection	Y
	Streetlighting	Field Collection	
	Distribution	Field Collection	
	Bell- Wood/Alley	Field Collection	
	TTC - Steel+Supports TTC Wires	Field Collection	
Address/Location		Field Collection	
Location Type	Street/Laneway/Other	Field Collection	Y
Address No		Field Collection	
Street 1		Toronto Hydro Gear System	Y
Street1 Suffix		Toronto Hydro Gear System	
Street1 Direction		Toronto Hydro Gear System	
Street 2		Field Collection	Y - intersection
Street2 Suffix		Field Collection	
Street2 Direction		Field Collection	
Survey Date/Time		System Generated	Y
Mounted Luminaire	Pole / On a structure, wall mount / Underpass	Field Collection	Y
Pole Number		Toronto Hydro Gear System	
Foundation	Base mounted / Direct buried	Field Collection	Y
Pole Class	A/B/C/D/E/F/G/1/2/3/4/5/6/78/9/0	Toronto Hydro Gear System	
Pole Height (ft)	25 or less/30/32.5/35/40	Toronto Hydro Gear System	Y
Installation Year	YY	Field Collection	
Distance to closest pole	25 or less/35/45/55	Field Collection	Y Default is 25

(m)			
Pole Material	Concrete/Aluminum/Wood/Steel/Iron/Fiberglass	Toronto Hydro Gear System	Y
Pole Style	Standard/Decorative	Field Collection	
Pole Condition	1/2/3 (1 - Good/2 - Monitor/3 - Replace)	Field Collection	Y
Condition Comments		Field Collection	Y -If Condition is 3
Handhole Cover Condition	1/2/3 (1 - Good/2 - Monitor/3 - Replace)	Field Collection	
Electrical Supply	Overhead/Underground	Field Collection	Y
Is there a handwell?	Y/N	Field Collection	Y
Handwell Condition	1/2/3 (1 - Good/2 - Monitor/3 - Replace)	Field Collection	
Attachments		Field Collection	
Distribution Wires	Y/N	Field Collection	
3rd Party Electrical	Y/N	Field Collection	
Service Wires	Y/N	Field Collection	
Traffic Light	Y/N	Field Collection	
Temporary Feed	Y/N	Field Collection	
Support Wire	Y/N	Field Collection	
3rd Party Box	Y/N	Field Collection	
Control Relay	Y/N	Field Collection	
TTC Wire	Y/N	Field Collection	
Others	Y/N	Field Collection	
Other Comments		Field Collection	Y - Others is Y
EXCEPTION	Y/N (Default: N)	Field Collection	
EXCEPTION Comments		Field Collection	Y - If Exception is Y

Table 2: Bracket

BRACKET

ATTRIBUTE	VALUE	SOURCE	MANDATORY
Brackets installed?	Y/N	Field Collection	Y
Number of Brackets	1/2 (Default is 1)	Field Collection	Y
#1 Bracket Type	Top mount/Decorative/Tapered Elliptical/AR9/Lane bracket/Pedestrian Bracket	Toronto Hydro Gear System	Y - If Bracket Installed is Y
#1 Arm Length (ft)	2 and less/6/8 or more	Toronto Hydro Gear System	
#2 Bracket Type	Top mount/Decorative/Tapered Elliptical/AR9/Lane bracket/Pedestrian Bracket	Toronto Hydro Gear System	Y - If Bracket Installed is Y & Number of Brackets is 2
#2 Arm Length (ft)	2 and less/6/8 or more	Toronto Hydro Gear System	

Table 3: Luminaire

LUMINAIRE			
ATTRIBUTE	**VALUE**	**SOURCE**	**MANDATORY**
Number of Luminaires	0/1/2/3/4/5	Field Collection	Y
Cluster?	Y/N (Default: N)	Field Collection	Y
#1 Luminaire Type	Acorn/Cobra Head/Decorative/Oriental hat/Wall Pack/Pedestrian Light	Field Collection	Y
#1 Wattage Color	Red/Gold	Field Collection	
#1 Wattage Value	5/7/10/15/20/25/40	Toronto Hydro Gear System	
#1 On Top	(Gray / Blue) Photocell / (Brown / Black) Shorting cap	Toronto Hydro Gear System	
#2 Luminaire Type	Acorn/Cobra Head/Decorative/Oriental hat/Wall Pack/Pedestrian Light	Field Collection	Y - If Number of Luminaire is greater than 1
#2 Wattage Color	Red/Gold	Field Collection	
#2 Wattage Value	5/7/10/15/20/25/40	Toronto Hydro Gear System	
#2 On Top	(Gray / Blue) Photocell / (Brown / Black) Shorting cap	Toronto Hydro Gear System	

Table 4: Street Area Type

Street Area Type			
ATTRIBUTE	**VALUE**	**SOURCE**	**MANDATORY**
Street - Area Type	Overhead supply/Residential Underground Supply/Mixed Use Underground	Field Collection	Y
Surveyor's Comments		Field Collection	

Table 5: Photos

PHOTOS			
Photo	Digital Photo	Field Collection	Y - if Condition is 3

3. QUALITY CONTROL METHODS

There are several types of errors which may occur during the data collection process, including:

1. Missed poles that are in GEAR. A publicly accessible pole in GEAR was not visited by the surveyor.
2. Missed streetlights that are not in GEAR. A streetlight not in GEAR was not visited by the surveyor, such as a laneway light.
3. Systematic misclassification of data entry. Examples include coding Bell poles as distribution, or using the wrong label for the address information. The survey is purposely entering information, but is consistently wrong. This type of problem should be addressed through additional training.
4. Data entry errors. The surveyor miss keyed while entering data. This includes missing or skipped attributes.

Given the large number of attributes and streetlights, the quality control methods are based upon a sampling approach. There are four types of quality control methods

- Logical checks
- GIS map inspection
- Online street view validation
- Field visit validation

3.1 Logical Checks

The design of the software used for data collection has most of the logical checks built in, however, there are some additional checks than can be conducted through automated checks. The logic checks include:

- Installation year greater than 2010 or smaller than 1950.
- Number of brackets = 1, but no information on the first bracket provided.
- Number of brackets = 2, but no information on the second bracket provided.
- Number of luminaires = 1, but no information on the first luminaires provided.
- Number of luminaires = 2, but no information on the second luminaires provided.
- If the number brackets = 1 or 2 then the number of luminaires should be the same.
- If ownership is Bell than Wattage should equal 7.
- If bracket type equals AR9 then the bracket length should be 8 feet or more.
- If there is a temporary feed attachment then the area type should be underground.
- If the electrical supply equals underground then the area type may be either residential underground supply or mixed use underground.
- If the electrical supply equals overhead then the area type should be overhead supply.

In addition, the logical checks include checks for missing values:

- General
    - Missing Ownership

    - Missing Location
    - Missing Mounted Luminaries
    - Missing Street Area Type
- Exception is "Yes"
    - Missing Exception Comments
- Ownership is "Street lighting Side"
    - Missing Distance to Closest Pole
    - Missing Pole Height
    - Missing Pole Material
    - Missing Style
    - Missing Foundation
    - Missing Electrical Supply
    - Missing Pole Condition
- Pole Condition is "3-Replace"
    - Missing Pole Condition Comments
    - Missing Photo
- Handwell Installed is “Yes”
    - Missing Handwell Condition
- Other Attachment is "Yes"
    - Missing Other Attachment Comments
- Bracket is Installed
    - Missing Number of Brackets
    - Missing Bracket Type
- Bracket is Installed and Number of Bracket is 2
    - Missing Bracket Type 2
- No of Luminaries > 0
    - Missing Luminaries Type 1
- No of Luminaries > 1 and Cluster is No
    - Missing Luminaries Type 2

Use the Logical Checks Form, found in the Appendix, to record results.

Responsibility: Kevin Shen

3.2 GIS Map Inspection

By displaying the collected data on a GIS map, a visual inspection may be conducted to look for GEAR poles that may have been skipped. Since surveyed poles are color coded red, green pole stand out and can be investigated further. GEAR poles which are not publically accessible will remain green.

GIS maps can also be used to look for patterns, such as showing all distribution poles and seeing if there are any strange or unexpected patterns. By querying subsets of the data, it should be possible to conduct a visual inspection of the pattern of streetlights to look for

outliers in the data, such as for example a TTC pole not on an arterial. The following GIS visualization can be conducted under this quality control check:

- Show all green poles (all poles not surveyed). Look for publically accessible poles that were not surveyed.
- Show all TTC poles. Compare against known streetcar routes.
- Show all Distribution poles. Look for outliers and patters.
- Show all Bell poles. Look for outliers and patterns.
- Show all poles by Street Area Type. Look for outliers and patterns.

Use the Map Inspection Form, found in the Appendix, to record results.

Responsibility: Barry McLaughlin

3.3 Street View Validation

Online street view allows for a cost-effective validation of the key attributes listed in **Table 6**.

Table 6: Street View Validation Attributes

Attribute
Pole Ownership
Address/Location
Foundation
Pole Material
Pole Style
Brackets installed?
Number of Brackets
Bracket Type
Number of Luminaires
Cluster?
Street Area Type

The limitations of this method for quality control are

- Online street views are several years old, so there is the potential that things may have changed since the image was captured. Therefore caution should be used when validating.
- Several attributes can not be distinguished from the online images.

Use the Map Inspection Form, found in the Appendix, to record results.

Responsibility: Barry McLaughlin

3.4 Field Visit Validation

This quality control method involves going to a subzone which has been completed and validating the data which has been collected. This method is a duplication of the task of the surveyor and consists of validating all of the data collected in Table 1 to Table 5. The HDR | iTRANS Streetlight Inventory and Condition Review Training Material detail the criteria and method for conducting field visits.

All attributes can be checked using this method.

Use the Field Inspection Form, found in the Appendix, to record results.

Responsibility: Andrew O'Connor and Horizon Data Services Ltd.

4. QUALITY ASSURANCE PROCEDURE

The field collection process followed by Horizon Data Services Ltd.

1. Supervisors received infield training (in pairs) and the Hydro rep (John Farancato) for 4 hrs following the in class training. The supervisor is then required to do a 8 hrs shift (typical full time shift) in collecting data individually. This is monitored by Hydro rep who answers or classify streetlights.
2. The counter goes through a 4 hrs one and one infield training with the supervisor. If the counter passes this test then he is required to do an 8hr peer training under the supervision of another supervisor. If successful the counter starts collecting data on his own. The supervisor is there for support.
3. Both the supervisor and the counter are required to carry a log book which will be returned to Horizon upon completion of project. These log books will be available for inspection by HDR | iTRANS. The log book will include any abnormalities or problems encountered in the field. The log books will record the start, end time and date and the daily number of poles collected (all poles that are inserted and or deleted will be recorded in the log book)
4. The Supervisors will do random checks along with the counter after completion of each subzone. They will check against any abnormality along any street such as temporary overhead wires, exceptions, change in pattern of ownership and laneways. After approval is given the counter will start his next assigned subzone.
5. The supervisors may record any condition in his her log book and check against the PDA info at any time to ensure the data collection is accurate.
6. Supervisors will do daily checks and will spend a minimum of 30 minutes with each counter
7. Supervisors will meet regularly to review progress and to make adjustments accordingly. This may include recommending additional training for counters and or replacement

The field collection process followed by HDR | iTRANS.

8. Conduct site visits to observe the processes used by the surveyors in the field and use the Field Inspection Form, found in the Appendix to record the following:
    a. Based on field observations, was the process being performed properly?
    b. Did the supervisors have any questions, comments, or concerns?
    c. Do the supervisors, surveyors and other staff seem to understand the procedure and process?
9. Every two weeks completed subzones will be received from the surveyors. If the aggressive schedule can be maintained, it is estimated that between 60 and 100 subzones per two week period will be completed. There are 537 subzones in total.
10. Individual subzones are assembled into a single data set.
11. Run automated logical checks
12. Inspect the data using GIS map inspection
13. Conduct stratified randomized sampling using online street view validation
14. Conduct field visit validation

Responsibility: Scott Prugh

5. ESTIMATE OF DATA RELIABILITY

Use Equation 8.13 page 285 from David J. Sheskin Handbook of Parametric and Nonparametric Statistical Procedures. Fourth Edition. Chapman & Hall/CRC Publishers. 2007 in order to estimate the reliability of the collected data:

$$\sqrt{n} = \frac{z_{\alpha/2}\sqrt{p_1 p_2}}{w}$$

Where

n = the sample population

$z_{\alpha/2}$= the standard score, or how many standard deviations an observation is above or below the mean. For a 95% confidence level, $z_{\alpha/2}$= 1.96.

p = sample proportions. In this case it is the proportion of data that is in error, let's say 5%.

Given that the sample size is fixed, we want to solve for the confidence interval as follows:

$$w = \frac{z_{\alpha/2}\sqrt{p_1 p_2}}{\sqrt{n}}$$

Next, we plug in the values. **The following values are for illustration purposes only. The following values are shown in order to illustrate the methodology**:

n = 40 (number of poles sampled in the subzone. The average subzone has 400 poles.)

p = 0.05 (proportion of poles with errors)

$z_{\alpha/2}$= 1.96 (5% confidence interval)

$$0.068 = \frac{1.96\sqrt{0.05 \times 0.95}}{\sqrt{40}}$$

Which gives us a confidence interval of 0.068, or 7% for a subzone where the sample we inspected had a 5% error rate. This means we can be 95% confident that the true error rate is between 5% and 12% (5 + 7%).

Note that this methodology is appropriate for large populations (it is appropriate for evaluating the reliability of the entire study with over 100,000 poles). For subzones, which are small, the estimate is too conservative and in this example the confidence interval is even smaller than 7%.

Responsibility: Maurice Masliah

Appendix A
Quality Control Forms

Logical Checks Form - Quality Control for Streetlight Inventory

SubZone			Date			Reviewer		
Logical Checks Completed								
List any poles which fail the logic checks and return to Horizon for completion								

Map Inspection Form - Quality Control for Streetlight Inventory

SubZone _____ Date _____ Reviewer _____

Check of Surveyed Poles (Green/Red) Completed _____

Use Google Street View to cofirm poles are publically accessible.

List GEAR FID # of un- surveyed poles.

Check of TTC Poles Completed _____

Use Google Street View to cofirm poles are on street car routes.

List GEAR FID # of error poles.

Check of Distribution Poles Completed _____

Use Google Street View to cofirm poles ownership.

List GEAR FID # of error poles.

Check of Bell Poles Completed _____

Use Google Street View to cofirm poles ownership.

List GEAR FID # of error poles.

Check of Street Area Type Completed _____

Use Google Street View to cofirm street area type.

List GEAR FID # of error poles.

Field Inspection Form - Quality Control for Streetlight Inventory

SubZone ____________ Date ____________ Reviewer ____________

Make corrections to the data directly to the database. Record the changes in this form.

GEAR FID #	What attributes were changed?

Field Inspection Form - Quality Assurance for Streetlight Inventory

SubZone	Date	Reviewer
Location	Time	

Based on field observations, was the process being performed properly?

List any discrepancies

Did the supervisors have any questions, comments, or concerns?

Do the supervisors, surveyors and other staff seem to understand the procedure and process?

ValuQuest

Street Lighting and Expressway Lighting Assets Valuation Report

Toronto Hydro-Electric System Limited
Toronto Hydro Energy Services Inc.
1798594 Ontario Inc.

as at November 1, 2010

December 1, 2010

ValuQuest Limited
30 Robin Hood Rd.
Toronto, Ontario, Canada
M9A 2W8
Tel: (416) 844-4422
Fax: (416) 762-4280
Email : JimHorvath@ValuQuest.ca

December 1, 2010

Toronto Hydro-Electric System Limited
Toronto Hydro Energy Services Inc.
1798594 Ontario Inc.
14 Carlton Street
Toronto, Ontario M5B 1K5

Attention: Mr. Pankaj Sardana
Vice President Treasurer
And Regulatory Affairs

Dear Sirs:

Subject: **Valuation of the Certain Street Lighting and Expressway Lighting Assets**

Pursuant to your Request For Proposals No. P10-073 dated April 28, 2010, we have been engaged to provide Toronto Hydro-Electric System Limited, Toronto Hydro Energy Services Inc. and 1798594 Ontario Inc. ("THESL", "THESI", "Ontario Inc.", collectively "Toronto Hydro" or the "Companies") with an independent and objective estimate of the Fair Market Value (the "Valuation") of certain assets of the street lighting and expressway lighting networks ("Street Lighting Assets", "Expressway Lighting Assets" or the "Assets") understood to be owned by Toronto Hydro.

Our report has been completed in accordance with the Uniform Standards of Professional Appraisal Practices ("USPAP") and in our opinion complies with the requirements of a "Summary Appraisal Report" (www.appraisalfoundation.org).

Background

We understand that on or about June 15, 2009 the Companies filed applications with the Ontario Energy Board ("OEB") with respect to seeking a declaration by the OEB that the street lighting assets in the City of Toronto, currently owned by THESI, are deemed to be a distribution system and, ultimately, to make the

street lighting assets/system part of a new amalgamated distribution company consisting of THESL and 1798594 Ontario Inc. ("NewTHESL").

Purpose and Date

We understand the sole purpose of our valuation is to assist Toronto Hydro management with establishing the Fair Market Value of the Street Lighting Assets as mandated by the OEB's decision (EB-2009-0180, 0181, 0182 & 0183) dated February 11, 2010.

Our valuation is as of November 1, 2010 (the "Valuation Date").

Restrictions

This report has been prepared for Toronto Hydro exclusively (considered to be "the client of record") and can only be used in relationship to the purpose as stated above. In addition, it may only be reviewed by the OEB as it pertains to the abovementioned decisions. This report is not intended for general circulation or publication, nor is it to be reproduced or used for any purpose other than that outlined above. We do not assume any responsibility or liability for losses incurred by any party as a result of circulation, publication, reproduction or use of this report contrary to the provisions of this paragraph.

We reserve the right to review all calculations included or referred to in this report and, if we consider it necessary, to revise our estimate of value in the light of any information existing at the effective date which becomes known to us after the date of this report.

Supporting data upon which this estimate is based are contained in the accompanying report, subject to the Assumptions and Limiting Conditions contained within the body of the report.

This estimate of value has been derived using generally accepted appraisal procedures and on a level of due-diligence appropriate for the purpose. In order for us to provide an opinion of value, a more comprehensive scope of investigation and analysis would be required.

This appraisal report should be read in its entirety. Reports of this nature do not lend themselves to summary description or partial analysis. The preparation of an appraisal is a complex task and without understanding all the points and factors considered by us, a misleading or inappropriate view of the entire process may result.

ValuQuest

Toronto Hydro-Electric System Limited
Toronto Hydro Energy Services Inc.
1798594 Ontario Inc.
December 1, 2010

We were engaged only to complete an estimate of the Fair Market Value of the Street Lighting Assets and Expressway Lighting Assets as at the Valuation Date. We were not engaged to comment on the appropriateness of the OEB's decision, the accounting treatment of the Assets, nor were we engaged to comment on other accounting issues and legal or engineering matters relating to the Assets.

Estimate of Value

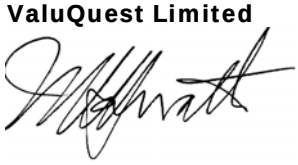
Based upon the information provided to us, the scope of our review and our research, analysis and experience, our estimate of the Fair Market Value of the Street Lighting and Expressway Lighting Assets within the boundaries of the City of Toronto and owned by Toronto Hydro, as at November 1, 2010, expressed in Canadian Dollars, is summarized as follows (rounded):

Toronto Hydro
Street Lighting and Expressway Lighting Assets
Fair Market Value
As At: November 1, 2010

Ninety-nine Million, Two Hundred and Sixty-six Thousand Canadian Dollars
(C$99,266,000)

The following sixty-one (61)-page report, including assumptions and limiting conditions and ten (10) attached schedules and/or appendices, is an integral part of this valuation and summarizes our findings and the methodology leading to our estimate of Fair Market Value.

Yours very truly,
ValuQuest Limited



Jim Horvath, CA, MBA, CA.CBV, FCBV, ASA
Managing Director

Table of Contents

Tables, Schedules and Appendices

Assumptions and Limiting Conditions

The investigation and the valuation estimate expressed in this appraisal are subject to the following critical assumptions and limiting conditions including any others that are expressed or implied in this report. Acceptance and/or use of this report constitutes acceptance of all assumptions and limiting conditions in this report.

This report is not intended for general circulation nor is it to be reproduced or used for any purpose other than as outlined herein without our prior written permission in each specific instance. We do not assume any responsibility or liability for losses occasioned to the Companies, its directors, shareholders or stakeholders as a result of the circulation, publication, reproduction or use of this report contrary to the provisions of this paragraph.

We reserve the right (but will be under no obligation) to review all calculations included or referred to herein and, if we consider it necessary, to revise our report in light of any information existing at the valuation date which become known to us after the date of this report.

The Asset interest (or rights) being valued is that of ownership in fee simple (ownership without limitation to any particular class of heirs or restrictions, but subject to the limitations of the rights of taxation, police power, expropriation and escheat), and accordingly, our investigation did not include any title searches, opinions of title, personal property security liens searches, encroachments or encumbrances reviews, liability searches or any similar types of reviews or searches. We do not take any responsibility for these matters or any other similar matters. We have assumed that title to all of the Assets outlined herein is free and clear and fully marketable.

We did not complete an inspection of the Assets, whether in whole or in part. Furthermore, we did not complete a review of whether or not the Assets comply with Illuminating Engineering Society of North America ("IESNA") RP-8-00 Reaffirmed 2005 guidelines or, if applicable, any Ministry of Transportation ("MTO") guidelines for expressway lighting, nor did we complete any energy efficiency reviews, re-lamping reviews, maintenance reviews, technological advancement reviews, cost benefit analyses, Street Lighting and Expressway Lighting network re-configuration studies, Asset worthiness tests, environmental impact studies and any other specialized studies were not made in conjunction with this report and are considered outside the scope of this investigation. Accordingly, no responsibility is assumed concerning these matters, or other technical or engineering techniques, which would be required to discover any inherent or hidden condition in the Assets and full compliance with applicable regulations and laws is assumed unless stated otherwise.

We have assumed that information provided to us from Toronto Hydro regarding the field survey/audit completed by a third party company – HDR/iTrans, is accurate and reliable for our use in the valuation of the Street Lighting Assets. We have not completed a review, analyzed or audited this information. Should we subsequently find out that this information is other than what we have assumed then we would have to re-assess our valuation of the Street Lighting Assets.

With regards to the Expressway Lighting, no field survey/audit was completed by ValuQuest, Toronto Hydro, or any third party company. Information regarding quantities and age / year of installation was obtained from a Deloitte & Touche LLP ("D&T") report dated May 10, 2006. We have assumed that the information contained in the D&T report is accurate and reliable for our use in the valuation of the Expressway Lighting Assets. We have not completed a review, analyzed or audited this information. Should we subsequently find out that this information is other than what we have assumed then we would have to re-assess our valuation of the Expressway Lighting Assets.

It was not practical or feasible to have each and every Asset comprising the entire group of Street Lighting Assets or the Expressway Lighting Assets demonstrated to us with regards to efficiency, operating functionality and other operating criteria, due to various limitations. No responsibility is assumed by us for latent defects of any nature whatsoever that may affect the value, nor for any expertise required to disclose such conditions.

This valuation report does not give any consideration to the possible effect on the values reported herein, as a result of inflation, currency differences, interest rate differences, changing economy, changing technology etc., expected or projected. Values are as of the appraisal date.

As mentioned in our proposal dated May 4, 2010, we are prepared to assist Toronto Hydro with regards to providing expert witness advice for the OEB hearing on this matter. However, the terms of this engagement do not require us to hold meetings, give advice or provide any similar types of services with any party not related with the OEB hearing. Should meetings, advice or consultation with parties not related with the OEB hearing become necessary, arrangements would be made with Toronto Hydro to ensure that adequate preparation, along with compensation for such preparation, is completed.

The fee for the valuation report is not contingent upon the conclusions expressed herein.

The valuation does not affix or set the price for the Assets but offers only a supportable estimate as to the present worth of anticipated benefits subject to investment risk, measured mainly by the market data available at the valuation date. Therefore, we assume no liability for changes in market conditions that may adversely affect the stated values.

We are not aware, nor have Toronto Hydro management or personnel notified us, of any facts or material information that would reasonably be expected to affect the conclusions expressed herein.

This report is not valid unless it bears the original signature of the appraiser.

Cost of financing during a normal construction period has not been considered in this valuation.

ValuQuest Limited does not buy, sell or trade in used equipment or assets similar to those being valued herein. This report does not constitute a guarantee by ValuQuest Limited that the Assets can be transacted at the prices stated. Accordingly, we have not exposed the Assets to the marketplace to determine whether some purchasers, for their own particular reasons, might perceive a value different from that determined by us.

This appraisal of the Assets of Toronto Hydro complies with our understanding of the requirements of the Uniform Standard of Professional Appraisal Practice ("USPAP") and has been prepared using generally accepted valuation methodology and techniques as promulgated by the American Society of Appraisers (www.appraisers.org).

All files, work papers or other documents developed during the course of this assignment shall be our property. We will retain these documents for five (5) years.

Should any of the above assumptions and limiting conditions not be accurate or should any of the information provided to us not be factual or correct, our value conclusion could be significantly different.

1. Currency of Valuation

Values stated in this report are expressed in Canadian Dollars (C$). Conversion or translation into other currencies should be taken at the exchange rates prevailing as at the valuation date.

2. Purpose and Date of the Valuation

The sole purpose of our valuation is to assist Toronto Hydro management with establishing the Fair Market Value of the Street Lighting Assets as mandated by the OEB's decision (EB-2009-0180, 0181, 0182 & 0183) dated February 11, 2010.

The Valuation Date is as of November 1, 2010.

3. Nature of the Equipment's Utilization

The Assets are being utilized to provide street lighting within the borders of the amalgamated City of Toronto and for expressway lighting on the Don Valley Parkway, Fred G. Gardiner Expressway and the Allen Road Expressway.

4. Inclusions and Exclusions

This valuation only includes the following Assets:

Street Lighting Assets	
Poles:	54,674 – concrete, aluminum, wood, steel and fibreglass (whether decorative and standard)
Foundations:	8,374 – concrete foundations and bases utilized for steel and aluminum poles
Luminaires:	161,794 – acorn, cobra head, decorative, oriental hat, pedestrian and Wallpack, all of which include, where applicable, fixture, ballast, lamp and photocell / shorting cap
Arms/Bracket -	155,888 – brackets/ arms of various lengths, types and styles
Handwells:	6,844 – concrete formed handwells
Relays:	3,086 – relays utilized to control multiple luminaires on a single circuit/feed
Wiring -	Approximately 2,115,300 meters of wiring utilized between pole spans and to feed out to the luminaires and fed from either an underground or overhead supply

Expressway Lighting Assets

High Mast Poles:	178 – 30 meter high mast poles including elevating device, luminaire ring and 989 luminaires located on the Don Valley Parkway and Fred G. Gardiner Expressway
Conventional Poles:	1,477 – conventional concrete / steel / aluminum poles including bracket(s) located on the Don Valley Parkway, Fred G. Gardiner Expressway and the Allen Road Expressway
Conventional Luminaires:	1,583 – conventional luminaires located on the Don Valley Parkway, Fred G. Gardiner Expressway and the Allen Road Expressway, all of which include, where applicable, fixture, ballast, lamp and photocell / shorting cap
Distribution Assemblies:	25 – distribution assemblies located on the Don Valley Parkway, Fred G. Gardiner Expressway and the Allen Road Expressway
Wire and Conduit:	Approximately 39,000 meters of wire and approximately 39,000 meters of conduit located on the Don Valley Parkway, Fred G. Gardiner Expressway and the Allen Road Expressway

Our valuation has excluded all other forms of tangible (and intangible) assets not mentioned above.

In addition, excluded from this valuation are poles owned by the local distribution company, poles, luminaires, wiring, etc. owned by third parties or in areas not maintained by Toronto Hydro (i.e. – Bell Canada, Rogers Communications, the TTC, street traffic lights, poles and luminaires located in City parks or schools, poles and luminaires on privately owned properties, etc.) and poles, luminaires, wire and related ancillary assets located on provincial operated highways (i.e. – Queen Elizabeth Way and Highways 401 and 427).

5. Age and Condition

Age – Street Lighting Assets

Based on information provided to us from Toronto Hydro or discussions with Toronto Hydro personnel, outlined below are the quantities and ages (in five (5) year time spans) for all the poles and all the luminaires:

Table 1 – Pole Age Distribution

Poles:	- Approximately 3,930 poles are one to five years old
	- Approximately 3,030 poles are six to ten years old
	- Approximately 2,515 poles are eleven to fifteen years old
	- Approximately 1,785 poles are sixteen to twenty years old
	- Approximately 2,210 poles are twenty-one to twenty-five years old
	- Approximately 2,640 poles are twenty-six to thirty years old
	- Approximately 2,980 poles are thirty-one to thirty-five years old
	- Approximately 3,680 poles are thirty-six to forty years old
	- Approximately 3,490 poles are forty-one to forty-five years old
	- Approximately 5,440 poles are forty-six to fifty years old
	- Approximately 22,900 poles are greater than fifty years old

Source – Field Survey Database

Appendix G provides further detail with regards to age / year of installation of the poles.

Table 2 – Luminaires Age Distribution

	Acorns	Cobra	Decorative	Oriental Hat	Pedestrian	Wallpack
1 - 5 yrs old	1,000	3,160	300	80	10	40
5 - 10 yrs old	2,340	6,840	252	52	50	250
10 - 15 yrs old	23,300	6,840	2,961	883	200	500
15 - 20 yrs old	3,510	77,920	5,417	1,081	155	550
20 yrs old +	5,460	15,960	1,904	591	52	135
	35,610	110,720	10,834	2,687	467	1,475

Condition – Street Lighting Assets

The following table indicates the three condition codes that the field surveyors (refer to heading 6 – "Field Survey" with respect to the field surveyors) utilized, the associated description for that condition code and the overall percentage that the condition code represents to the total pole population:

Table 3 – Condition of Street Lighting Assets

Condition Code	Description	Percentage
1	Good	97.73%
2	Monitor	1.20%
3	Replace	1.07%

With regards to the description heading in table 1, we have assumed that "Monitor" is equivalent to the appraisal term of "Fair" condition, and we have assumed that "Replace" is equivalent to the appraisal term of "Poor" condition.

No indication of condition was recorded by the field surveyors for any other category of the Street Lighting Assets. It is our understanding, based on discussions with Toronto Hydro personnel, that the condition of the other categories of the Street Lighting Assets is good. Our valuation has been based on this assumption.

Age – Expressway Lighting Assets

The following is our understanding of the approximate years of installation for the poles and light fixture heads situated on the Don Valley Parkway, Fred G. Gardiner expressway, Don Valley Parkway and the Allen Road expressway.

1. Don Valley Parkway
    - Lake Shore to Riverdale pedestrian bridge – 1992 / 1993
    - Riverdale pedestrian bridge to Bayview / Bloor – 1992 / 1993
    - Bayview/Bloor to Don Mills – 1995
    - Don Mills to Eglinton – 1997 / 1998
    - Eglinton to Lawrence – 2000 / 2001
    - Lawrence to 401 – 2001
2. Fred G. Gardiner Expressway
    - Windermere to Dufferin – 1998
    - Humber Bridges Ramps – 1999
    - Humber Bridges – 2000 / 2001
    - Humber Bridges to Highway 427 (except for gap from Royal York to Kipling) – 2003 / 20
    - Elevated Portions – 1970 / 1975
3. Allen Road Expressway
    - Entire section from Eglinton Avenue to Sheppard Avenue West – 1992 - 1993

Condition – Expressway Lighting Assets

No field survey of the Expressway Lighting was completed. We are not aware of any issues regarding the condition of the Expressway Lighting Assets and, accordingly, we have assumed that the Expressway Lighting Assets are in good condition. Our valuation has been based on this assumption.

6. Field Survey / Audit

Toronto Hydro retained a third party company – HDR / iTrans to complete the Street Lighting Assets field survey/audit. ValuQuest did attend a one day training seminar held by HDR / iTrans for the field surveyors that collected the information on the Street Lighting Assets. In addition, ValuQuest did complete a limited visit to a group of field surveyors collecting Street Lighting Assets information for the pilot project located in and around the Allen Road and Wilson Heights area of Toronto.

Paraphrasing a narrative provided to us from Toronto Hydro, outlined below is our understanding of how the HDR / iTrans field survey was conducted:

"In order to acquire accurate and reliable streetlight and pole data, THESL contracted HDR/iTRANS to undertake a Field Survey using the following framework:

1. Use the existing iTrans "Night Patrol" software and THESL's "GEAR" database as the database for the field survey which includes all LDC and streetlighting poles.

2. Develop a customized software program, based on ESRI Canada's "ARCPAD", for data collection which can run on LG brand PDA/GPS devices.

3. Divide the City of Toronto database into 60 zones based on city wards, so that manageable sections of the City could be stored on the PDAs. Data from the PDAs was uploaded/downloaded on an as-needed basis, and the collected data was merged back into a central database.

4. Use specially-trained field surveyors, collect the streetlight/pole attributes that can be determined based upon a visual inspection as listed in the attached Data Structure spreadsheet (see Appendix A).
5. New poles found by the field surveyors that were missing from the existing Night Patrol/GEAR database were added in the field. Location information for those new poles was provided using GPS units with accuracy less than or equal to 3 meters.

6. If field surveyors found poles or streetlights in poor conditions, photos are to be taken of those attributes, and linked to the corresponding pole.

7. After collecting all the field data, HDR/iTRANS to submit the final database to THESL following the file structure as specified by Toronto Hydro.

In order to train the field surveyors, a specially-designed training program was implemented. Each field surveyor received a 112 page Training Materials binder, and attended a day of classroom training, followed by two days of field training. The training program started on June 3, 2010, though refresher training continued on a periodic, as-needed basis, until July 26, 2010. A Pilot Project (limited area) field survey started on June 7, 2010 and lasted until June 18, 2010. The Pilot Project was used to evaluate the suitability of the field surveyors, the PDA handheld devices, the customized software, the training, and the quality of the data being collected. After the Pilot Project results were evaluated, and finding no major problems, the full deployment of the field survey started on June 21, 2010. and lasted until September 1, 2010.

The number of Field Surveyors deployed on first day of the full deployment was 17, and there were 20 field surveyors deployed when the field survey was completed. A total of 35 field surveyors were used at some point during the survey, however for various reasons, some surveyors did not stay for the entire full deployment period. The field surveyors were provided by Horizon Data Services Limited of Thornhill, Ontario, under contract to HDR/iTRANS.

The project included three levels of Quality Assurance/Quality Control overview, by Horizon, HDR/iTRANS, and THESL. The QA/QC included the following Quality Control Methods:

1) Horizon - GIS (graphic information system) Map Inspection – looks for streetlights & poles that may have been missed.

2) Horizon - Streetview (by Google) Validation - looks for various general data attributes at the street level to spot inconsistencies.

3) Horizon - Field Visit Validation - random spot checks by Horizon field supervisor to do a detailed validation of the collected data.

4) HDR/iTRANS - Logical Checks - logical checks of the database for missing information, or inconsistent information.

5) THESL - Conduct Field Audit of 384 out of 189,000 locations (THESL's initial estimate of streetlight/pole locations) selected at random, to determine if the accuracy of the collected data is at least 95% accurate, at a 95% confidence level. Analysis of the field audit results shows that the accuracy of the data for the major data attributes was better than 95.0%."

Appendix A illustrates the data sets that were captured by the field surveyors.

7. Highest and Best Use

In the appraisal of machinery and equipment, which in appraisal practice is part of the all encompassing "Personal Property" category of fixed assets (while land and building is considered "Real Property"), the highest and best use of the equipment must be addressed. According to USPAP, which sets out standards of professional appraisal practice, highest and best use must be addressed. The USPAP definition of highest and best use is as follows: *"The reasonably probable and legal use of personal property that is physically possible, appropriately supported, and financially feasible, and results in the highest value in the appropriate marketplace".*

The above definition can be also considered as follows:

- The use contemplated must be legally permissible, or the contemplated highest and best use must have a reasonable probability of being achieved.
- The personal property must be physically suitable or capable of being physically adapted to sustain the use being contemplated.

- The use contemplated must be economically feasible and there must be a demand in the market place for the contemplated use, such that the personal property reflects the most economically advantageous use of the personal property.

If any of these criteria cannot be met then the highest and best use contemplated becomes invalid. Based upon the above, and with due consideration to the special nature and/or purpose built nature of the equipment, we have concluded that the current use represents the highest and best use.

Based upon the above we have concluded that there is no other economically viable alternate use from the Assets and, accordingly, the current use represents the highest and best use.

8. Scope of Work

Our scope of work consisted of the following:

1) Attendance at approximately twenty (20) meetings with Toronto Hydro Street Lighting project team between May 27th and October 25th , the attendance of the HDR/iTrans one day field surveyors training session held on June 3rd and the an inspection of a pilot project area on June 13th.

2) Various meetings (separate from those implied in point 1), discussions and electronic communications with Rick Cook, Gary Soper and Phil Dubeski of Toronto Hydro.

3) Meetings, discussions and electronic communications with Tom Marsh of Guillevin International. We understand that Guillevin International is the principal supplier of materials utilized within the Street Lighting Assets network.

4) A review of Toronto Hydro supplied documentation, whether in hard or soft copy. This documentation included, but was not limited to, the following:

    i. Streetlight Database Oct 21 (the completed HDR/iTrans database)
    ii. Pole Age Summary (a year of installation summary by pole type)
    iii. Data Structure – Pole Inventory (the data sets that the HDR/iTrans field surveyors used)
    iv. Summary for Ted November 10 (a summary of designated attributes of the luminaires and poles)
    v. PLP and Entera installation costs (costs to install complete poles/ luminaires/wiring on local and major roads)
    vi. Costs to install only luminaires, brackets or their combination

5) Direct discussions and/or email communications with the following individuals at companies that manufacture street lighting assets similar to those being considered herein:

    i. Bill Smelser - American Electric Lighting (Luminaires, lamps and brackets)
    ii. Tim (surname not obtained) - Union Metal (Steel and aluminum poles)
    iii. Nicholas Marcotte - Power-Lite Industries (Steel and aluminum poles)
    iv. Paul Dannenberg - USS Manufacturing (Steel and aluminum poles)
    v. Pete Gorman - King Luminaire / Stresscrete (Luminaires, brackets and concrete poles)
    vi. Brian Hall - Canadian Precasted/Prestressed Concrete Institute (Concrete poles)
    vii. Roberto Costa - Utility Structures Inc. (Concrete poles)
    viii. Kyle (surname not obtained) - Guelph Utility Poles (Wood/Cedar poles)
    ix. John Bouls - Cooper Lighting (Luminaires, lamps and brackets)

x. Joe Bettinelli - Valmont West Coast Engineering (Steel poles, High Mast poles, High Mast Luminaires)

Based on their area of expertise, our discussions with the abovementioned individuals typically consisted of the following:

- Typical normal useful lives
- Changes in manufacturing techniques
- Advancements in luminaire / fixture technologies, etc.
- Any pending laws, regulations or similar that may have an impact on the normal useful life, the future availability of the Assets, etc.

6) Discussion with Gary Cornwell of Architectural Lighting Design. We understand that Mr. Cornwell is currently involved with the THESI ALAMP program. The ALAMP (Adaptive Lighting Asset Management Program) program is used by THESI for the research, testing and implementation of new street lighting technologies and controls for the City of Toronto.

7) Review of a report titled "Asset Depreciation Study for the Ontario Energy Board", prepared by Kinectrics Inc. and dated July 8, 2010.

8) Review of a document titled "Roadway Lighting, RP-8-00 Reaffirmed 2005" prepared by the Illuminated Engineering Society of North America ("IESNA").

9) Review of Internet obtained information regarding normal useful lives, energy saving regarding luminaires / ballasts, lamp lives, etc. As an example, the information obtained from the Internet included, but was not limited to, the following: a) A seventeen page document prepared by Toronto Hydro Energy Services – Street Lighting Division titled "Lighting the Way Where We Work, Live and Play", b) A thirteen page document prepared by BChydro titled as "Power Smart Roadway Lighting", and c) a forty-four page document prepared by the Local Authority Services Ltd. (Association of Municipalities of Ontario) titled as "Ontario's Guiding Lights "Street Lighting" Addressing Energy Efficiency & the Environment".

10) Review of database information obtained or developed from previously completed valuations of Street Lighting Assets.

11) Application of generally acceptable appraisal procedures specific to the valuation of machinery & equipment.

The interest (or rights) being valued is that of ownership in fee simple (ownership without limitation

to any particular class of heirs or restrictions, but subject to the limitations of the rights of taxation, police power, expropriation and escheat), and accordingly, our investigation did not include any title searches, opinions of title, personal property security liens searches, encroachments or encumbrances reviews, liability searches or any similar types of reviews or searches.

We did not complete any inspections of the Street Lighting Assets or the Expressway Lighting Assets. In addition, we did not complete a review of whether or not the Street Lighting Assets comply with IESNA RP-8-00 Reaffirmed 2005 guidelines or the MTO guidelines for expressway lighting nor did we complete any energy efficiency reviews, re-lamping reviews, maintenance reviews, technological advancement reviews, cost benefit analyses, Street Lighting Asset network re-configuration studies, Asset worthiness tests, environmental impact studies and any other specialized studies were not made in conjunction with this report and are considered outside the scope of this investigation.

This estimate of value has been prepared in conformity with the Principles of Appraisal Practice and Code of Ethics of the American Society of Appraisers and the Uniform Standards of Professional Appraisal Practices.

In addition, we have received a letter of representation from Toronto Hydro management whereby they have confirmed that they have read our report, as well as, confirmed the accuracy of representations made to us and they are not aware of any material information not specifically noted in this report that would affect the conclusion of value stated herein.

9. Fair Market Value

According to the American Society of Appraisers – Machinery and Technical Specialties, **Fair Market Value ("FMV")** is defined as follows: an opinion expressed in terms of money, at which the property would change hands between a willing buyer and a willing seller, neither being under any compulsion to buy or to sell and both having reasonable knowledge of relevant facts, as of a specific date.

FMV as defined above is a concept of value and may or may not equal the purchase/sale price in a market transaction. Each purchaser would likely pay a different price for the Assets for numerous reasons, such as but not limited to: perceived economies of scale, cost savings, reduced or eliminated competition, desirability of the operations or other synergies which could be enjoyed by the purchaser. Only through negotiations can these factors and the final price be determined.

The term FMV is not intended to represent an amount that may be realized from assembled or piecemeal disposition of the Street Lighting Assets in the open market place through liquidation or from some other use of the Assets that would result in a significantly lower value, net any costs of disposition.

Our valuation has assumed that the owner of the Street Lighting Assets and Expressway Lighting Assets will be able to generate sufficient annual discretionary cash flow (or rate of return) to support this value. This is the value by which the Street Lighting Assets would contribute to a total company value, if the business of the company were being valued on a going concern basis. If prospective cash flows (or rate of returns) are not adequate to justify ownership of the Street Lighting Assets and Expressway Lighting Assets at the appraised values, then the concluded values would not be appropriate.

9.1 Methods of Determining Fair Market Value

The three generally accepted methods of determining FMV are the cost (also known as the depreciated replacement cost approach), market and income approaches to value.

The cost approach considers the cost to reproduce or replace and install the assets being appraised. From this amount, a deduction is made for depreciation or obsolescence present, whether arising from physical, functional or economic causes. Generally speaking, the cost approach is used when valuing equipment such as, but not limited to, process facilities, special purpose or purpose built installations or networks, specialized equipment or equipment with no known or readily identifiable used marketplace.

The market approach considers prices recently paid for similar or identical assets, with adjustments made to the indicated market prices, to reflect the condition and utility of the appraised Assets relative to the market comparable assets. When valuing assets using the market approach, estimates should be based upon sales of identical assets, which have been exchanged in the marketplace. Unfortunately, it is rare to find exact market sales of identical assets. In practice, the market investigation will probably reveal sales of similar assets, and it is the analysis of similarity upon which the estimate of value is based. The market approach is used when valuing assets with a readily identifiable used marketplace such as over-the-road vehicles, metalworking equipment, textile machinery, plastic injection moulding equipment, woodworking equipment and other similar types of assets that have an identifiable secondary (used) marketplace.

In the income approach, an estimate is made of the prospective economic benefit of ownership. These amounts are capitalized at appropriate rates of return into an indication of value.

The approaches selected as the most suitable must be by the facts and circumstances surrounding the assets. The applicability of any approach in a given appraisal depends on the purpose of the appraisal, the type of assets involved, the nature of the market and the availability of the required data. Traditionally, the approaches relied upon are the cost and market approaches to value. The income approach is not normally used due to the virtual impossibility of measuring the financial contribution that each asset or groups of assets contribute towards the whole.

Regardless of the approach to value used, the underlying principle involved in the valuation of the Assets is the Principle of Substitution. This principle is established on the basis that an informed purchaser will pay no more for the Assets than what it would cost them to produce or acquire an equally desirable substitute asset of equal utility and function.

Based upon the above and with due consideration to the purpose built nature of the Street Lighting Assets and Expressway Lighting Assets, in our opinion the cost approach to value is the most appropriate valuation approach. The market and income approaches were not considered or utilized.

9.2 Cost Approach

The cost approach to value is a valuation technique that uses the concept of replacement as a value indicator. This approach relies on the principle of substitution and recognizes that a prudent investor would pay no more for the Assets than the cost to reproduce or replace the Assets new with an identical or similar unit of equal utility.

The replacement cost new ("RCN") establishes the highest amount a prudent investor would pay for the Assets in a new and unused condition. Since the Assets we are valuing will generally provide less utility than a new asset, adjustments for losses in value due to causes of physical deterioration and functional obsolescence are applied.

As outlined within the American Society of Appraiser "Appraising Machinery and Equipment" (2000 Edition), the cost approach is defined as: that approach which measures value by determining the current cost of an asset and deducting for the various elements of depreciation, physical deterioration and functional and economic obsolescence.

The following are commonly used terms when utilizing the cost approach for the valuation of the Assets:

Replacement Cost New – is the cost of substituting an asset with another asset having equivalent utility using current rates for materials and labour.

Physical Deterioration – is a reduction in utility resulting from an impairment of physical condition. This is brought about by such factors as age, condition, wear and tear, structural defects, exposure to damaging elements and other physical factors that reduce the life and serviceability of the asset.

Functional Obsolescence – is the impairment of functional capacity or efficiency caused by factors inherent in an asset. This is brought about by such factors as excess or over capacity, under-utilization, inadequacy, excess operating costs, changes in technology, availability of spare parts, etc. that effect the asset or its relation to other items comprising the larger property. It is also the inability of an asset to perform adequately the function for which it is currently employed.

Economic Obsolescence – is the loss in value resulting from factors external to the equipment. These could include, but are not limited to, the following: such as increased raw material costs, increased labour costs, legislative enactments, and other external factors which impact on the value of the equipment. Economic obsolescence is difficult to quantify on an individual asset basis with respect to each asset. Accordingly, the quantification of economic obsolescence is best made on a collective, or full network/facility, basis.

The following briefly describes the methodology for determining the FMV utilizing the cost approach for both the Street Lighting Assets and the Expressway Lighting Assets:

Street Lighting Assets

1. Estimate the installed and burdened RCN of the Assets. For the material costs of the poles, luminaires and brackets we utilized information received from Guillevin International (see Appendix B). For the base mounted foundations, handwells, relays and electrical supply (wire) we utilized information provided to us from Toronto Hydro management (see Appendix D). Afterwards, and where applicable, the installation cost was added to the material costs (see Appendix C for installation costs associated with the poles, luminaires and brackets and Appendix D for the installation costs for the base mounted foundations, handwells, relays and electrical supply). Lastly, added to the sum of the material and installation costs was a cost for Toronto Hydro overheads. Based on discussions with Toronto Hydro personnel, a cost for overheads equivalent to five percent (5%) of the sum of the material and installations costs was deemed appropriate.

2. Estimate the physical depreciation and the functional obsolescence. Once the fully burdened RCN is estimated, it is depreciated on an "age/life" method. The normal useful life ("NUL") is established and an estimate of the overall average remaining useful life ("RUL") as at the valuation date is made. The RCN is multiplied by the RUL, divided by the NUL. In the event that the calculations resulted in a zero or near zero value, a remaining useful life "override" was applied. For the poles, base mounted foundations, brackets, handwells, relays and electrical supply, the remaining useful life override was ten percent (10%), while for the luminaires, a remaining useful life override of five percent (5%) was used. Afterwards, an amount for functional obsolescence is deducted to arrive at the FMV (RCN x RUL/NUL x Functional Obsolescence Factor = FMV).

The table below indicate the NUL utilized for the Street Lighting Assets:

Table 4 – Normal Useful Lives

Street Lighting Asset Categories	NUL (In Years)
Poles (Decorative or Standard)	40 to 50
Base Mounted Foundations	50
Luminaires (including photo sensor / shorting cap)	20
Brackets/Arms	25
Handwells	50
Relays	40
Electrical Supply (Wiring)	40

The table below indicate the functional obsolescence utilized for the Street Lighting Assets:

Table 5 – Functional Obsolescence

Street Light Asset Category	Functional Obsolescence %
Poles (Decorative or Standard)	0
Base Mounted Foundations	0
Luminaires (including photo sensor / shorting cap)	22.5
Brackets/Arms	0
Handwells	0
Relays	75
Electrical Supply (Wiring)	0

Note – Functional Obsolescence factors based on discussions with luminaire manufacturers or Internet obtained documentation and proprietary database materials.

3. Estimate the economic obsolescence. Economic obsolescence is the loss in value caused by factors external to the equipment. This form of obsolescence is a function of outside influences that affect an entire business (i.e. all tangible and intangible assets) rather than individual items or groups of equipment and is best measured by the income approach. An income approach is outside the scope of this valuation and, accordingly, was not considered by us.

Expressway Lighting Assets

4. Estimate the installed and burdened RCN of the Assets. For the material costs of the high mast and conventional poles, we held discussions with several manufacturers of high mast and/or conventional poles and reviewed the information we developed regarding for the Street Lighting Assets valuation. For the other categories of Assets of the Expressway Lighting Assets, we utilized information that was either developed by us for the Street Lighting Asset valuation, provided to us from Toronto Hydro management or use of database materials. Afterwards, and where applicable, the installation cost was added to the material costs, and added to the sum of the material and the installation costs was a cost for overheads (see overheads reference on page 16 – Street Lighting Assets, Point 1).

5. Estimate the physical depreciation and the functional obsolescence. Once the fully burdened RCN is estimated, it is depreciated on an "age/life" method. The normal useful life ("NUL") is established and an estimate of the overall average remaining useful life

("RUL") as at the valuation date is made. The RCN is multiplied by the RUL, divided by the NUL. In the event that the calculations resulted in a zero or near zero value, a remaining useful life "override" was applied. For the high mast and conventional poles, distribution assemblies, conductor and conduit, the remaining useful life override was ten percent (10%), while for the luminaires, a remaining useful life override of five percent (5%) was applied. Afterwards, an amount for functional obsolescence is deducted to arrive at the FMV (RCN x RUL/NUL x Functional Obsolescence Factor = FMV).

We would note that 10% and 5% override percentages utilized by us for the Street Light Assets or the Expressway Lighting Assets, is based on our experience in valuing tangible assets that have relative long lives or valuing assets where new technologies materially impact the life of an asset, as well as, the review of database materials such as the Marshall & Swift depreciation tables and depreciation tables indicated in the Engineering Valuation and Depreciation text published by Iowa State circa 1955.

The tables below indicate the NUL utilized for the Expressway Lighting Assets:

Table 6 – Normal Useful Lives

Expressway Lighting Asset Categories	NUL (In Years)
Poles (High Mast or Conventional)	40 to 50
Luminaires (including photo sensor / shorting cap)	20
Distribution Assemblies	20
Conductor (Wiring)	40
Conduit	20

The tables below indicate the functional obsolescence utilized for Expressway Lighting Assets:

Table 7 – Functional Obsolescence

Expressway Lighting Asset Category	Functional Obsolescence %
Poles (High Mast or Conventional)	0
Luminaires (including photo sensor / shorting cap)	22.5
Distribution Assemblies	0

Expressway Lighting Asset Category	Functional Obsolescence %
Conductor (Wiring)	0
Conduit	0

Note – Functional Obsolescence factors based on discussions with luminaire manufacturers

6. Estimate the economic obsolescence. Economic obsolescence is the loss in value caused by factors external to the equipment. This form of obsolescence is a function of outside influences that affect an entire business (i.e. all tangible and intangible assets) rather than individual items or groups of equipment and is best measured by the income approach. An income approach is outside of this valuation and, accordingly, was not considered by us.

The table below provides an illustration of the cost new approach:

Table 8 – Fair Market Value

Develop:	Installed and Burdened Replacement Cost New
Deduct For:	Physical Depreciation Functional Obsolescence Economic Obsolescence
Result:	FMV

10. Valuation Analysis

In addition to the above, we have considered the following in our analysis and subsequent valuation:

- The Assets currently comply with the guidelines of the IESNA RP-8-00 Reaffirmed 2005 and will continue on to do so.
- The Assets are in good operating condition and will be maintained in such a condition for the immediate future.
- The Assets have a significant remaining useful life.
- There is responsible management.
- The Assets comply with all North American dictated guidelines and/or provincially mandated guidelines and will continue to due so.
- We have assumed (and are not aware of) that there will be no material or wholesale change of any segment of the Street Lighting Assets or the Expressway Lighting Assets to some other new technology done either by Toronto Hydro in the near term. Our valuation has been based on this assumption.

11. Conclusion of Value

Based upon the information provided to us, the scope of our review and our research, analysis and experience, our estimate of the Fair Market Value of the Street Lighting Assets and the Expressway Lighting Assets within the boundaries of the greater City of Toronto and owned by Toronto Hydro, as at November 1, 2010, expressed in Canadian Dollars, is as follows (rounded):

Toronto Hydro
Street Lighting and Expressway Lighting Assets
Fair Market Value
As At: November 1, 2010

	Canadian $
Street Lighting Assets	
Poles (Decorative or Standard)	38,000,000
Base Mounted Foundations	7,500,000
Luminaires (including photo sensor / shorting cap)	15,300,000
Brackets/Arms	10,500,000
Handwells	6,900,000
Relays	20,000
Electrical Supply (Wiring)	5,600,000
Street Lighting Sub-total:	83,820,000

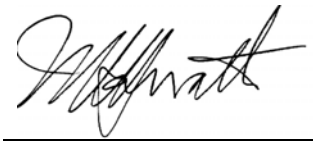
Toronto Hydro
Street Lighting and Expressway Lighting Assets
Fair Market Value
As At: November 1, 2010

	Canadian $
Expressway Lighting Assets	
High Mast Poles (including elevating device & luminaire ring)	9,700,000
Conventional Poles	2,400,000
High Mast Luminaires	1,200,000
Conventional Luminaires	160,000
Distribution Assemblies	277,000
Conductor (Wiring)	279,000
Conduit	1,430,000
Expressway Lighting Sub-total:	15,446,000
Grand Total, Street Lighting & Expressway Lighting:	**99,266,000**

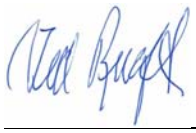
SCHEDULE 1 CERTIFICATE OF APPRAISERS

We certify that on January 5, 2011:

- To the best of our knowledge and belief the statements of facts, upon which the analyses, opinions and conclusions expressed in this report are based, are true and accurate.
- That a limited personal inspection of the Assets was made as described within this report.
- That this report sets forth all the limiting conditions affecting the analysis, opinions and conclusions expressed herein.
- This report has been made in conformity with, and is subject to the Code of Ethics of the American Society of Appraisers and the Uniform Standards of Professional Appraisal Practices.
- We have no present or contemplated future interest in the appraised property nor any personal interest or bias with respect to the subject matter or to the principles and property appraised.
- That no one other than the undersigned prepared the analyses, opinions and conclusions concerning the Street Lighting and Expressway Lighting Assets set forth in the appraisal report.
- That neither the employment nor the compensation for making this report is in any way contingent upon the value reported therein.



Jim Horvath, CA, FCBV, ASA



Ted Rudyk, ASA, MRICS

SCHEDULE 2 SUMMARIZED FAIR MARKET VALUE BY ASSET TYPE

Table 1

Street Lighting - Poles	
54,674 – concrete, aluminum, wood, steel and fibreglass (whether decorative and standard)	
Replacement Cost New	127,957,600
Less depreciation resulting from age/life (physical):	-89,985,310
Sub-total:	37,972,290
Less depreciation resulting from functional obsolescence	0
Total, estimated Fair Market Value:	37,972,290
Rounded To:	**38,000,000**

Table 2

Street Lighting - Base Mounted Foundations	
8,374 – concrete foundations and bases utilized for steel and aluminum poles	
Replacement Cost New	20,936,000
Less depreciation resulting from age/life (physical):	-13,435,880
Sub-total:	7,500,120
Less depreciation resulting from functional obsolescence	0
Total, estimated Fair Market Value:	7,500,120
Rounded To:	**7,500,000**

Table 3

Street Lighting - Luminaires	
161,790 – acorn, cobra head, decorative, oriental hat, pedestrian and Wallpack, all of which include, where applicable, fixture, ballast, lamp and photocell / shorting cap	
Replacement Cost New	80,980,880
Less depreciation resulting from age/life (physical):	-61,244,390
Sub-total:	19,736,490
Less depreciation resulting from functional obsolescence	-4,440710
Total, estimated Fair Market Value:	15,295,780
Rounded To:	**15,300,000**

Table 4

Street Lighting - Brackets/Arms	
155,888 – brackets/ arms of various lengths, types and styles	
Replacement Cost New	31,835,110
Less depreciation resulting from age/life (physical):	-21,375,550
Sub-total:	10,459,560
Less depreciation resulting from functional obsolescence	0
Total, estimated Fair Market Value:	10,459,560
Rounded To:	**10,500,000**

Table 5

Street Lighting - Handwells	
6,844 – concrete formed handwells	
Replacement Cost New	16,767,800
Less depreciation resulting from age/life (physical):	-9,884,940
Sub-total:	6,882,860
Less depreciation resulting from functional obsolescence	0
Total, estimated Fair Market Value:	6,882,860
Rounded To:	**6,900,000**

Table 6

Street Lighting - Relays	
3,086 – relays utilized to control multiple luminaires on a single circuit/feed	
Replacement Cost New	833,220
Less depreciation resulting from age/life (physical):	-749,900
Sub-total:	83,320
Less depreciation resulting from functional obsolescence	-62,490
Total, estimated Fair Market Value:	20,830
Rounded To:	**20,000**

Table 7

Electrical Supply (Wiring)	
Approximately 2,115,300 meters of wiring utilized between pole spans and to feed out to the luminaires and fed from either an underground or overhead supply	
Replacement Cost New	12,987,800
Less depreciation resulting from age/life (physical):	-7,382,750
Sub-total:	5,605,050
Less depreciation resulting from functional obsolescence	0
Total, estimated Fair Market Value:	5,605,050
Rounded To:	**5,600,000**

Table 8

Expressway Lighting – High Mast Poles (Including Elevating Device & Luminaire Ring)	
178 – 30 meter high mast poles including elevating device and luminaire ring located on the Don Valley Parkway and Fred G. Gardiner Expressway	
Replacement Cost New	14,026,400
Less depreciation resulting from age/life (physical):	-4,360,430
Sub-total:	9,665,970
Less depreciation resulting from functional obsolescence	0
Total, estimated Fair Market Value:	9,665,970
Rounded To:	**9,700,000**

Table 9

Expressway Lighting – Conventional Poles	
1,477 – conventional concrete / steel / aluminum poles including bracket(s) located on the Don Valley Parkway, Fred G. Gardiner Expressway and the Allen Road Expressway	
Replacement Cost New	3,692,500
Less depreciation resulting from age/life (physical):	-1,264,970
Sub-total:	2,427,530
Less depreciation resulting from functional obsolescence	0
Total, estimated Fair Market Value:	2,427,530
Rounded To:	**2,400,000**

Table 10

Expressway Lighting – High Mast Luminaires	
989 – luminaires located on the Don Valley Parkway and Fred G. Gardiner Expressway	
Replacement Cost New	3,857,100
Less depreciation resulting from age/life (physical):	-2,354,930
Sub-total:	1,502,170
Less depreciation resulting from functional obsolescence	-337,990
Total, estimated Fair Market Value:	1,164,180
Rounded To:	**1,200,000**

Table 11

Expressway Lighting – Conventional Luminaires	
1,583 – conventional luminaires located on the Don Valley Parkway, Fred G. Gardiner Expressway and the Allen Road Expressway, all of which include, where applicable, fixture, ballast, lamp and photocell / shorting cap	
Replacement Cost New	641,120
Less depreciation resulting from age/life (physical):	-435,680
Sub-total:	205,440
Less depreciation resulting from functional obsolescence	-41,040
Total, estimated Fair Market Value:	164,400
Rounded To:	**160,000**

Table 12

Expressway Lighting – Distribution Assemblies	
25 – distribution assemblies located on the Don Valley Parkway, Fred G. Gardiner Expressway and the Allen Road Expressway	
Replacement Cost New	825,000
Less depreciation resulting from age/life (physical):	-547,700
Sub-total:	277,300
Less depreciation resulting from functional obsolescence	0
Total, estimated Fair Market Value:	277,300
Rounded To:	**277,000**

Table 13

Expressway Lighting – Conductor	
Approximately 39,000 meters of wire located on the Don Valley Parkway, Fred G. Gardiner Expressway and the Allen Road Expressway	
Replacement Cost New	450,000
Less depreciation resulting from age/life (physical):	-171,450
Sub-total:	278,550
Less depreciation resulting from functional obsolescence	0
Total, estimated Fair Market Value:	278,550
Rounded To:	**279,000**

Table 14

Expressway Lighting – Conduit	
Approximately 39,000 meters of conduit located on the Don Valley Parkway, Fred G. Gardiner Expressway and the Allen Road Expressway	
Replacement Cost New	4,340,000
Less depreciation resulting from age/life (physical):	-2,913,500
Sub-total:	1,426,500
Less depreciation resulting from functional obsolescence	0
Total, estimated Fair Market Value:	1,426,500
Rounded To:	**1,430,000**

APPENDIX A HDR/iTrans DATA COLLECTION STRUCTURE

FIELD	TYPE	LENGTH	ATTRIBUTE/DESCRIPTION	VALUE
pole_fid	Numeric	19	GEAR FID #	-1 - New Pole Added
inspected	Numeric	1	Inspected	0 - Not Inspect/ 1 - Inspected
dele	Char	1	Tag for delete	X - Deleted
surveydate	Date	8	Survey Date	
surveytime	Char	12	Survey Time	
modifydate	Date	8	Modify Date	
modifytime	Char	12	Modify Time	
map_name	Char	5	Concession Map ID from GEAR	
mtm_x	Float		MTM X Cord	
mtm_y	Float		MTM Y Cord	
region_nam	Char	15	Region Name from GEAR	
asset_owne	Char	10	Asset Ownership from GEAR	
p_owner	Char	20	Pole Ownership	ST- Streetlighting / DIS - Distribution / BELL - Bell Wood Alley / TTC- TTC Steel
loc_type	Char	7	Location Type	Street / Lane way / Other
house_num	Char	10	Address No	
st_name	Char	50	Street 1	
st_suffix	Char	1	Street1 Suffix	
st_dir	Char	1	Street1 Direction	
st_name2	Char	50	Street 2	
st_suffix2	Char	1	Street2 Suffix	
st_dir2	Char	1	Street2 Direction	
l_mounted	Char	9	Mounted Luminaire	POLE - Pole / WALL - On a structure or wall mount / UNDERPASS - Underpass
pole_num	Char	20	Pole Number	
foundation	Char	13	Foundation	Base mounted / Direct buried
class	Char	1	Pole Class	A/B/C/D/E/F/G/1/2/3/4/5/6/7/8/9/0
height	Char	3	Pole Height (ft)	25/30/32.5/35/40
inst_year	Char	4	Installation Year	YYYY
dis_to_pol	Numeric	3	Distance to closest pole (m)	25/35/45/55
p_material	Char	2	Pole Material	C-Concrete/AL-Aluminum/W-Wood/ST-Steel/I-Iron/F-Fiberglass
p_style	Char	10	Pole Style	Standard/Decorative
p_cond	Numeric	1	Pole Condition	1 - Good/2 - Monitor/3 - Replace
p_cond_cm	Char	25	Condition Comments	
p_handhole	Numeric	1	Handhole Cover Condition	1 - Good/2 - Monitor/3 - Replace
p_handwell	Char	1	Is there a handwell?	Y/N
p_hw_cond	Numeric	1	Handwell Condition	1 - Good/2 - Monitor/3 - Replace
ele_supply	Char	11	Electrical Supply	Overhead/Underground
a_distwire	Char	1	Distribution Wires	Y/N
a_3rdelect	Char	1	3rd Party Electrical	Y/N
a_svrswire	Char	1	Service Wires	Y/N
a_tralight	Char	1	Traffic Light	Y/N
a_tmpfeed	Char	1	Temporary Feed	Y/N
a_suptwire	Char	1	Support Wire	Y/N
a_3rdbox	Char	1	3rd Party Box	Y/N
a_relay	Char	1	Control Relay	Y/N
a_ttcwire	Char	1	TTC Wire	Y/N
a_other	Char	1	Others	Y/N
a_other_cm	Char	25	Other Comments	
exception	Char	1	EXCEPTION	Y/N
excep_cm	Char	25	EXCEPTION Comments	
bk_instled	Char	1	Brackets installed?	Y/N
bk_noof	Char	1	Number of Brackets	0/1/2
bk_type1	Char	4	#1 Bracket Type	TOP - Top mount / DECO - Decorative / TE - Tapered Elliptical / AR9 - AR9 / LANE - Lane bracket / PED - Pedestrian Braket
bk_armlen1	Numeric	2	#1 Arm Length (ft)	2 - 2 and less/6/8 - 8 or more
bk_type2	Char	4	#2 Bracket Type	TOP - Top mount / DECO - Decorative / TE - Tapered Elliptical / AR9 - AR9 / LANE - Lane bracket / PED - Pedestrian Braket
bk_armlen1	Numeric	2	#2 Arm Length (ft)	2 - 2 and less/6/8 - 8 or more
l_noof	Char	1	Number of Luminaires	0/1/2/3/4/5
l_cluster	Char	1	Cluster?	Y/N
l_type1	Char	15	#1 Luminaire Type	Acorn/Cobra Head/Decorative/Oriental hat/Wall Pack/Pedestrian
l_wattcol1	Char	4	#1 Wattage Color	Red/Gold
l_wattage1	Char	3	#1 Wattage Value	5/7/10/15/20/25/40
l_top1	Char	12	#1 On Top	PHOTOCELL - (Gray / Blue) Photocell / SHORTING CAP - (Brown / Black) Shorting cap
l_type2	Char	15	#2 Luminaire Type	Acorn/Cobra Head/Decorative/Oriental hat/Wall Pack/Pedestrian
l_wattcol2	Char	4	#2 Wattage Color	Red/Gold
l_wattage2	Char	3	#2 Wattage Value	5/7/10/15/20/25/40
l_top2	Char	12	#2 On Top	PHOTOCELL: (Gray / Blue) Photocell / SHORTING CAP: (Brown / Black) Shorting cap
o_streetty	Char	5	Street - Area Type	OVER - Overhead supply / UNDER - Residential Underground Supply / MIXED - Mixed Use Underground
comments	Char	50	Surveyor's Comments	
photo	Char	50	Filename of photo	
zoneid	Char	6	Patrolzone - Subzoneid	
subzoneid	Char	2	Night Patrol - Sub Zone ID	
patrolzone	Char	3	Night Patrol - Patrol Zone ID	

APPENDIX B GUILLEVIN INTERNATIONAL SUPPLIED INFORMATION

Manufacture	Part Number	DESCRIPTION	Qty	Unit	Cost
WIRE					
WIRE	726319M	CABLE DUPLEX 1-#4 AL ACSR	1	Meter	$ 6.91
WIRE	NMWU2C12X75	CABLE NMWU 2C#12 PVC 75M	1	Meter	$ 0.03
LAMPS					
General Electric	CMH70U830MED	22119-LAMP MH 70W MED CLR	1	Each	$ 31.00
General Electric	CMH100U830MED	22127-LAMP MH 100W	1	Each	$ 31.00
General Electric	CMH150U830MEDO	31065-CMH150U830MED/O	1	Each	$ 31.00
General Electric	LU70HECO	85368-LAMP HPS ED23.5 GOLIATH	1	Each	$ 9.38
General Electric	LU100HECO	85369-LAMP HPS 100W GOLIATH	1	Each	$ 9.38
General Electric	LU15055	44043 LAMP HPS 150W MOGUL (12	1	Each	$ 9.38
General Electric	LU200	44206 *LAMP HPS 200W MOGUL (1	1	Each	$ 10.25
General Electric	LU250HECO	85377-LAMP HPS ED18 MOGUL 250W	1	Each	$ 9.65
General Electric	LU400HECO	85379-LAMP HPS ED18 MOGUL 400W	1	Each	$ 9.65
General Electric	MVR175U	47760 LAMP MH 175W MOGUL (12	1	Each	$ 17.23
General Electric	MVR250U	42729 LAMP MH 250W MOGUL (12	1	Each	$ 22.36
FIXTURES					
Cooper Lighting	URB07M17AR2MTH	70 W URB MH HEAD	1	Each	$ 452.27
Cooper Lighting	URB10M17AR2MTH	100 W URB MH HEAD	1	Each	$ 468.18
Cooper Lighting	URB15M17AR2MTH	150 W URB MH HEAD	1	Each	$ 488.64
Heritage	A376-1-NS-RAL9011	HERITAGE	1	Each	$ 347.00
Heritage	A376-1-SCROLL	SCROLL BRACKET	1	Each	$ 212.00
Heritage	F136-L-CPC-150HPS	150W Victorian style luminaire	1	Each	$ 1,178.75
Holophane	RS2L70HP125APC	ALLEY FIXTURE 70W HPS	1	Each	$ 487.62
American Electric	11507SCTDT1R2DG4BUP	70W cobra head luminaire	1	Each	$ 138.80
American Electric	11510SCTDT1R2DG4BUP	100W cobra head luminaire	1	Each	$ 143.60
American Electric	11515SCTDT1R3DG4BUP	150W cobra head luminaire	1	Each	$ 143.60
American Electric	12520SCTDT1R3DGUPC	200W cobra head luminaire	1	Each	$ 198.25
American Electric	12525SCTDT1R3DGUPC	250W cobra head luminaire	1	Each	$ 198.25
American Electric	12540SCTDT1R3DGUPC	400W cobra head luminaire	1	Each	$ 198.25
MISCE	B584	MINIWOODY 50W 120V HALOGEN	1	Each	$ 271.11
MISCE	B626	LIGHTUP LIGHT-20/35W	1	Each	$ 710.00
PRE	EC120APTD	PHOTOCONTROL ELECTRONIC 120V 1	1	Each	$ 8.22
PRE	JP275	SHORTING CAP	1	Each	$ 4.50
POLES & ARMS					
MISCE	30'WOOD POLE	30' WESTERN RED CEDAR, CLASS 4	1	Each	$ 521.00
MISCE	WOOD POLE 35'	35' WESTERN RED CEDAR, CLASS 3	1	Each	$ 692.00
MISCE	WOOD POLE 40'	40' WESTERN RED CEDAR, CLASS 3	1	Each	$ 978.00
MISCE	TH-125-B-2-DR-30-B	12.5' Class B pedestrian light pole	1	Each	$ 1,890.00
Stresecrete	E250-BPR-G-MOO	25' CLASS B LIGHTING POLE	1	Each	$ 922.00
Stresecrete	E300-BPR-G-MOO	30' CLASS B CONCRETE POLE THEC	1	Each	$ 856.00
Stresecrete	E350-BPR-G-MOO	35' CLASS B CONCRETE POLE THEC	1	Each	$ 929.25
Stresecrete	E400-BPR-G-MOO	40' CLASS B CONCRETE POLE THEC	1	Each	$ 1,048.30
Thomas & Betts	06606-14	34'6" ALUM POLE BLOOR DANFORTH	1	Each	$ 1,440.00
Thomas & Betts	D30-91-AB-TOR	30' DAVIT ARM POLE W/9' ARM	1	Each	$ 1,250.00
NCA	353-01-0881	POLE BASE INSERT	1	Each	$ 190.22
Thomas & Betts	E31-845CX1ABNYH	28' ALUMINUM POLE	1	Each	$ 1,050.00
Thomas & Betts	E38-1055E-81-AB	35' ALUMINUM POLE, NO BRACKET	1	Each	$ 1,950.00
Thomas & Betts	RE4LAG	ELLIPTICAL ARM C/W GROMMET 4'	1	Each	$ 80.15
Thomas & Betts	RE6MAG	ELLIPTICAL ARM C/W GROMMET 6'	1	Each	$ 105.25
Thomas & Betts	RE8MAG	ELLIPTICAL ARM C/W GROMMET 8'	1	Each	$ 110.00
USS Products	D22AU9	ARM 9'	1	Each	$ 235.60
USS Products	S43AU3	LANE ARM 3'	1	Each	$ 55.90
MISCE	1708-40706T4	ALUMINUM POLE 18',ROUND,BASE M	1	Each	$ 1,206.05
MISCE	2100P-12 W/BASE BLK	12' Dec. Alum	1	Each	$ 1,995.00

APPENDIX C PLP AND ENTERA INSTALLATION COSTS

Item Number				PLP Unit Price			
				Local Road		Major Road	
28000	Description	Description defined through tasks identified	Unit	Blvd.-SL-BL	S/W.-SL-SWL	Blvd.-SL-BM	S/W.-SL-SWM
28031	Pole Placement (Planned & Reactive)	(Poles delivered to yard - may require TRM); Get locates; Pole loaded on to truck; transport pole to site; remove old pole; take SL off; fish new pole; install new pole; break concrete collar (if necessary (TRM pictures validate); transfer existing SL; install new SL - if old burnt out (new unit); extend cable - if necessary (New unit); make connections in handhole; make connections in handwell - if necessary (new unit); make connections at fixture; Re & re overhead span - if necessary (new unit); replace signs & nomenclature (where applicable); restore surrounding area; transport pole for disposal.	unit	1,430.00	1,745.00	1,440.00	1,755.00

Item Number				Entera Unit Price			
				Local Road		Major Road	
28000	Description	Description defined through tasks identified	Unit	Blvd.-SL-BL	S/W.-SL-SWL	Blvd.-SL-BM	S/W.-SL-SWM
28031	Pole Placement (Planned & Reactive)	(Poles delivered to yard - may require TRM); Get locates; Pole loaded on to truck; transport pole to site; remove old pole; take SL off; fish new pole; install new pole; break concrete collar (if necessary (TRM pictures validate); transfer existing SL; install new SL - if old burnt out (new unit); extend cable - if necessary (New unit); make connections in handhole; make connections in handwell - if necessary (new unit); make connections at fixture; Re & re overhead span - if necessary (new unit); replace signs & nomenclature (where applicable); restore surrounding area; transport pole for disposal.	unit	1,270.00	1,560.00	1,270.00	1,560.00

PLP Install Cost

	Fixture Only	Fixture and Bracket
	$ 225	$ 275

Entera Install Cost

	Fixture Only	Fixture and Bracket
	$ 175	$ 210
Average	$ 200	$ 242.50

APPENDIX D TORONTO HYDRO SUPPLIED MATERIAL COSTS AND INSTALLATION COSTS INFORMATION

Toronto Hydro Supplied Material Costs

	Mat'l Cost
Pole Base Plate & Foundations	$190
Handw ells	$530
Relays	$180
Wire: Up the pole/ across the bracket or just across the bracket:	$0.03 (per meter)
Wire: Underground Span/Betw een Poles:	$3.39 (per meter)

Toronto Hydro Supplied Installation Cost

	Installation Cost
Pole Base Plate & Foundations	$2,200
Handw ells	$1,800
Relays	$80
Wire: Up the pole/ across the bracket or just across the bracket:	$4.00 (per meter)
Wire: Underground Span/Betw een Poles:	$4.00 (per meter)

APPENDIX E

EXPRESSWAY LIGHTING MATERIAL COSTS AND INSTALLATION COSTS

Expressway Lighting Assets

	Mat'l Cost	Installation Cost
High Masts Poles, Elevating Device, Luminaire Ring ("HM Pole")	$50,000	$25,000
High Masts Luminaires (per)	$3,000	$750
Conventional Poles with Arm/Bracket	$2,500	(included)
Conventional Luminaires	$405	(included)
Distribution Assemblies	$25,000	$6,250
Wiring	$6.91 (per meter)	$4.00 (per meter)
Conduit	$6.00 (per meter)	$100 (per meter)

APPENDIX F

STREET LIGHTING AND EXPRESSWAY LIGHTING REPLACEMENT COST NEW

Street Lighting RCN

Poles

Pole Type	Qty		Mat'l Cost	Installation Cost (Pole Only)	Sub-total	Indirects @ 5%	Cost Per Pole By Type/Mat'l	Rounded To:	Pole Qty	RCN by Pole Mat'l Category
Aluminum	4,445	8.13%	$1,440	$1,280	$2,720	$136	$2,856	$2,900	4,445	$12,890,500
Concrete	43,158	78.94%	$930	$1,280	$2,210	$111	$2,321	$2,300	43,158	$99,263,400
Fibreglass	42	0.08%	$1,250	$1,280	$2,530	$127	$2,657	$2,700	42	$113,400
Iron (utilized conc. as substitute cost)	30	0.05%	$930	$1,280	$2,210	$111	$2,321	$2,300	30	$69,000
Steel (utilized conc. as substitute cost)	4,420	8.08%	$930	$1,280	$2,210	$111	$2,321	$2,300	4,420	$10,166,000
Wood	2,382	4.36%	$690	$1,280	$1,970	$99	$2,069	$2,100	2,382	$5,002,200
* Unknown (if a standard or decorative used concrete as a substitute mat'l cost)	197	0.36%	$930	$1,280	$2,210	$111	$2,321	$2,300	197	$453,100
Total:	54,674									127,957,600

* - will re-allocate the 197 based on the percentage that alum., concrete, steel and wood represent to the total (54,674)

Poles w/ Pole Base & Foundations	8,374		$190	$2,200	$2,390	$120	$2,510	$2,500	8,374	$20,935,878
RCN Grand Total, Poles and Pole Base & Foundations										**$148,893,478**

Luminaires

Luminaire Type	Qty	Fixture & Ballast Mat'l Cost	Lamp Mat'l Cost	Photocell/Shorting Cap Mat'l Cost (Average)	Total Mat'l Cost	Installation Cost (Luminaire Only)	Sub-total	Indirects @ 5%	Mat'l & Install Sub-total	Total:
Acorn	35,607	$ 470.00	$ 27.00	$ 6.50	$ 503.50	$ 200.00	$ 703.50	$ 35.18	$ 738.68	$ 26,302,001
Cobra Head	110,718	$ 170.00	$ 10.00	$ 6.50	$ 186.50	$ 200.00	$ 386.50	$ 19.33	$ 405.83	$ 44,932,132
Decorative	10,834	$ 350.00	$ 27.00	$ 6.50	$ 383.50	$ 200.00	$ 583.50	$ 29.18	$ 612.68	$ 6,637,721
Oriental Hat	2,688	$ 475.00	$ 27.00	$ 6.50	$ 508.50	$ 200.00	$ 708.50	$ 35.43	$ 743.93	$ 1,999,670
Pedestrian	467	$ 270.00	$ 27.00	$ 6.50	$ 303.50	$ 200.00	$ 503.50	$ 25.18	$ 528.68	$ 246,891
Wallpack	1,476	$ 340.00	$ 10.00	$ 6.50	$ 356.50	$ 200.00	$ 556.50	$ 27.83	$ 584.33	$ 862,464
	161,790								**RCN Grand Total:**	$ 80,980,879

Brackets

Bracket Type	Qty		Mat'l Cost	Installation Cost	Sub-total	Indirects @ Cost Per Brkt 5%	By Type	Rounded To:	Qty	Total
AR9 bracket	33,500	21.49%	$210	$40	$250	$13	$263	$260	33,500	$8,710,000
Deco bracket	5,407	3.47%	$500	$40	$540	$27	$567	$570	5,407	$3,081,990
Lane Bracket	5,629	3.61%	$60	$40	$100	$5	$105	$110	5,629	$619,190
Pedestrian Bracket	831	0.53%	$60	$40	$100	$5	$105	$110	831	$91,410
Tapered Elliptical	102,503	65.75%	$133	$40	$173	$9	$182	$180	102,503	$18,450,540
Top Mounted	8,018	5.14%	$60	$40	$100	$5	$105	$110	8,018	$881,980
Total:	155,888							**RCN Grand Total:**		$31,835,110

Handwells

	Qty	Mat'l Cost	Installation Cost	Sub-total	Indirects @ 5%	Cost Per Handwell	Rounded To:	Qty	Total
Handwells	6,844	$530	$1,800	$2,330	$117	$2,447	$2,450	6,844	$16,767,800
Total:	6,844						**RCN Grand Total:**		$16,767,800

Relays

	Qty	Mat'l Cost	Installation Cost	Sub-total	Indirects @ 5%	Cost Per Handwell	Rounded To:	Qty	Total
Relays	3,086	$180	$80	$260	$13	$273	$270	3,086	$833,220
Total:	3,086						**RCN Grand Total:**		$833,220

Street Lighting RCN

Wiring

Wire Type	Qty	Mat'l Price (per Meter)	Mat'l Sub-total	Install $ Amt Per Meter	Install $ Amt Sub-total	Mat'l & Install Sub-total	Indirects @ 5%	Total	Rounded To:
Wire: Up the pole/ across the bracket or just across the bracket:	748,428	$ 0.03	$22,453	$ 4.00	$2,993,712	$3,016,165	$150,808	$3,166,973	$3,167,000
Wire: O/H Span/Between Poles	222,589	$ 0.03	$6,678	$ 4.00	$890,358	$897,036	$44,852	$941,887	$941,900
Wire: U/G Span/Between Poles:	1,144,267	$ 3.39	$3,879,063	$ 4.00	$4,577,066	$8,456,129	$422,806	$8,878,936	$8,878,900
Total:	2,115,284								$12,987,800

Expressway RCN

Poles

High Masts Poles, Elevating Device, Luminaire Ring ("HM Pole")	Qty	Mat'l Cost	Installation Cost (say @ 50% of Mat'l cost)	Sub-total	Indirects @ 5%	Cost Per HM Pole	Rounded To:	HM Pole Qty	Total RCN
Pole & Elevating Device - DVP	125	$50,000	$25,000	$75,000	$3,750	$78,750	$78,800	125	$9,850,000
Pole & Elevating Device - Gardiner	53	$50,000	$25,000	$75,000	$3,750	$78,750	$78,800	53	$4,176,400
	178								$14,026,400

Conventional Poles with Arm/Bracket	Qty	Mat'l Cost	Installation Cost	Sub-total	Indirects @ 5%	Cost Per Conv. Pole By Type/Mat'l	Rounded To:	Conventional Pole Qty	RCN Total
DVP	249	n/a	n/a	n/a	n/a	$2,500	$2,500	249	$622,500
Gardiner	789	n/a	n/a	n/a	n/a	$2,500	$2,500	789	$1,972,500
Allen	439	n/a	n/a	n/a	n/a	$2,500	$2,500	439	$1,097,500
	1477								$3,692,500

Luminaires

High Masts Luminaires	Qty	Mat'l Cost	Installation Cost (say @ 25% of Mat'l cost)	Sub-total	Indirects @ 5%	Sub-total	Rounded To:	HM Lum Qty	Total RCN
Luminaires/Fixture - DVP	624	$3,000	$750	$3,750	$188	$3,938	$3,900	624	$2,433,600
Luminaire/Fixtures - Gardiner	365	$3,000	$750	$3,750	$188	$3,938	$3,900	365	$1,423,500
	989								$3,857,100

Conventional Luminaires	Qty	Mat'l Cost	Installation Cost	Sub-total	Indirects @ 5%	Sub-total	Rounded To:	conventional Lum Qty	RCN Total:
DVP	249	n/a	n/a	n/a	n/a	$405	$405	249	$100,845
Gardiner	868	n/a	n/a	n/a	n/a	$405	$405	868	$351,540
Allen	466	n/a	n/a	n/a	n/a	$405	$405	466	$188,730
	1583								$641,115

Distribution Assemblies

Distribution Assemblies	Qty	Mat'l Cost	Installation Cost (say @ 25% of Mat'l cost)	Sub-total	Indirects @ 5%	Sub-total	Rounded To:	Qty	RCN Total:
D.V.P	9	$25,000	$6,250	$31,250	$1,563	$32,813	$33,000	9	$297,000
Gardiner	12	$25,000	$6,250	$31,250	$1,563	$32,813	$33,000	12	$396,000
Allen	4	$25,000	$6,250	$31,250	$1,563	$32,813	$33,000	4	$132,000
	25								$825,000

Wire & Conduit

Wiring & Conduit	Qty (In Meters)	Mat'l Cost (Per Meter)	Mat'l Cost Sub-total	Install $ Amt Per Meter	Install $ Amt Sub-total	Indirects @ 5%	Total	Rounded To:
Wire	39,000	$6.91	$269,490	$4.00	$156,000	$21,275	$446,765	$450,000
Conduit	39,000	$6.00	$234,000	$100.00	$3,900,000	$206,700	$4,340,700	$4,340,000
								$4,790,000

APPENDIX G YEAR OF INSTALLATION FOR POLES

ALUMINUM POLES		CONCRETE POLES		STEEL POLES		WOOD POLES	
Qty.	Year	Qty.	Year	Year	Qty	Year	Qty
0	1955	16511	1955	1955	0	1955	2169
0	1956	2	1956	1956	0	1956	0
0	1957	1	1957	1957	0	1957	0
0	1958	7	1958	1958	0	1958	0
0	1959	4	1959	1959	4143	1959	0
0	1960	60	1960	1960	1	1960	1
0	1961	315	1961	1961	1	1961	0
3642	1962	231	1962	1962	0	1962	2
1	1963	348	1963	1963	0	1963	0
1	1964	731	1964	1964	0	1964	0
0	1965	171	1965	1965	0	1965	1
0	1966	316	1966	1966	0	1966	0
1	1967	745	1967	1967	0	1967	0
0	1968	697	1968	1968	2	1968	8
76	1969	986	1969	1969	3	1969	4
126	1970	525	1970	1970	1	1970	2
9	1971	462	1971	1971	6	1971	2
26	1972	962	1972	1972	5	1972	4
19	1973	500	1973	1973	1	1973	0
10	1974	500	1974	1974	2	1974	4
12	1975	1144	1975	1975	6	1975	3
3	1976	491	1976	1976	1	1976	1
5	1977	944	1977	1977	6	1977	3
12	1978	352	1978	1978	6	1978	0
12	1979	606	1979	1979	6	1979	1
21	1980	506	1980	1980	1	1980	2
2	1981	170	1981	1981	0	1981	0
0	1982	800	1982	1982	2	1982	1
0	1983	657	1983	1983	1	1983	0
1	1984	498	1984	1984	25	1984	2
3	1985	475	1985	1985	3	1985	4
85	1986	490	1986	1986	1	1986	4
0	1987	397	1987	1987	2	1987	11
2	1988	447	1988	1988	0	1988	1
21	1989	287	1989	1989	10	1989	8
29	1990	389	1990	1990	8	1990	15
7	1991	184	1991	1991	9	1991	14
19	1992	195	1992	1992	11	1992	6
31	1993	370	1993	1993	23	1993	7
60	1994	438	1994	1994	13	1994	4
4	1995	344	1995	1995	8	1995	37
0	1996	336	1996	1996	0	1996	6
16	1997	359	1997	1997	4	1997	6
0	1998	621	1998	1998	0	1998	4
9	1999	437	1999	1999	3	1999	7
13	2000	668	2000	2000	19	2000	6
14	2001	322	2001	2001	2	2001	1
19	2002	771	2002	2002	7	2002	7
10	2003	697	2003	2003	15	2003	7
5	2004	479	2004	2004	21	2004	3
0	2005	606	2005	2005	30	2005	13
23	2006	321	2006	2006	4	2006	5
46	2007	1508	2007	2007	10	2007	5
39	2008	938	2008	2008	13	2008	12
12	2009	673	2009	2009	21	2009	5
6	2010	278	2010	2010	1	2010	6

APPENDIX H QUALIFICATIONS OF JIM HORVATH AND TED RUDYK

Jim Horvath CA, MBA, CA.CBV, FCBV, ASA

Profile

Over the past 35 years, Jim has specialized in business and securities valuations, and related intellectual property. Having completed over 3,000 valuation assignments, including the supervision of large, complex multidiscipline valuation engagements, he has worked in a wide variety of industries and given expert testimony on valuation matters on multiple engagements. Jim also has extensive international experience, having worked on valuations, mergers, and acquisitions in over 60 countries. He has authored several books and numerous articles on valuation, and both in Canada and internationally is a frequent speaker on valuation methods and issues.

Currently Managing Director of ValuQuest Limited. Previously, 1988 to May 2009, Partner with Deloitte & Touche engaged in Business Valuations.

Experience

Financial Institutions: Numerous valuations, fairness opinions and purchase price allocations of banks, credit card operations, life and property and casualty insurance companies, reinsurers and agencies. These include valuations (and valuation consulting services) for or of, among others: CIBC, Bank of Montreal, ScotiaBank, HSBC (Canada), Coutts Bank, numerous Canadian subsidiaries of Japanese banks, VISA, credit card operations of various retailers, Sun Life, Manulife Financial, Bermuda Fire & Marine, Royal Sunalliance, Cayman General Insurance, John Hancock Financial, and Fairfax Financial.

Manufacturing/Forestry/Food Processing: For numerous purposes (such as mergers and acquisitions, and corporate reorganization) valued over 600 manufacturing companies both in Canada and internationally, including more than 20 with a value in the billions

Technology, Media and Telecommunications (TMT): The valuation for over 50 TMT companies, including those of or for Bell Canada, Teleglobe Canada, Bahamas Telecommunications Co. (BTC), Bell Northern Research, Bell Mobility, Telus Cellular Zones (of Mexico), Northern Electric Telekomunikasyon (Netas (of Turkey)), Nortel, Manitoba Telecom (MTS), Sasktel, Telesat Canada, ATX Telecom, etc.

Retail: Provided valuations of brand names, trademarks, other intangible assets and lease interests relating to an arm's length sale.

Privatization Services: Privatization, advisory and valuation services in connection with over 25 privatizations in Canada, Brazil, Jamaica, Bahamas, Argentina, Venezuela, Hungary, Poland, Slovak Republic, Macedonia, Guyana, Romania, Ukraine, and China.

Various: Managed and provided numerous business valuations and real property appraisal services for companies engaged in a variety of industries such as: financial institutions (such as major Canadian, European and Caribbean banks and insurance companies); telecommunications (such as telcos, satellite service providers, and equipment manufacturers); manufacturing; energy; natural resources; forestry, pulp and paper; and transportation and infrastructure.

250 significant business valuation assignments completed include those of or for:

- Abbey Woods Developments
- Adason Properties
- Airport Development Corporation
- Alcalis Chemical (of Brazil)
- Allstate Insurance
- Altimed Pharmaceutical
- Andrés Wines
- Anthem Properties
- Algoma Steel
- Appleby College
- Armbro Construction
- Aseco Integrated Systems
- Asian Broadcasting and Communications Network (of Thailand)
- Associated Freezers
- AT Plastics
- AT&T Capital
- Atlantis Communications
- Atlas Cold Storage
- Atlas Tube
- ATS Automation
- ATX Telecom
- Avison Young Commercial Real Estate
- B.C. Rail
- Bahamas Oil Refining Co. (of Bahamas)
- Bahamas Telecommunications Co. (of Bahamas)
- Banco del Pacifico (of Ecuador)
- Banff Springs Hotel
- Bank of Credit and Commerce International
- Bank of Montreal
- Bank of Tokyo – Mitsubishi (Canada)
- BASF Canada
- Fletcher Challenge Paper (of Australia, Brazil, Canada, Chile, New Zealand, and Malaysia)
- Focus Automation
- Fortis Electric
- Fortune Financial Management
- Fruehauf Canada Inc.
- Fuji Bank
- GE Capital
- GE Power Management
- Geac Computer Corporation
- General Electric Canada
- Glidden Paints
- Grand Lido (Negril) (of Jamaica)
- GTS Global Travel
- Hatch & Associates
- Hillebrand Wines
- Holiday Inn Hotels
- Hollinger
- Honda of Canada
- HongKong Bank of Canada
- Hudson Bay Mining
- Husky Injection Molding Systems (of Canada, China, Luxemburg, and USA)
- Hyatt Hotels (of Argentina and Chile)
- Hydrogenics Corp.
- IBM Canada Ltd.
- Imperial Life [Insurance]
- Imperial Oi
- Interbank Aruba (of Aruba)
- International Hearing Aids
- International Wallcoverings
- Phoenix Oil
- Pizza Pizza
- Plastiflex
- Polaris Realty
- Power Financial Capital Corp.
- Procter & Gamble
- Prudential-Bache Securities
- Purity Life
- Quebec Nordiques
- Quebecor Printing Inc.
- R.L. Polk & Co.
- Ram Forest Products
- RBC Dominion Securities
- RCA Records
- Reed Stenhouse
- Regal Constellation Hotel
- Reichman International
- Reliance Electric
- Reuters Information Services
- Richmont Mines
- Ridpath's [Furniture]
- Royal Bank of Canada
- Rusoro Gold (of Venezuela)
- S.C. Johnson & Sons (of Canada, Chile, and Japan)
- Saint John Shipbuilding
- Sakura Bank of Canada
- Sanwa Bank Canada
- Sasad Horticultural (of Hungary)
- Schenectady Chemicals (of Canada, France, South Africa, Spain, and the United Kingdom)

- BCE Ventures
- BCI Bank
- Bedford Capital
- Bell Canada
- Bell Mobility
- Bell Northern Research
- Bentall Properties
- Bermuda Fire & Marine (of Bermuda)
- Bestview Health Care Centres
- Bid.Com
- Biomira Inc.
- Birra Moretti S.p.A. (of Italy)
- Bi-Way Stores
- Bridgestone/Firestone Canada
- Brookfield Developments
- BTC Financial Services
- Cadillac Fairview
- Cambridge Shopping Centres
- Canada 3000 Airlines
- Canada Deposit Insurance Corp.
- Canada Trust
- Canadian Broadcasting Corp.
- Canadian Foundry Supplies
- Canadian Fracmaster Ltd.
- Canadian Imperial Bank of Commerce
- Canadian Pacific Hotels
- Canadian Tire
- Cango Petroleum
- Carter
- Cayman General Insurance (of Cayman Islands)
- CCH Canadian
- Cellular Zones (of Mexico)
- Irving Oil Limited
- Irving Pulp & Paper
- Irwin Industrial
- Italpasta
- JBA Holdings [Software] (of UK, France and Germany)
- John Labatt (U.K.) Limited (of the United Kingdom)
- Journey's End Motels
- Jumbo Video
- Kabia Pharmacia
- Keating Technologies
- Keen Engineering
- KFC [Kentucky Fried Chicken] – Canada
- Laidlaw Transport
- Lake Ontario Steel Company
- Lavo Group Inc.
- Lehndorff Property Management
- Linamar
- Linmine and Bermine (of Guyana)
- Lloyds Shipping (of Brazil)
- Loyalty Marketing [Air Miles]
- M.T. Associates Investment Counsel
- Macquarie Power & Infrastructure
- Magna
- Manitoba Telecom
- Manulife Financial
- Maple Leaf Sports
- Maxxam Analytical Corp.
- McGill Multimedia
- McLean McCarthy (Investment Dealer)
- Medx Health Corp.
- Metropolitan Life
- Midland Transport
- Miller Paving
- Mitsui & Co. (Canada) Ltd.
- Scholarship Consultants of North America
- Sears Canada
- Senes Consultants
- Sheaffer Pens
- Sheraton Centre (Montreal and Toronto)
- Shimano Canada
- Shoppers Drug Mart
- Sleep Inn (of Cayman Islands)
- Slovenske Elektrarne (of the Slovak Republic)
- SoftQuad International
- Speedy Muffler King
- St. Bernard's Hospital
- St. Joseph Print Group
- St. Stanislaus Bank (of Poland)
- Stage West All-Suite Hotel
- Standard Broadcasting
- Standard Securities
- Standard Trust
- Steetley Industries
- Sumitomo Canada
- Sun Life
- Sutton Place Hotel
- Systems Dimensions Limited
- Tarxien Corp.
- TCG Materials
- Teleglobe Canada
- Telesat Canada
- Telus
- Textron Financial Corp
- The Boeing Company
- The Gaylord Group
- The Globe and Mail
- The Minacs Group.
- The Prescription Centre

- Central Park Lodges
- Central Trust
- Ceridian Corporation
- Chatham-Kent Hydro
- Chrysler Canada
- Ciboney [Resort] (of Jamaica)
- Cinzano International S.A. (of Luxembourg)
- Comark
- Comcheq Services
- Complete Packaging
- Comstock International
- Confederation Life (of Barbados)
- Conforja S.A. (of Brazil)
- Consolidated Bathurst
- Corporacion Venezolana de Guayana (of Venezuela)
- Coutts Bank (of Bahamas)
- CPL REIT
- Creditel Canada de Havilland Canada
- Delta Hotels
- Denver Laboratories
- Deutsche Bank
- Dofasco Steel
- Dowty Aerospace
- Dylex Limited
- FATLyF (of Argentina)
- Ferrocarriles Argentina (of Argentina)
- Draxis Health
- Eastern Packaging House
- Embraer Aviation (of Brazil)
- Estonia Central Bank (of Estonia)
- Euro United
- l Evraz Group S.A.
- Financial Times
- Molex Electronics
- Molson Breweries
- Mulvihill Capital
- Mytec Technologies
- Nassau Underwriters (of Bahamas)
- National Cellular
- National Mutual Royal Bank (of Australia)
- Natriceuticals
- Nesbitt Thomson
- Nestle Canada
- New World Gaming [Casinos]
- Nichimen Canada
- Nissan Canada
- Noranda
- Nortel
- Northern Electric Telekomunikasyon Anonim Sirketi (Netas) (of Turkey)
- Northland Bank
- Novotel
- Oakville Hydro
- OFS [a Furukawa Electric Company] (of USA, Denmark and Russia
- Ontario Association of Radiologists
- Ontario Realty
- Pacific Asia Technologies
- PC Docs Canada
- Pelee Island Winery
- FINSAC (of Jamaica)
- Fitzhenry Whiteside Publishing
- The Westaim Corporation
- Tilley Endurables
- Tim Horton Donuts
- Tokai Bank Canada
- Toronto Hilton Hotel
- Toronto Hydro
- Toronto Island Marina
- Toronto Pearson Airport
- Toronto Refiners and Smelters
- Toronto Sun Publishing
- Tradesco Mould
- Transport Canada
- TV Guide
- Twinpak Inc.
- Uniroyal Chemical
- Uniroyal Quimica S.A. (of Brazil)
- Voyageur Travel Insurance
- W&H Voortman [Cookies]
- Wampole
- Westin Harbour Castle Hotel
- Westin Prince Hotel
- Xstrata Canada (of Canada and Norway)

Education/Professional Designations

- Bachelor of Mathematics (Double Honours - Math and Economics) - University of Waterloo, 1970
- Master's of Business Administration (MBA) - McMaster University, 1974
- Qualified as a Member (CA) of the Institute of Chartered Accountants of Ontario, 1974
- Qualified as a Chartered Business Valuator (CBV) of the Canadian Institute of Chartered Business Valuators, 1977
- Qualified as a Member of the American Society of Appraisers, 1977
- Qualified as an Accredited Senior Appraiser (ASA) of the American Society of Appraisers1980
- Completed the five-year educational program with the Appraisal Institute of Canada, 1980
- Qualified as a Certified Real Estate Appraiser (CREA) of the National Association of Real Estate Appraisers, 1989
- Recertified as an Accredited Senior Appraiser (ASA) of the American Society of Appraisers, 1991
- Qualified as a Certified Fraud Examiner (CFE) of the Association of Certified Fraud Examiners, 1993
- Qualified as a Certified Commercial Real Estate Appraiser (CCRA) of the National Association of Real Estate Appraisers, 1993
- Qualified as a Certified Appraiser-Senior (CA-S) of the American Association of Certified Appraisers, 1994
- Recertified as an Accredited Senior Appraiser (ASA) of the American Society of Appraisers, 1996
- Elected as a "Fellow" (FCBV) of the Canadian Institute of Chartered Business Valuators, 1998
- Recertified as an Accredited Senior Appraiser (ASA) of the American Society of Appraisers, 2002 and 2007.

Professional and Community Affairs

- Canadian Institute of Chartered Business Valuators (CBV/FCBV)
- American Society of Appraisers (ASA) – dual accreditation: business valuations and commercial and industrial real property
- National Association of Real Estate Appraisers (CREA and CCRA)
- The Institute of Chartered Accountants of Ontario (CA and CA•CBV)
- Arbitrators Institute of Canada (Associate Member)
- The ESOP (Employee Share Ownership Plan) Association
- Association of Certified Fraud Examiners (CFE)
- Member of Valuation Standards Advisory Committee of China appraisal Society (CAS)

Publications

- "Taxation, Valuation and Investment Strategies in Volatile Markets", 1,400-page text to be published by Thomson-Reuters-Carswell, Toronto, Canada, June 2010 (Co-editor with David Chodikoff and author/co-author of nine of the book's 54 chapters).
- "Valuing a Business in Volatile Markets", 825-page text to be published by Thomson-Reuters-Carswell, Toronto, Canada, April 2010 (Conceptualizer of the book and author/co-author of nine of the book's 32 chapters).
- "Taxation & Valuation of Technology", 1,004-page text published by Irwin Law, Toronto, Canada in March 2008 (Conceptualizer of the book; principal author of the 520-page Valuation section; and co-editor with David Chodikoff). Chapters entitled "Protected Assets: Valuing Patents", co-authored with Steven Hacker, "Valuing Businesses in the Ever-changing Global Marketplace"; and "Valuation Methodology: The Current Art and Science", co-authored with Tim Dunham,

Manager Director, Valuations, Deloitte; and "The Invisible Path: Valuing Technology & Other Intangibles", co-authored with Rick Ellsworth, Firm Director, Deloitte NYC

- "Advocacy and Taxation in Canada", 738-page text published by Irwin Law, Toronto, Canada in October 2004 (co-editor with David Chodikoff). Co-authored (with Steven Hacker) chapters entitled "Valuing Computer Software, Brands, and other Intellectual Property: Concepts, Complexities, and Controversies", and "Reflections of the Expert's Role in the Tax Court of Canada".
- "Valuing Software – Decoding the Bits, Bytes, and Bucks", Valuation Update, Spring 2003 (with Steven Hacker)
- Commercial Square Foot Building costs 2001-2008 editions, a 279-page manual published by Saylor Publications, Inc., Chatsworth, CA (principal author with Stan Strychaz)
- "Valuing Financial Institution Intangibles", Valuation Update, Spring 2002
- Commercial Square Foot Building Costs 2001-2002 Canadian Edition, a 262-page manual published by CCH Canadian Limited, Toronto, Ontario, 2001 (principal author with Stan Strychaz)
- "Valuing Real Estate in Today's Market", Real Estate Review, Fall 1994
- "Valuing Businesses in the Global Marketplace", The Journal of Business Valuation, published by CCH Canadian Limited, 1993, pp. 329-343
- "Valuing Management Consulting Practices", Handbook of Business Valuation, Chapter 27, pp. 299-310, published by John Wiley & Sons, New York, 1992
- "Valuing Radio Stations", Business Valuation Review, Vol. 10, No. 3, September 1991, pp. 111-115 (with S. Knight)
- Valuing Professional Practices, a 329-page text published by CCH Canadian Limited, Don Mills, Ontario, 1990
- "Bits and Bytes and Bucks" (Valuing Computer Software), C.A. Magazine, August 1988, pp. 65-68 (with Patrick Canham)
- Valuation Guidelines for IBM Dealerships, a 24-page monograph prepared for IBM, June 1988
- "Valuing Professional Degrees and Licences", Canadian Family Law Quarterly, Carswell Legal Publications, Vol. 3, No. 1, 1988, pp. 1-22
- Valuing Professional Practices and The Family Law Act, a 98-page monograph published by Touche Ross, December 1987
- Valuing a Business and The Family Law Act, 50-page monograph published by Touche Ross, June 1986
- Valuing a Professional Practice and The Family Law Act, published by the Law Society of Upper Canada, May 1986

Speeches with Published Papers

- "Valuation of Intangible Assets for Financial Reporting", A Joint Three-Day Business Valuation Seminar of The Canadian Institute of Chartered Business Valuators and The American Society of appraisers, Course Leader and co-Presenter; February 2008.
- "Valuation of Patented Technology: Valuation Methods, Value Drivers, and Resources" and "Valuation of Technology-Related Intellectual Property and the Importance of Context: Value Drivers and Methodology", presentation to Federated Press Taxation and Valuation of Intellectual Property course, Chair, November 2007.
- "Valuing Intangible Assets for Fair Value Accounting Purposes", a presentation at the CICBV Seminar "Valuing Intangible Assets", Co-chaired by Jim Horvath, September 2007.
- "Valuation Fundamentals", "Advanced Valuation" and "Valuing Intellectual Property and Other Intangibles", three-day Presentations to the Indonesian Society of Appraisers (MAPPI)

Conference and Seminar, Jakarta, Indonesia, Seminar Leader/Main Speaker, September 2007.
- CICBV Seminar "Valuing Intellectual property, Co-Chair, September 2007.
- "Valuing Intellectual Property & Other Intangibles", a Presentation to the 1st Malaysian Intangibles Conference, Kuala Lumpur, July 2007
- Valuation Workshop: "A Presentation to the Department of Justice", Co-Moderator, March 2007.
- "The Practice of Business Valuation in Canada, & Typical Valuation Methods & Issues in the Global Marketplace", a presentation to the 2006 Kunming International Valuation Forum - "Assets Valuation and the Development of Market Economy", China Appraisal Society, September, 2006.
- "The Valuator as Expert Witness in the Tax Court of Canada", a presentation to the 4th Annual Federated Press Valuation and the Tax Practice Course, Course Leader, September 2006.
- "Valuing Technology-based and Marketing-based Intellectual Property in a Canadian Taxation Context", a presentation to the 4th Annual Federated Press Valuation and the Tax Practice Course, Course Leader, September 2006.
- "Tax Shelters: Valuation Issues and Case Law", a presentation to LexisNexis Conference: Tax Summit – Interpreting GAAR, Tax Shelters, and Tax Practice Review, December 2005.
- "Valuation and the Tax Practice Course – 3rd Annual" by Federated Press, Course Leader and Co-speaker on "Valuation of Technology-based Intellectual Property including Computer Software, and Marketing-based Intellectual Property Rights", and "A Valuator's Perspective on Testifying in the Tax Court of Canada, September 2005.
- "Branding Workshop: Measuring the Value of Brands and Other Intellectual Property in High Growth Firms", a presentation to the Innovators Alliance, May 2005.
- "Valuing Brand Names, Computer Software and Other Intellectual Property – Valuation Concepts and Cases", a presentation to the Canadian Literary and Artistic Association (ALAI Canada), December 2003.
- "Intellectual Property, Computer Software and Other Intangible Assets: Valuation Techniques and Issues", a presentation to Canada Customs and Revenue Agency, Large File Case Managers' Symposium, November 2002.
- "Valuing Software, Intellectual Property, and Other Intangibles – Valuation Issues & Techniques, and the Impact of FAS 141/142", a presentation to Federated Press Conference: M&A Valuation for CFOs, September 2002.
- How to Use Valuations in Automobile Dealership Dealings", a presentation to the Canadian Automobile Dealership Conference, November 2001.
- "Valuing Technology, Software, and Other Intellectual Properties", a presentation to Bell Mobility Investments, July 2001.
- "Valuing Technology and Other Intellectual Properties – Looking Behind the Bricks and Mortar", Seminar presented to Justice Canada, May 2001.
- "Is It Worth Something If You Can't Touch It? The Challenge of Valuing Intellectual Property", Taxation of Intellectual Property Conference presented by INFONEX, February 2001.
- "Practical Valuation Issues in Global Acquisitions", M&A Valuation for CFO's Conference presented by Federated Press, January 2001.
- "How Much Is It Worth? Strategies for Valuing Intellectual Property", Taxation of Intellectual Property Conference presented by INFONEX, February 2000.
- "Value here, value there … how in the 'globe' can we compare", Business Valuation for CFOs Conference presented by Federated Press, October 1999 (The Conference was also Co-chaired by J. Horvath.).
- "Valuing Municipal Electric Utilities", Competitive Marketplace Seminars presented by Ontario Power Generation Inc., June 1999.
- "Intellectual Property/Intangible Assets: You May Not Be Able To See Them, Feel Them, or

Touch Them … Yet They May Be Your Most Valuable Assets", Mergers & Acquisitions Finance Conference presented by Federated Press, May 1999.

- Valuing Intellectual Property and Understanding Strategic Value", Corporate Controllers Forum presented by INFONEX, March 1999.
- "Valuation of Private Businesses and Succession Planning Issues", Family Business Succession Planning seminar presented by The Canadian Institute, November 1998.
- "Valuing IP [Intellectual Property] and intangible assets", Business Valuation for CFOs Conference presented by Federated Press, November 1998. (The Conference was also Co-chaired by J. Horvath.)
- "Business Valuation Techniques for Strategically Planned Business Transfers", Succession Planning Strategies Conference presented by Strategy Institute, May 1998.
- "Earnings-based Business and Intellectual Property Valuation Methods", Mergers & Acquisitions Finance Conference presented by Federated Press, November 1997.
- "Estimating the Market Value and Assessment Value of Golf Courses, Hotels and Other Commercial Properties", 1997 Alberta Senior Assessors' Symposium, May 1997.
- "Valuing Hotels Using Mass Appraisal Techniques", Alberta Assessors' Association Annual Conference, April 1997.
- "Living on the Edge - Business Valuation in the Global Village", 1996 Business Valuation Symposium presented by the Illinois CPA Foundation, May 1996.
- "Valuing Intangibles in the Information Age: Commercial Goodwill, Intellectual Property and Computer Software", Credit and Financial Risk Analysis seminar presented by The Canadian Institute, May 1996.
- Current Valuation Methods and Issues for The Family Business", Family Business Succession Planning seminar presented by The Canadian Institute, June 1995.
- "ESOP [Employee Share Ownership Plans] Valuation Issues, Methods and Feasibility Analysis", Employee Share Ownership seminar presented by The Canadian Institute, April 1995.
- "Valuing Intellectual Property Rights - Patents, Trademarks, Copyrights and Computer Software", Pacific Business & Law Institute seminar on Intellectual Property, Vancouver, January 1995.
- "Valuing Technology-based, Service and Early Stage Businesses", County of Carleton Law Association, Second Annual Conference, December 1994.
- "Valuing Intellectual Property, Business Goodwill and Other Intangibles: Tipping the Scales in the Lending Decision", Credit and Financial Risk Analysis seminar presented by The Canadian Institute, November 1994.
- "Valuing Businesses in the Global Marketplace and Unusual Factors in Respect of Assignments Conducted in Australia, Brazil, Hungary, Mexico and Turkey", The Canadian Institute of Chartered Business Valuators, 11th Biennial Conference, June 1992.
- "Valuation of the Business", Debits, Credits and GAAPs seminar presented by the Canadian Bar Association - Ontario, April 1992.
- "What is Your Law Firm's True Value", Canadian Bar Association - Ontario, Law Practice Management Seminar, December 1991.
- "Valuing Professional Practices, and Factors Influencing the Value of Accounting, Law, Management Consulting, General Medical, and Veterinary Practices", The Canadian Institute of Chartered Business Valuators, Regional Conference, Ottawa, October 1991.
- "Valuing a Business and Special Buyer Considerations", Buying and Selling a Business seminar presented by The Canadian Institute, September 1991.
- "Valuing Businesses and Partial Interests", The ESOP (Employee Stock Ownership Plan) Association Conference, September 1991.
- "Valuing, Buying and Selling a Business", Buying and Selling a Business seminar presented by

The Canadian Institute, May 1990.

- "Valuing, Buying and Selling Professional Practices", Essex County Family Law Lawyers, May 1990.
- "Valuing Professional Practices", Valuation of Property seminar presented by The Canadian Institute, March 1990.
- "Valuing Professional Practices - Let's Get Practical", Canadian Institute of Chartered Business Valuators, Toronto Chapter, June 1989, and the Ottawa Chapter, November 1990.

Ted Rudyk, ASA, MRICS

Background

Ted Rudyk has been providing machinery and equipment appraisal advice for over 30 years. His experience encompasses a wide range of machinery and equipment involving single pieces of equipment, manufacturing plants, process facilities, healthcare facilities, telecommunications and numerous other types machinery and equipment and industries. His services have been required for going concern valuations, liquidation opinions, tax matters, insurance placement, fixed asset property control systems and other accounting or corporate requirements.

Professional Experience

Ted Rudyk has experience in a wide range of issues and problems including the following:

- Valuation of equipment within a going concern enterprise
- Financing involving asset based debt offerings
- Purchase price allocation, export, estate planning and other tax related issues
- Shareholder dispute, matrimonial matters and other litigious issues
- Fixed asset reconciliation and property control requirements
- Determining value in joint venture agreement

Selection of Canadian Valuation Assignments

- For corporate planning purposes, valued the fibre optic network machinery and equipment within a southern Ontario based utility telecommunications company ("UTELCO")
- For financial modelling requirements, valued the street lighting assets within the City of Mississauga
- For payment in lieu of taxes requirements, valued the machinery and equipment of numerous electrical local distribution companies
- For purchase price requirement, valued the machinery and equipment at a cellular / wireless telephone provider having approximately 4,000,000 customers
- For tax reasons valued the machinery and equipment at an eastern Canada based pulp and paper manufacturer
- For leasing reasons, valued approximately 12 underground continuous miners at a potash mine in Saskatchewan
- For sale lease-back requirements, valued the equipment at a Canadian based multi-national printed circuit

Selected International Valuations Assignments

- For privatization reasons, valued the equipment at 5 thermal fired power plants, 30 run-of-river hydro dams and a high voltage grid system in the Slovak Republic
- For financial reporting purposes, valued the machinery and equipment at an open case gold mine in Venezuela
- For privatization reasons, appraised the machinery and equipment at two bauxite mines in Guyana, South America
- For privatization purposes, valued the equipment at a chemical processing plant in Lisbon Portugal
- For international loan requirements, valued machinery and equipment within the potable and waste water treatment infrastructure in Barbados
- To determine shareholder contribution towards a new start-up company, appraised an integrated two piece aluminum can forming line – Dubai United Arab Emirates
- To assist to certain potential privatization requirements, value the machinery and equipment at Bahamas Telecommunications Corporation, the national telephone company of The Commonwealth of The Bahamas

Professional Affiliations

Accredited Senior Appraiser (ASA), Machinery & Equipment - American Society of Appraisers, Washington DC, USA (www.appraiser.org)

Member (MRICS) – The Royal Institution of Chartered Surveyors, London, England (www.rics.org)

Associate Member – Appraisal Institute of Canada Ottawa, Canada (www.aicanada.ca)

Miscellaneous

Mr. Rudyk has completed assignments throughout Canada and the United States, Barbados, The Bahamas, China, Belgium, Denmark, England, Germany, Guyana, Holland, Italy, Luxembourg, Portugal, Slovak Republic, Switzerland, United Arab Emirates and Venezuela.

Accepted as an expert witness in the appraisal of machinery and equipment by the Ontario Court of Justice, General Courts Division