Colin J. McLorg
14 Carlton St.
Toronto, Ontario
M5B 1K5

Telephone: 416-542-2513
Facsimile: 416-542-2776
cmclorg@torontohydro.com

toronto hydro electric system

2009 June 30

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

via RESS and courier

Dear Ms. Walli:

RE: EB-2009-0243; Application for Recovery of Contact Voltage Remediation Costs

I have enclosed an application from Toronto Hydro-Electric System Limited (THESL), requesting the Board's approval of rate riders to recover costs incurred by THESL for the remediation of contact voltage conditions on its system. Two paper copies of the application will follow by courier.

Please contact me as indicated below for all matters pertaining to this application.

Yours truly,

Colin McLorg
Manager, Regulatory Policy and Relations
416-542-2513
regulatoryaffairs@torontohydro.com

Introduction and Relief Sought

Toronto Hydro-Electric System Limited ("THESL") hereby applies to the Ontario Energy Board under Section 78.(3) of the *Ontario Energy Board Act* for disposition and recovery through rates of certain qualifying costs incurred by THESL arising from the emergency correction of contact voltage occurrences on its electricity distribution system (the 'Level III Emergency'). The costs were incurred by THESL from February through March of 2009, and in one category will be continued to year end 2009. These costs were unforeseen and incremental to THESL's existing approved revenue requirement. This Application is brought to demonstrate that these costs meet the eligibility requirements of the Board (Incrementality, Exogeneity, Materiality, and Prudence) pertaining to "Z-factor"-type costs and that recovery of these costs through rates is proper, just, and reasonable.

Specifically, THESL seeks an Order of the Board:

a) Approving for recovery through definite-term rate riders of a total amount of $14.35 million, allocated as between THESL's various rate classes in the manner set out below; and
b) Implementation of the approved definite-term rate riders for a period of one year commencing May 1, 2010, for classes other than Streetlighting and Unmetered Scattered Load, and for three years for the Streetlighting and Unmetered Scattered Load classes.

Background

Contact Voltage

'Contact Voltage' refers to the presence of voltage in locations or circumstances which present an electrical shock hazard to people, animals, or equipment that touch the electrified object.

Typically contact voltage occurs when a live conductor touches an object which is not itself grounded but which becomes grounded (allowing current to flow) when it is touched by someone or something else. Contact voltage is especially problematic when the electrified object is in a location where it is exposed to incidental contacts by people, animals, or other objects.

Events Leading to the Level III Emergency Declaration

On November 20, 2008 and January 13, 2009, THESL emergency response crews were dispatched to two separate locations in the vicinity of Keele and Annette Streets in the City of Toronto. These incidents involved dogs that received fatal electrical shocks from energized handwells. 'Handwells' are essentially electrical junction boxes embedded in sidewalks or other pavement, into which wire conductors are brought and connected. The wire-to-wire connections are normally covered by a plastic insulator cap in the shape of an inverted bucket, and the insulator and surrounding hole are covered by a metal plate bolted in place. Site investigations revealed that in each incident, contact voltage was caused by insulation breakdown on energized connectors, allowing voltage to energize the metal frame and cover of the respective handwells.

At approximately 3 pm on January 29, 2009 THESL was notified that five children received mild shocks emanating from the concrete sidewalk on the northwest corner of the intersection of Gerrard Street and Sumach Street in the City of Toronto. The children were unharmed. The incident was immediately investigated by a THESL Emergency Response crew, which blocked off the affected area to pedestrian traffic and made it safe for the public. The Emergency Response crew was unable to locate the source of the contact voltage on the THESL portion of the underground secondary system. The Emergency Response crew therefore suspected a problem on the underground streetlighting secondary system, and promptly requested that the THESL Control Centre contact Toronto Hydro Energy Services Inc ("THESI") to have a streetlighting crew dispatched to further investigate the situation. Upon arriving at the scene the THESI crew was able to determine the precise location of the contact voltage fault, but was unable to locate the source of the voltage supplying the fault until after 6 pm, at which time it was found to be an abandoned streetlight conductor that had become unintentionally energized due to the degradation of connectors elsewhere in the circuit. The source of the contact voltage was immediately disconnected to eliminate any further public safety hazards.

Declaration of the Level III Emergency

Considered together, the events outlined above indicated the possibility of systemic faults in underground equipment, which, if present, would pose an unacceptable risk to the public and to employees of THESL and THESI. The possible hazard to the public was heightened by the presence of road salt that when mixed with water, combined to form a highly conductive solution on sidewalks and thoroughfares throughout the city. Executive management of THESL therefore concluded that an emergency condition existed which demanded immediate and intensive efforts to correct. THESL declared a Level III emergency, the second highest level of system emergency, on January 30, 2009.

On February 2, 2009, Anthony Haines, the President of THESL, wrote to both the Chair and the Secretary of the Board to advise the Board of the Level III emergency. The text of that letter is reproduced below:

> I write to advise the Board that Toronto Hydro has declared an operational Level III Emergency in response to the discovery of possibly widespread occurrences of faulty electrification in equipment that the public may be exposed to. Specifically, electrical junction boxes or 'handwells' that are embedded in sidewalks and are used to connect streetlights and other equipment appear in some cases to be improperly electrified and capable of producing electrical shocks to persons, animals, and equipment. It is our opinion that this condition, where it exists, presents a serious threat to public safety and must be corrected as soon as possible using all reasonable measures.
>
> Toronto Hydro has therefore suspended all other non-emergency planned work on its system and has deployed its own utility and streetlighting crews, as well as

available contractor resources, on a 7 day per week, 24 hour per day basis to locate, diagnose, secure, and repair to a safe condition all the suspect equipment on its distribution and streetlighting systems.

In order to accomplish this substantial work program as quickly and effectively as possible, all the involved resources will be directed by senior management of the distribution utility. While Toronto Hydro will make every effort to capture and record all relevant information on the equipment itself and the directly associated expenditures, it will not be possible under the conditions to segregate the crews and assets of the streetlighting affiliate from those of the distribution utility. For any location determined to require repair, the first available crew will be dispatched regardless of the precise nature of the electrical fault or of crew personnel composition.

Starting immediately and throughout the course of the project, Toronto Hydro will keep the media and the public informed of any known hazards, as well as contact and other relevant information. Our Communications Department will also furnish any information at its disposal to the Board should the Board have need of any information for purposes of fielding inquiries from the public.

The expenditures undertaken will be substantial. Given the magnitude of the operation, at this early stage we estimate costs to be in the range of $15 million - $25 million. It is likely that after the conclusion of the project, Toronto Hydro will apply to the Ontario Energy Board for cost recovery related to this operation. For that purpose, Toronto Hydro will record in appropriate USoA accounts the capital and operating costs incurred and directly caused by this project.

It is clear that this work program will be disruptive, to varying degrees, of Toronto Hydro's normal business and planned activities. We expect that there may be additional operating and cost consequences and we intend to manage these diligently to minimize any adverse impacts. Please also be assured that Toronto Hydro will do our utmost to maintain our standard of response to outages and any other safety matters which present in the normal course of business.

Our concern for worker and public safety is paramount and guides our decisions around this challenge. I commit to maintaining heightened communication with the Board on this matter until its resolution and invite you to contact me directly should you have questions or concerns.

Level III Remediation Activities

The activities required to correct the potential contact voltage faults throughout the city fell broadly into two categories: detection and remediation.

Detection was carried out by means of remote voltage sensing equipment operated by the US firm Power Survey LLC ("PSC"), under contract to THESL. PSC personnel, under the general direction of THESL management, exhaustively patrolled the streets of Toronto to detect instances of contact voltage, not only on streetlighting equipment but on any object that the public might contact at or near street level, including business improvement area ("BIA") lighting, bus shelters, phone booths, traffic and cross-walk signals, electrified signs and displays, and other street furniture. Much of the detection work was conducted at night in order to identify electrification problems that would only be apparent when lighting equipment was energized.

Remediation was carried out by THESL crews, THESI crews, and crews from available electrical contractors, all working under the direction of THESL management. Remediation work was itself undertaken in two categories; response to identified contact voltage incidents, and systematic inspection and repair, as necessary, of all handwells.

For identified contact voltage incidents, the first available crew from any of the labour pools was dispatched as soon as possible to the location to correct the faulty presence of voltage. In cases where this involved equipment of THESL or THESI, the cause of the contact voltage was identified and corrected, and any necessary repairs related to preventing its recurrence were made. This could involve, for example, disconnecting an improperly connected source of voltage; reconnecting and securing existing conductors; or re-insulating conductors so as to remove contact with the improperly electrified object.

In cases where third party equipment was found to be improperly electrified, it was simply disconnected altogether from the source of voltage and no attempt was made to diagnose and/or repair the underlying fault. Where the owner of such equipment was identifiable, the owner was notified of the unsafe condition and disconnection; otherwise no notification was possible. The costs involved in such disconnection and notification were minimal.

The second category of remediation work was the systematic inspection and repair, if necessary, of handwells. As previously noted, handwells are essentially large electrical junction boxes; enclosures at surface level where connections to the underground secondary distribution system are made for the purpose of providing power to streetlighting and unmetered scattered loads (USL) such as those listed above. Within a typical handwell, several wires representing multiple circuits may be present. At their ends, these conductors are joined using approved connectors and insulating material like electrical tape. The wires and connectors are then bundled into a compact form and fitted into the available space within the handwell socket, and covered with another insulating, inverted plastic bucket or cap which protects and insulates the wire bundle. Finally a flush-fitting metal plate is bolted in place to provide structural strength to the whole assembly and protection from intrusion into the chamber, and support for foot traffic and other loads exerted on the handwell.

Existing handwells were systematically inspected because it had become apparent that they had significant potential to be involved in or contribute to an incident of contact voltage. Inspection revealed numerous instances of missing plastic caps; degraded or faulty insulation; and improper

repacking of the conductors. Any faults or sub-standard conditions found on inspection were corrected to prevent a future instance of contact voltage from occurring.

Level of Costs Incurred

In total, the expensed cost incurred by THESL for the Level III emergency was $11.94 million. A breakdown of these expenditures is given in Table 1. A further amount of $2.41 million will be expended through the balance of 2009 for the maintenance of the scanning program on a non-emergency basis in order to ensure that further instances of contact voltage are minimized.

TABLE 1

CONTACT VOLTAGE REMEDIATION EXPENDITURES

	Col. 1	Col. 2
R. 1	**Description**	**Expenditure**
R. 3	**Level III Emergency Expenditures**	**$millions**
R. 5	Labour - Regular time	$ 3.37
R. 6	Labour - Overtime	$ 2.15
R. 7	**Labour - Total**	**$ 5.52**
R. 9	Electrical Contractor Cost	$ 0.67
R. 10	Scanning Contractor Cost	$ 4.15
R. 11	Inventory and Materials	$ 1.01
R. 12	Other	$ 0.59
R. 13	**Total - Non Labour**	**$ 6.42**
R. 15	**Total Level III Expenditures**	**$ 11.94**
R. 17	**Continued Scanning Expenditures**	**$ 2.41**
R. 19	**Total Contact Voltage Expenditures**	**$ 14.35**

Recovery Eligibility Analysis of Expenditures Incurred

Incrementality Analysis of Expenditures Sought for Recovery

The incremental character of expenditures in this context refers to whether or not those expenditures are already included in the allowed revenue requirement, or are incremental to the allowed amount. THESL does not seek recovery in this Application of any amount that forms part of the approved 2009 revenue requirement. However, THESL submits that the expensed costs incurred in connection with the Level III emergency were unforeseen and truly incremental to the requested and allowed Opex amounts for 2009.

THESL's claim of incrementality of these costs rests fundamentally on the facts that the necessity of the expenditures was unforeseen, and that the expenditures were novel. No such work had apparently been necessary previously and the project overall was certainly unprecedented on the THESL system. As a result, neither THESL nor any other party had knowledge beforehand that such expenditures might be necessary, and THESL clearly did not include these as part of its requested Opex budget for 2009.

Examining the expensed costs category by category, those for Electrical Contractors, Scanning Contractors, Inventory and Materials, and Other (including External Services, Rental Vehicles, and Communication) were directly caused by the Level III emergency situation and would not have been incurred but for that event. In light of the experience gained, THESL will propose costs in certain categories such as system scanning for inclusion in revenue requirements on a going-forward basis. However, that does not detract from the fact that Level III expenditures in the categories listed above were unforeseen and definitely not included in the requested 2009 revenue requirement.

With respect to regular labour and other miscellaneous internal costs charged to the Level III emergency project, THESL submits that these are properly considered incremental to the approved revenue requirement because THESL is committed to achieving its planned and approved levels of operations and maintenance and capital work in 2009 and will therefore at least exhaust its approved revenue requirement in this category. In fact, it is highly likely that THESL will have to incur unbudgeted overtime and contractor costs in order meet this commitment; in any case though, given THESL's commitment to meet planned O&M and capital work, the diversion of the resources that would otherwise have been devoted to that work should be treated as incremental. In the case of overtime labour, this would not have been incurred at the level experienced in February 2009 but for this event.

THESL also submits on the same basis that the costs for continued system scanning are clearly incremental to the approved revenue requirement for 2009; these costs were unforeseen and are novel for THESL's system.

Exogeneity of Contact Voltage Control Costs

Exogeneity of costs in this context refers to their character as having been externally imposed or required, as distinct from being discretionary and voluntarily undertaken.

The Level III costs incurred by THESL meet the exogeneity criterion because it was imperative for reasons of public and worker safety to correct any instances of faulty electrification as soon as possible using all reasonable measures. Management judgement was certainly required and exercised with respect to how to respond to the situation, and that question goes to prudence; however, no discretion as to whether to respond could have been exercised or tolerated. There was no uncertainty about whether hazardous situations could exist; this had already been amply demonstrated by the contact voltage incidents described above.

Therefore a response was mandatory and it would have been grossly irresponsible for THESL not to have acted when it did. Similarly, THESL is obliged to maintain contact voltage surveillance through continued scanning.

Materiality of Contact Voltage Control Costs

The incremental costs of $14.35 million meet the Board's criteria for materiality expressed in the Board's July 2008 Report on 3rd Generation Incentive Regulation for Ontario's Electricity Distributors. The Level III Emergency was a single event and the materiality threshold is $1 million for distributors with a distribution revenue requirement of more than $200 million.

Prudence of Contact Voltage Control Costs

The prudence of the Level III costs refers to whether the costs were reasonable and effective in producing the required results, in the circumstances and with the information available to management at the time. THESL submits that the assessment of prudence should be undertaken with due regard to THESL's responsibility to respond immediately and effectively to a demonstrated and serious threat to public safety, and that consideration of approaches that might be taken in non-emergency circumstances are irrelevant to the determination of prudence in this case. Correspondingly, the reasonableness of the measures and costs undertaken should be assessed by considering whether available alternative approaches, given the information and resources available, might have been used instead with greater effectiveness or lower cost.

On March 4, 2009, the Board issued a letter to distributors (attached as Appendix 1 to this Application) addressing issues around contact voltage. Among other things, the Board stated:

> "Public safety is of primary importance. Uncertainty as to connection demarcation points should not inhibit or delay the correction of unsafe wiring of unmetered load. Distributors should ensure that any unsafe wiring encountered on public walkways is addressed immediately."

As described above, the detection phase of the Level III emergency work was undertaken because of the requirement to immediately identify any existing (as distinct from potential) instances of contact voltage in locations which would present a hazard to people, animals, or equipment. At a minimum therefore, this would involved detecting contact voltages at street level throughout the entire service area of THESL. Essentially, there were two possible methods for conducting the detection work: manual approach and testing of all possible sources of contact voltage, which is itself invisible; or the use of remote sensing equipment mounted in trucks which could be used to sweep streetscapes for contact voltage sources which would otherwise not be visually apparent.

THESL submits that while the manual approach would have been theoretically possible, it would clearly have been unreasonable because of the exceedingly large amount of time and high cost that would have been required for such an approach. There are hundreds of thousands of electrically connected objects in Toronto thoroughfares. An enormous effort would have been required to manually test and catalogue all of those objects, and the time required to complete such a project

would itself have disqualified that approach apart from the cost. The presence throughout the city of salt water solutions, which are electrically conductive and can create a hazard where none exists under dry conditions, added to the urgency of identifying all contact voltage locations as soon as possible. Furthermore, it was necessary to suspend non-emergency planned work for the duration of the Level III project and consequently connections and other normal jobs were not being completed during this period. From the perspective of regular customer service it was vital to minimize the period of disruption to normal operations.

For these reasons THESL submits that it was prudent in the circumstances for it to hire the services of a contact voltage scanning contractor. The firm engaged by THESL to do this work was selected because of its competence to undertake the work and its immediate availability.

It followed from the urgency of the situation that overtime up to safe limits, and the engagement of available contractors outside of THESL, be undertaken to correct any detected instance of contact voltage as soon as possible.

While the remote sensing sweep and associated follow up was clearly necessary to correct existing instances of contact voltage, it was apparent that a systemic problem on the underground secondary distribution system throughout the city could exist and may have been being exacerbated by the presence of salt water solutions. There was ample evidence to suggest that the handwells presented incipient if not actual hazards and therefore as an effort complementary to the detection activities, a thorough inspection of all handwells was also undertaken as a preventive measure and to ensure the integrity and safety of that equipment.

During the Level III emergency, over 13,000 handwells were cleared of snow as necessary, opened, inspected, remediated as necessary and marked as complete. Remediation included disconnection of improperly connected conductors (e.g., redundant feeds), re-terminating connections, re-insulation of connectors and conductors, re-packing of conductors, replacement of plastic caps, and replacement of cover plates.

Again, the urgency of the situation demanded the use of available contractors and overtime up to safe levels in order to complete the necessary remediation as soon as possible and resume normal operations.

Non-Recovery of Costs From Asset Owners

In its letter of March 4, the Board also stated:

> "It is expected that distributors have planned for, and are able to accommodate, all necessary maintenance or isolation of connections for unmetered loads to ensure the public's safety. In this regard, distributors are also expected to recover from the customer the cost of repairs or isolation of customer owned equipment or connections. A one-time billing charge or direct invoice may be used for this purpose. Distributors should where possible discuss in advance the need for correction to customer equipment.

> The Board recognizes that in some circumstances distributors may seek future recovery of the costs of repairs made to customer owned equipment or connections. In these circumstances distributors should record the appropriate amounts in deferral Account 1572 – Extraordinary Events Cost. Distributors may seek disposition of these accounts in conjunction with rate application filings. In seeking disposition distributors should be prepared to explain the amounts for which recovery is sought and what steps were taken to recover costs included in repairing the customer's connection or equipment."

In the normal course of business THESL routinely plans for and accommodates customer needs for disconnection and isolation of any loads, unmetered or otherwise. In any circumstances in which the disconnection, isolation, and/or repair of customer owned equipment is undertaken with knowledge of the precise extent of the equipment and the identity of the owner, the costs of that work are routinely recovered from the asset owner.

The Level III emergency situation was distinctly and significantly different than business as usual. In contrast to the situation where a discrete piece of work is done on equipment for which the ownership is clear, the Level III emergency involved work on underground assets which in many cases were only nominally demarcated – the practical reality was that it was often difficult to distinguish whether the secondary equipment was a THESL, streetlighting, or other third party (e.g., BIA) asset. Furthermore the situation did not permit the time and effort to disentangle, analyze, and record whose was the faulty asset. In short, the circumstances did not support the usual recognition of and billing for work done on customer-owned equipment.

Nevertheless, as discussed below under Cost Allocation, THESL proposes that costs be recovered in a manner that results in an outcome substantially similar to that which likely would have prevailed if it had have been possible to discretely record and cost each individual piece of remediation work.

Furthermore, THESL has filed separate applications with the Board under docket numbers EB-2009-0180 to 0183 inclusively which seek, ultimately, the re-unification of the streetlighting system with the main distribution system. If granted, that re-unification would substantially clarify and simplify the ownership and operation of the secondary distribution system in Toronto.

Cost Allocation and Rate Riders

Cost Segregation

THESL proposes that the overall incremental costs sought for recovery be segregated into two categories for the purposes of allocation and recovery. The first category is composed of the scanning costs, $6.56 million out of the total incremental costs of $14.35 million.

The scanning costs were undertaken to ensure the safety of the entire distribution system, and as an operational matter the scanning could not have been, and should not have been, confined to a particular class or classes of customers. Furthermore the safety benefits could similarly not be confined to a particular class or classes of customers.

Therefore THESL proposes that the scanning costs of $6.56 million ($4.15 million in Level III, and $2.41 for continued scanning) be allocated to all classes.

THESL proposes that the remaining balance of $7.79 million related to the remediation of existing contact voltages and inspection and remediation of handwells be recovered from the Streetlighting and USL classes.

Cost Allocation

THESL proposes that scanning costs be allocated to all classes based on customer numbers, and specifically the customer numbers forecast and approved for purposes of the 2009 Distribution Rate Update. In practical terms this results in the large majority of these costs being allocated to residential and small general service customers.

THESL proposes that scanning costs be allocated to all classes based on the methodology embodied in the Board-developed Cost Allocation Model. Using this methodology, the number of customers on secondary, by class, is the allocator, and the (secondary) customer numbers forecast and approved for purposes of the 2009 Distribution Rate Update have been used. In practical terms this results in the large majority (86%) of these costs being allocated to residential and small general service customers, with substantially all of the remainder being allocated to streetlighting and USL.

With respect to the remaining remediation costs, THESL proposes that these be specifically allocated to the Streetlighting and USL classes in proportion to the number of connections in those classes respectively. As explained above, a strictly accurate determination of the allocation of remediation costs was not possible in the situation, but THESL submits that given the circumstances and the information available, this proposal produces as reasonable an outcome as can be suggested.

In the result, these proposals together produce amounts to be recovered as set out in Exhibit 1 to this Application: $5.071 million for the Residential class; $0.549 million for the General Service <50 kW class; $7.126 million for Streetlighting; $1.576 for USL; and lesser amounts for the remaining classes.

Recovery and Rate Riders

THESL proposes that the amounts related to scanning and allocated to classes other than Streetlighting and USL be recovered over 12 months commencing May 1, 2010 by way of rate riders calculated as fixed monthly amounts per customer as applicable. For residential customers, this produces a rate rider of $0.68 per customer per 30 days. The proposed rate riders for all classes are set out in Exhibit 1, and bill impacts relative to existing 2009 distribution and total bills are set out in Exhibits 2a and 2b respectively. It cannot be known at this time what the 2010 rate basis for comparison would be.

THESL proposes for the USL and Streetlighting classes that the remediation and scanning costs be recovered over three years in view of the significant bill impacts involved. The impacts shown in

Exhibit 2 for these classes are based on the total amount allocated to those classes for recovery being divided by three and being recovered over the three rate years 2010, 2011, and 2012.

Summary

THESL submits that the recovery of the costs sought in this Application is proper, just, and reasonable. THESL's actions and this Application were and are consistent with the direction provided to utilities by the Board in its letter of March 4, 2009 concerning this issue. The costs were necessary for the immediate correction of contact voltage conditions that created serious hazards to public safety. They were incremental to THESL's existing approved revenue requirement. They were material and were prudently incurred under emergency conditions.

THESL's proposal for recovery of those costs is balanced as between rate classes and reasonably matches costs with benefits. Moreover, it does not create undue rate impacts for any class.

THESL therefore respectfully submits that the Board should approve the proposals set out in this Application.

Exhibits

Exhibit 1 – Derivation of Rate Riders

Exhibit 2a – Distribution Bill Rate Impacts

Exhibit 2b – Total Bill Rate Impacts

Exhibit 1 - Derivation of Rate Riders

	Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8	Col. 9	Col. 10	Col. 11
R. 1				RESIDENTIAL	GS < 50 kW	GS - 50 to 1000 kW	GS > 1000 to 5000 kW	LARGE USER	UNMETERED SCATTERED LOAD	STREETLIGHT	TOTAL
R. 2											
R. 3	**2009 Approved Load by Rate Class**										
R. 4	Number of Customers			611,808	66,191	11,719	530	49	1,135	1	**691,433**
R. 5	Number of Connections								19,907	162,450	**182,357**
R. 6	2009 - Cost of Service Allocation - Secondary Customer Base			611,808	66,191	2,803	12	0	19,907	90,026	**790,747**
R. 7											
R. 8	**Allocators Percentages**										
R. 9	2009 - Cost of Service Allocation - Secondary Customer Base (%)			77.37%	8.37%	0.35%	0.00%	0.00%	2.52%	11.38%	**100%**
R. 10	Connections Allocation								18.11%	81.89%	**100%**

R. 12			ALLOCATOR	RESIDENTIAL	GS < 50 kW	GS - 50 to 1000 kW	GS > 1000 to 5000 kW	LARGE USER	UNMETERED SCATTERED LOAD	STREETLIGHT	TOTAL
R. 13	**Scanning**	$6,555,000	Secondary Customer Base	$5,071,665	$548,698	23,234	$100	$3	$165,022	$746,279	**$6,555,000**
R. 14	**Remediation**	$7,790,000	Connections Allocation	$0	$0	-	$0	$0	$1,410,642	$6,379,358	**$7,790,000**
R. 15	**Total Recovery**	**$14,345,000**		**$5,071,665**	**$548,698**	**23,234**	**$100**	**$3**	**$1,575,664**	**$7,125,636**	**$14,345,000**

R. 17	***2010 - Rate Riders***	RECOVERY AMOUNT	ALLOCATOR	RESIDENTIAL	GS < 50 kW	GS - 50 to 1000 kW	GS > 1000 to 5000 kW	LARGE USER	UNMETERED SCATTERED LOAD	STREETLIGHT
R. 18	**Scanning Portion**	**$5,947,466**	Secondary Customer Base	**$ 0.68**	**$ 0.68**	**$ 0.16**	**$ 0.02**	**$ -**	**$ 0.23**	**$ 0.13**
R. 19	**Remediation Portion**	**$2,596,667**	Total Recovery	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 1.94**	**$ 1.08**
R. 20	**Total Contact Voltage Rider**	**$8,544,133**		**$0.68**	**$0.68**	**$0.16**	**$0.02**	**$0.00**	**$2.17**	**$1.21**

R. 22	***2011 - Rate Riders***	RECOVERY AMOUNT	ALLOCATOR	RESIDENTIAL	GS < 50 kW	GS - 50 to 1000 kW	GS > 1000 to 5000 kW	LARGE USER	UNMETERED SCATTERED LOAD	STREETLIGHT
R. 23	**Scanning Portion**	**$303,767**	Secondary Customer Base	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 0.23**	**$ 0.13**
R. 24	**Remediation Portion**	**$2,596,667**	Total Contact Voltage Rider	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 1.94**	**$ 1.08**
R. 25	**Total Contact Voltage Rider**	**$2,900,433**		**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$2.17**	**$1.21**

R. 27	***2012 - Rate Riders***	RECOVERY AMOUNT	ALLOCATOR	RESIDENTIAL	GS < 50 kW	GS - 50 to 1000 kW	GS > 1000 to 5000 kW	LARGE USER	UNMETERED SCATTERED LOAD	STREETLIGHT
R. 28	**Scanning Portion**	**$303,767**	Secondary Customer Base	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 0.23**	**$ 0.13**
R. 29	**Remediation Portion**	**$2,596,667**	Total Contact Voltage Rider	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 1.94**	**$ 1.08**
R. 30	**Total Contact Voltage Rider**	**$2,900,433**		**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$2.17**	**$1.21**

Exhibit 2a: 2009 Distribution and Rate Rider Bill Impact

	Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8	Col. 9	Col. 10	Col. 11
R. 1				2009 Rates			2009 Rates with CV Rate Riders			2009 Increase	
R. 2	kWh	kW	kVA	Distribution ($)	Rate Rider ($)	Total ($)	Distribution ($)	Rate Rider ($)	Total ($)	$	%
R. 3	**Residential**										
R. 4	100			18.29	0.57	18.86	18.29	1.25	19.54	**0.68**	**3.6%**
R. 5	250			20.45	0.45	20.90	20.45	1.13	21.58	**0.68**	**3.3%**
R. 6	500			24.04	0.25	24.29	24.04	0.93	24.97	**0.68**	**2.8%**
R. 7	750			27.64	0.05	27.69	27.64	0.73	28.37	**0.68**	**2.5%**
R. 8	1,000			31.23	-0.15	31.08	31.23	0.53	31.76	**0.68**	**2.2%**
R. 9	1,500			38.42	-0.55	37.87	38.42	0.13	38.55	**0.68**	**1.8%**
R. 10	2,000			45.61	-0.95	44.66	45.61	-0.27	45.34	**0.68**	**1.5%**
R. 11	**GS<50 kW**										
R. 12	1,000			41.23	0.24	41.47	41.23	0.92	42.15	**0.68**	**1.6%**
R. 13	5,000			120.39	-1.36	119.03	120.39	-0.68	119.71	**0.68**	**0.6%**
R. 14	10,000			219.34	-3.36	215.98	219.34	-2.68	216.66	**0.68**	**0.3%**
R. 15	20,000			417.24	-7.36	409.88	417.24	-6.68	410.56	**0.68**	**0.2%**
R. 16	**GS 50-999 kW**										
R. 17	30,000	100	100	548.61	-4.02	544.59	548.61	-3.86	544.75	**0.16**	**0.0%**
R. 18	40,000	100	100	548.61	-4.02	544.59	548.61	-3.86	544.75	**0.16**	**0.0%**
R. 19	150,000	500	556	2,898.91	-24.52	2,874.39	2,898.91	-24.36	2,874.55	**0.16**	**0.0%**
R. 20	200,000	500	556	2,898.91	-24.52	2,874.39	2,898.91	-24.36	2,874.55	**0.16**	**0.0%**
R. 21	270,000	900	1,000	5,191.89	-44.52	5,147.37	5,191.89	-44.36	5,147.53	**0.16**	**0.0%**
R. 22	360,000	900	1,000	5,191.89	-44.52	5,147.37	5,191.89	-44.36	5,147.53	**0.16**	**0.0%**
R. 23	450,000	900	1,000	5,191.89	-44.52	5,147.37	5,191.89	-44.36	5,147.53	**0.16**	**0.0%**
R. 24	**GS 1000-4999 kW**										
R. 25	300,000	1,000	1,111	5,516.79	-106.88	5,409.92	5,516.79	-106.86	5,409.94	**0.02**	**0.0%**
R. 26	400,000	1,000	1,111	5,516.79	-106.88	5,409.92	5,516.79	-106.86	5,409.94	**0.02**	**0.0%**
R. 27	500,000	1,000	1,111	5,516.79	-106.88	5,409.92	5,516.79	-106.86	5,409.94	**0.02**	**0.0%**
R. 28	600,000	2,000	2,222	10,328.24	-214.43	10,113.81	10,328.24	-214.41	10,113.83	**0.02**	**0.0%**
R. 29	800,000	2,000	2,222	10,328.24	-214.43	10,113.81	10,328.24	-214.41	10,113.83	**0.02**	**0.0%**
R. 30	1,000,000	2,000	2,222	10,328.24	-214.43	10,113.81	10,328.24	-214.41	10,113.83	**0.02**	**0.0%**
R. 31	**Large Use**										
R. 32	1,500,000	5,000	5,556	24,535.15	-548.76	23,986.39	24,535.15	-548.76	23,986.39	**0.00**	**0.0%**
R. 33	2,000,000	5,000	5,556	24,535.15	-548.76	23,986.39	24,535.15	-548.76	23,986.39	**0.00**	**0.0%**
R. 34	2,500,000	5,000	5,556	24,535.15	-548.76	23,986.39	24,535.15	-548.76	23,986.39	**0.00**	**0.0%**
R. 35	3,000,000	10,000	11,111	46,431.26	-1,098.21	45,333.05	46,431.26	-1,098.21	45,333.05	**0.00**	**0.0%**
R. 36	4,000,000	10,000	11,111	46,431.26	-1,098.21	45,333.05	46,431.26	-1,098.21	45,333.05	**0.00**	**0.0%**
R. 37	5,000,000	10,000	11,111	46,431.26	-1,098.21	45,333.05	46,431.26	-1,098.21	45,333.05	**0.00**	**0.0%**
R. 38	**Street Lighting**	Connections	Mthly kVA								
R. 39	9,182,014	159,861	26,461	666,540.82	-1,749.04	664,791.78	666,540.82	194,815.01	861,355.83	**196,564.05**	**29.6%**
R. 40	365	1	1	20.70	-0.07	20.64	20.70	1.14	21.85	**1.21**	**5.9%**
R. 41	**Unmetered Scattered**	Customers	Connections								
R. 42	4,829,242	1,466	17,721	213,223.27	-8,161.42	205,061.85	213,223.27	30,293.15	243,516.42	**38,454.57**	**18.8%**
R. 43	365	1	1	19.04	-0.62	18.42	19.04	1.55	20.59	**2.17**	**11.8%**

Exhibit 2b: 2009 Total Bill Impact

	Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8	Col. 9	Col. 10	Col. 11	Col. 12	Col. 13	Col. 14
R. 1					2009				2009 with CV Rate Riders				2009 Increase	
R. 2		kWh	kW	kVA	Distribution ($)	Rate Rider ($)	Non-Distribution ($)	Total ($)	Distribution ($)	Rate Rider ($)	Non-Distribution ($)	Total ($)	$	%
R. 3		**Residential**												
R. 4		100			18.29	0.57	7.90	26.76	18.29	1.25	7.90	27.44	**0.68**	**2.5%**
R. 5		250			20.45	0.45	19.38	40.27	20.45	1.13	19.38	40.95	**0.68**	**1.7%**
R. 6		500			24.04	0.25	38.51	62.80	24.04	0.93	38.51	63.48	**0.68**	**1.1%**
R. 7		750			27.64	0.05	57.64	85.32	27.64	0.73	57.64	86.00	**0.68**	**0.8%**
R. 8		1,000			31.23	-0.15	78.91	109.99	31.23	0.53	78.91	110.67	**0.68**	**0.6%**
R. 9		1,500			38.42	-0.55	121.84	159.71	38.42	0.13	121.84	160.39	**0.68**	**0.4%**
R. 10		2,000			45.61	-0.95	164.77	209.43	45.61	-0.27	164.77	210.11	**0.68**	**0.3%**
R. 11		**GS<50 kW**												
R. 12		1,000			41.23	0.24	78.84	120.31	41.23	0.92	78.84	120.99	**0.68**	**0.6%**
R. 13		5,000			120.39	-1.36	420.19	539.22	120.39	-0.68	420.19	539.90	**0.68**	**0.1%**
R. 14		10,000			219.34	-3.36	846.89	1,062.87	219.34	-2.68	846.89	1,063.55	**0.68**	**0.1%**
R. 15		20,000			417.24	-7.36	1,700.28	2,110.16	417.24	-6.68	1,700.28	2,110.84	**0.68**	**0.0%**
R. 16		**GS 50-999 kW**												
R. 17		30,000	100	100	548.61	-4.02	2,597.38	3,141.97	548.61	-3.86	2,597.38	3,142.13	**0.16**	**0.0%**
R. 18		40,000	100	100	548.61	-4.02	3,347.01	3,891.60	548.61	-3.86	3,347.01	3,891.76	**0.16**	**0.0%**
R. 19		150,000	500	556	2,898.91	-24.52	13,012.92	15,887.31	2,898.91	-24.36	13,012.92	15,887.47	**0.16**	**0.0%**
R. 20		200,000	500	556	2,898.91	-24.52	16,761.06	19,635.45	2,898.91	-24.36	16,761.06	19,635.61	**0.16**	**0.0%**
R. 21		270,000	900	1,000	5,191.89	-44.52	23,428.46	28,575.83	5,191.89	-44.36	23,428.46	28,575.99	**0.16**	**0.0%**
R. 22		360,000	900	1,000	5,191.89	-44.52	30,175.11	35,322.48	5,191.89	-44.36	30,175.11	35,322.64	**0.16**	**0.0%**
R. 23		450,000	900	1,000	5,191.89	-44.52	36,921.76	42,069.13	5,191.89	-44.36	36,921.76	42,069.29	**0.16**	**0.0%**
R. 24		**GS 1000-4999 kW**												
R. 25		300,000	1,000	1,111	5,516.79	-106.88	26,402.34	31,812.26	5,516.79	-106.86	26,402.34	31,812.28	**0.02**	**0.0%**
R. 26		400,000	1,000	1,111	5,516.79	-106.88	33,898.62	39,308.54	5,516.79	-106.86	33,898.62	39,308.56	**0.02**	**0.0%**
R. 27		500,000	1,000	1,111	5,516.79	-106.88	41,394.90	46,804.82	5,516.79	-106.86	41,394.90	46,804.84	**0.02**	**0.0%**
R. 28		600,000	2,000	2,222	10,328.24	-214.43	52,811.18	62,924.99	10,328.24	-214.41	52,811.18	62,925.01	**0.02**	**0.0%**
R. 29		800,000	2,000	2,222	10,328.24	-214.43	67,803.74	77,917.55	10,328.24	-214.41	67,803.74	77,917.57	**0.02**	**0.0%**
R. 30		1,000,000	2,000	2,222	10,328.24	-214.43	82,796.30	92,910.11	10,328.24	-214.41	82,796.30	92,910.13	**0.02**	**0.0%**
R. 31		**Large Use**												
R. 32		1,500,000	5,000	5,556	24,535.15	-548.76	130,580.78	154,567.16	24,535.15	-548.76	130,580.78	154,567.16	**0.00**	**0.0%**
R. 33		2,000,000	5,000	5,556	24,535.15	-548.76	167,443.20	191,429.59	24,535.15	-548.76	167,443.20	191,429.59	**0.00**	**0.0%**
R. 34		2,500,000	5,000	5,556	24,535.15	-548.76	204,305.63	228,292.01	24,535.15	-548.76	204,305.63	228,292.01	**0.00**	**0.0%**
R. 35		3,000,000	10,000	11,111	46,431.26	-1,098.21	261,168.05	306,501.10	46,431.26	-1,098.21	261,168.05	306,501.10	**0.00**	**0.0%**
R. 36		4,000,000	10,000	11,111	46,431.26	-1,098.21	334,892.90	380,225.95	46,431.26	-1,098.21	334,892.90	380,225.95	**0.00**	**0.0%**
R. 37		5,000,000	10,000	11,111	46,431.26	-1,098.21	408,617.75	453,950.80	46,431.26	-1,098.21	408,617.75	453,950.80	**0.00**	**0.0%**
R. 38		**Street Lighting**	Connections	Mthly kVA										
R. 39		9,182,014	159,861	26,461	666,540.82	-1,749.04	810,021.26	1,474,813.04	666,540.82	194,815.01	810,021.26	1,671,377.09	**196,564.05**	**13.3%**
R. 40		365	1	1	20.70	-0.07	28.80	49.44	20.70	1.14	28.80	50.65	**1.21**	**2.4%**
R. 41		**Unmetered Scattered Loads**	Customers	Connections										
R. 42		4,829,242	1,466	17,721	213,223.27	-8,161.42	396,581.69	601,643.54	213,223.27	30,293.15	396,581.69	640,098.11	**38,454.57**	**6.4%**
R. 43		365	1	1	19.04	-0.62	26.82	45.24	19.04	1.55	26.82	47.41	**2.17**	**4.8%**

Appendix 1

OEB Letter to Electricity Distributors re: Wiring Faults (March 4 2009)

Ontario Energy Board
P.O. Box 2319
27th Floor
2300 Yonge Street
Toronto ON M4P 1E4
Telephone: 416- 481-1967
Facsimile: 416- 440-7656
Toll free: 1-888-632-6273

Commission de l'énergie de l'Ontario
C.P. 2319
27e étage
2300, rue Yonge
Toronto ON M4P 1E4
Téléphone: 416- 481-1967
Télécopieur: 416- 440-7656
Numéro sans frais: 1-888-632-6273

Ontario

BY E-MAIL

March 4, 2009

To: All Licensed Electricity Distributors

Re: Wiring faults – servicing unmetered load connections

The Board has been monitoring reports of injuries as a result of connection faults. It has been suggested that uncertainty with respect to the demarcation point for outdoor unmetered load, such as streetlighting, may cause delays in correcting unsafe wiring. Issues have arisen specifically in respect to electrical junction boxes, or "handwells", that are located on public walkways.

Public safety is of primary importance. Uncertainty as to connection demarcation points should not inhibit or delay the correction of unsafe wiring of unmetered load. Distributors should ensure that any unsafe wiring encountered on public walkways is addressed immediately.

The Distribution System Code contemplates a utility taking the necessary steps to disconnect or otherwise correct customer connections. The sections include:

3.1.1 A distributor shall ensure that all electrical connections to its system meet the distributor's design requirements, unless the electrical connections are separated by a protection device that has been approved by the distributor. If an electrical connection does not meet the distributor's design requirements, a distributor may refuse connection.

4.1.7 A distributor may require that any consumer or customer condition that adversely affects the distribution system be corrected immediately by the consumer or customer at the consumer's or customer's cost.

4.1.8 A distributor may direct a consumer or customer connected to its distribution system to take corrective or preventive action on the consumer's or customer's electric system when there is a direct hazard to the public or the consumer or

customer is causing or could cause adverse effects to the reliability of the distributor's distribution system. If the situation is not corrected, the distributor may disconnect the consumer or customer in accordance with its disconnection policy.

4.2.6 In establishing its disconnection policy as specified in its Conditions of Service, consistent with section 30 and 31 of the Electricity Act and good utility practice, a distributor may consider the following reasons for disconnection:

- adverse effect on the reliability and safety of the distribution system;
- imposition of an unsafe worker situation beyond normal risks inherent in the operation of the distribution system; and,
- a materially adverse effect on the quality of distribution services received by an existing connection.

It is expected that distributors have planned for, and are able to accommodate, all necessary maintenance or isolation of connections for unmetered loads to ensure the public's safety. In this regard, distributors are also expected to recover from the customer the cost of repairs or isolation of customer owned equipment or connections. A one-time billing charge or direct invoice may be used for this purpose. Distributors should where possible discuss in advance the need for correction to customer equipment.

The Board recognizes that in some circumstances distributors may seek future recovery of the costs of repairs made to customer owned equipment or connections. In these circumstances distributors should record the appropriate amounts in deferral Account 1572 – Extraordinary Events Cost. Distributors may seek disposition of these accounts in conjunction with rate application filings. In seeking disposition distributors should be prepared to explain the amounts for which recovery is sought and what steps were taken to recover costs included in repairing the customer's connection or equipment.

If you have questions regarding this issue please contact the Ontario Energy Board at market.operations@oeb.gov.on.ca.

Yours truly,

Original Signed By

Kirsten Walli
Board Secretary