P-886 Ex. N-13

ORIGINAL

NOVA SCOTIA UTILITY AND REVIEW BOARD

IN THE MATTER OF THE PUBLIC UTILITIES ACT, R.S.N.S. 1989, C.380, as amended	)	
- and -	)	NSUARB – P-886
IN THE MATTER OF an Application by Nova Scotia Power Incorporated for Approval of Certain Revisions to its Rates, Charges and Regulations	)	

Evidence of

ROBERT D. GRENEMAN

On behalf of

HALIFAX REGIONAL MUNICIPALITY

December 20, 2006

RECEIVED
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Nova Scotia Utility and Review Board

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EVIDENCE OF ROBERT D. GRENEMAN

Q1. What is your name, affiliation and business address.

A1. My name is Robert D. Greneman. I am an Associate Director with the firm of Stone & Webster Management Consultants, Inc. My business address is 1 Penn Plaza, New York, NY 10119

Q2. Please provide your educational background and a profile of your experience.

A2. I graduated from the City College of New York in 1970 with a Bachelor of Electrical Engineering. I have also done graduate work at City College.

From 1973 through 1978 I was employed by Alan J. Schultz, Consulting Engineer (later Casazza, Schultz & Associates), a firm that specialized in economic studies and rate work for electric, gas and water utilities. In 1978 I joined Stone & Webster, where, as a consultant I assisted utility companies in rate and regulatory matters. From 1983 to 1986 I was employed by the Brooklyn Union Gas Company in the Rate and Regulatory Department where I was responsible for conducting the Company's cost of service studies, rate design and the review of gas purchase contracts. In 1986 I rejoined Stone & Webster as an executive consultant in the Rate and Regulatory Services Department.

I have prepared cost of service and rate design studies for clients including:

Canada:

Centra Gas British Columbia, Centra Gas Manitoba, Inc., Gaz Metropolitan, Inc. (Montreal), ICG Utilities (Toronto), Newfoundland and Labrador Hydro, and Winnipeg Hydro

U.S. and Other:

Alpena Power Company (MI), Barbados Light & Power Company, Ltd., Blackstone Valley Electric Company, Brockton Edison Company, Central Illinois Light Company, Chesapeake Utilities Corporation, China Light & Power Company, Ltd. (Hong Kong), Citizens Utilities Company, City of Westfield, MA, Colorado Electric Company, Commonwealth Edison Company, Consolidated Edison Company of New York, Dayton Power & Light Company, Delmarva Power & Light Company, Delta Natural Gas Company, Edison Sault Electric Company, El Paso Electric Company, Energy Services of Pensacola, Equitable Gas Company, Fall River Electric Light Company, Florida Public Utilities Company, Gas del Estado (Buenos Aires), Green Mountain Power Company, Guyana Electricity Corporation, Holyoke Department of Gas & Electric (MA), Jamaica Water Supply Company (NY), Lake Superior District Power Company, Louisville Gas & Electric Company, Northern Indiana Public Service Company, Montana-Dakota Utilities Co., Midland Electric Power Cooperative (IA), Newport Electric Corporation (RI), Roseville Electric (CA), Tampa Electric Company, South Jersey Gas Company, Southwest Louisiana Electric Membership Corporation, Southern Indiana Gas and Electric Company, Suffolk County Water Authority (NY), Valley Gas Company (RI), and Washington Natural Gas Company

I have provided expert testimony before the Delaware Public Service Commission, the Commonwealth of Kentucky Public Service Commission, the

Louisiana Public Service Commission, the Michigan Public Service Commission, the Indiana Utility Regulatory Commission, the Iowa Utilities Board, the Public Utilities Board of Newfoundland and Labrador, the Federal Energy Regulatory Commission and the Nova Scotia Utility and Review Board on behalf of HRM in NSUARB-P-881.

I am also a licensed professional engineer in the states of New York and New Jersey.

Q3. What evidence are you presenting in this proceeding?

A3. I am presenting evidence on behalf of the Halifax Regional Municipality (HRM). Stone & Webster Consultants has been retained by HRM to review NSPI's cost of service study as it pertains to unmetered service.

Q4. What concerns do you have regarding allocation of costs to the unmetered service class?

A4. My concerns are in two areas. One is with regard to some of the methodologies that NSPI has used in its updated street lighting analysis that was filed in this proceeding; the second pertains to efforts to validate the street lighting field labour figure that NPSI has directly assigned to unmetered service.

Q5. Turning first to NSPI's updated street lighting analysis, what is addressed in that study and its relationship to NSPI's cost of service study?

A5. The cost of service study (Appendix G) allocates costs *among* customer classes, including unmetered, based on relationships of aggregate class characteristics. A street lighting study can be characterized as a cost of service study that addresses the cost of service components and services provided *within* the unmetered class. In a general sense, it allocates system capital and operating costs and fixture-

related costs among different types of lighting fixtures, and discerns differences in those costs with respect to whether the fixture is owned by NSPI or the customer.

NSPI's prior street lighting analysis was performed in 1977 and in the ensuing years, changes to the rates for each fixture type were spread on an across-the-board basis. The updated street lighting analysis also takes a fresh look at customer-related weighting factors relating to billing services, call centre and customer service home office activities for the unmetered class in relation to other classes. The updated study was undertaken largely in response to HRM's evidence in NSUARB-P-881 and the Board's Order in that case. The decision stated: "This study shall include a review of the appropriateness of the current [C-3] weighting factor and a review of the rate base, including assets, assigned to the Unmetered Class. The study should also indicate a breakdown of costs and rate base by municipality".

Q6. What concerns do you have with respect to the methodologies used in the updated street lighting analysis?

A6. There are a few areas of concern. The first relates to the allocation of billing services activities contained in Appendix A, Table 2 of that study. As delineated in that table, Billing Services includes Meter Reading Processing; Billing; Inquiries; Large Accounts Requiring Manual Effort; and Unmetered Accts with more than 10 lights & LED TCL Conversions. The methodology NSPI used to allocate each of these activities was: (1) to apportion $2.6M of expenses to each activity based on the number of full-time employees (FTE) it assigned to each, with a total of 15 FTE's to be allocated; and (2) to allocate the number of FTEs for each activity to customer classes generally based on number of accounts in each class.

In response to an HRM data request, NSPI indicated that of the $2.6M of expenses in the table, $0.6M was direct labour and the remaining $2.0M was

associated with bill printing, preparation and postage[1]. The fact that 23 percent of the costs associated with labour drives 100 percent of costs, 77 percent of which is related to bill printing, preparation and postage is of particular concern.

NSPI results show that of a total of 1.16 FTEs[2] assigned to unmetered service, 1.0 FTE was associated with the category identified as "Unmetered Accts with more than 10 lights & LED TCL Conversions". This assignment translates to the overwhelming majority of billing services costs for the unmetered rate, 86.2 percent (1.0 FTE / 1.16 FTE) being associated with these two activities. NSPI further indicated that of the 1.0 FTE, 50 percent is related to LED TCL conversions[3]. The problem arises when it is recognized that the nature of processing accounts over 10 lights and LED/TCL activities is labour related, and involves virtually no costs for bill printing, preparation and postage. However, when bill printing and postage are combined with labour, costs for these activities are overstated by approximately 4.35 times (1.0 FTE / 0.23 FTE).

HRM asked NSPI in a follow-up data request[4] to redo Table 2 as two separate tables: (1) reflecting the $0.6M of direct labour only; and (2) reflecting the $2.0M associated with bill printing, preparation and postage. NSPI responded by simply prorating each of the two figures by the original class results, rather than reallocating each activity based on labour versus bill printing, preparation and postage intrinsic in each activity. NSPI has indicated that its street lighting COSS does not break out its costs sufficiently to allow this type of analysis.

Q7. Do you agree with NSPI's assignment of 0.5 FTE for "Unmetered Accts with more than 10 lights" and 0.5 FTE for "LED & TCL Conversions"?

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[1] NSUARB-P-886, HRM IR-6(e).
[2] NSPI updated street lighting analysis, Appendix A, Table 2 shows 1.16 FTEs for the unmetered class.
[3] NSPI response to HRM IR-6(a)(ii).
[4] HRM IR-10(l).

A7. No. With respect to LED TCL conversions, HRM has installed LEDs in approximately 50 intersections over a several year period of which approximately 10-15 are upgrades and 35 are new intersections. HRM has converted the red lights on one-half of its remaining intersections, but no billing changes have been requested until the entire intersection is converted[5]. It believes that if the data for all of the intersections were provided to NSPI at once, the changes should be able to be processed within one day. HRM IR-10(j) NSPI indicates that it "does not have information on the time per transaction. NSPI also indicates that there have been approximately 100 intersections converted in the province[6]. An assignment of 0.5 FTE associated with processing billing changes for converted intersections appears to be out of alignment with the effort involved.

Also, in regard to LED/TCL conversions, NSPI attempts to support its high FTE assignment by indicating that LED conversions will continue to be an ongoing activity within the billing service function and in the future, the possibility exists that street lights could also be converted to LED with new technology improvements[7]. However, as HRM points out, LED/TCL conversion costs are a temporary activity, which will be exhausted by 2009, just two years beyond the current forecast test-year. Also, conversion to LED street lights is purely speculative. There are no such lights that are commercially available today and it would therefore be improper to include costs that are not fixed, known and measurable. With recognition that it has been approximately 30 years since NSPI's prior street lighting study was done, and with uncertainty when the next study will be done, LED/TCL conversions should be normalized to reflect a phase-out of this activity in a couple of years.

There is, as well, evidence that an assignment of 0.5 FTE for processing fixture changes for lighting accounts with more than 10 fixtures is greatly overestimated.

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[5] In response to HRM IR-10(j), NSPI indicates that 35 intersections have been converted in 2006, year-to-date.
[6] HRM IR-10(k)
[7] NSPI updated steet lighting analysis, page 3.

According to Table 2, it takes 6.52 FTE to process 415,831 residential accounts, or 63,778 accounts per FTE. NSPI indicates that it takes 0.62 FTE[8] to process 7,491 unmetered accounts, or 12,082 accounts per FTE. This translates to more than five times more effort to bill a street lighting account than a residential account. This is particularly surprising in light of: (1) the fact that the overwhelming majority of accounts have less than 10 lights[9] and many accounts consist of just a few lights; (2) the nature of street lighting is so different as compared with residential accounts, which require activity every month for processing of billing data and other activities; and (3) HRM provides all required billing change data electronically to NSPI whereas for residential accounts this data must be collected verbally by NSPI FTEs. Although individual street lights may require activity from time to time, they just basically sit there month after month. In view of these statistics and the fact that there is no basis for cost causation between the number of street lights and the number of accounts, I recommend the elimination of NSPI's category dealing with accounts having more than 10 lights.

Q8. Have you prepared an exhibit recalculating Table 2 in the form that you originally asked NSPI to provide?

A8. Yes. I have prepared Exhibit RDG-1, consisting of seven schedules, one on each of seven pages. Schedule 1 is a replication of NSPI's Table 1. It validates NSPI's arithmetic and serves as a starting point for the schedules that follow.

Schedule 2 is similar to Schedule 1, except that it only allocates $0.6M in labour. The allocations in this schedule have kept NSPI's number of FTEs the same as in its Table 2.

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[8] In Table 2 of Appendix A of the updated street lighting analysis, 0.12 FTE is shown for unmetered, plus 0.5 FTE associated with billing accounts with more than 10 lights.

[9] In response to HRM IR-10(h), NSPI indicates that there are 530 unmetered accounts with more than 10 fixtures per account.

In Schedule 3, I assigned and allocated all non-labour, i.e., only costs related to bill printing, preparation and postage. In this schedule I set the number of FTE for accounts over 10 lights and LED/TCL conversion to zero because, as indicated before, costs for bill preparation, printing and postage are virtually zero for the two activities.

Schedule 4 is simply the sum of Schedules 2 and 3. Using the same methodology that NSPI has used for determining its weighting factor, the weighting factor that resulted for unmetered was 1.65. This compares to a weighting factor of 4.78 that NSPI reported in its Table 2.

Schedules 5, 6 and 7 are analogous to Schedules 2, 3 and 4, except that instead of assigning 0.5 FTE to each, in respect of accounts with more than 10 lights and LED/TCL conversions, I assigned 0.0417 FTE[10] or one-half month of effort for TCL conversions and one month of effort to accounts with more than 10 fixtures. The assignment for LED/TCL conversions is, as discussed above, supported by the observation that if all the LED/TCL conversions over the years were provided to NSPI at one time, billing changes should reasonably be able to be processed within one day (my assignment provides for one-half month). With regard to the category accounts with more than 10 lights, as mentioned above, I recommend that this category be eliminated because evidence suggests that the relationship between accounts and number of fixtures is arbitrary and an allocation even by straight number of accounts appears to over-allocate billing costs to unmetered. In Schedule 5, I made a token assignment of one month of effort per year solely to deal with accounts having over 10 fixtures in order to illustrate the effect on the weighting factor by retaining costs in this category.

Schedule 7, which reflects my adjustments to NSPI's Table 2, results in a weighting factor of 0.84.

[10] The figure of 0.0417 FTE is based on one-half month of effort of 0.5 FTE, or 0.5 x 1/12.

Q9. Can there be a weighting factor of less than 1.0?

A9. Yes. 1.0 is simply a reference level. It is not a minimum.

Q10. How did NSPI treat the Call Centre function in its analysis?

A10. Prior to the updated street lighting analysis, NSPI assigned a weighting of 5.0 to unmetered in its allocation of the call centre. In the updated study NSPI indicates that its records show that there were 18,781 calls related to unmetered service or approximately 1.68 percent of total call centre calls. In addition, the company indicates that their review also determined that the call time associated with an unmetered call is roughly the same as any other call received by call centre staff[11]. Based on this, the company then used the number of calls without recognition of call duration to assign a weighting of 1.04 to unmetered for call centre activity.

The number of calls, however, does not tell the whole story. Company responses to HRM data requests suggest that call times may be significantly longer for other customer classes than for unmetered, which would have the effect of moving the weighting factor to be less than 1.0. For example, except for a relative handful of calls from actual unmetered account customers, most of the calls are from residential or commercial customers reporting street lighting outages, which require comparatively little time. Calls from residential customers, on the other hand, require specific issues that need to be addressed. These include move-outs and move-ins as well as credit checks and customer deposits, which are included in the call centre activities[12]. Call length is particularly relevant for residential customers. NSPI's residential turnover rate, defined by the number of customers connecting service divided by the number of residential customers, was 13.1

[11] NSPI updated street lighting analysis, page 4.
[12] NSPI response to HRM IR-10(d)(i).

percent to the end of October 2006[13]. If there is a move-out corresponding with a move-in, then two times this figure, or 26.2 percent of residential customers require specific attention. NSPI does not track transactions times for move-ins and move-outs[14]. Moreover, beyond internal labour, NSPI contracts with an external credit rating agency for credit checks, and these costs are included in the call centre function and are not applicable to unmetered accounts.

NSPI's weighting of 1.04 to unmetered accounts for the call centre is not realistic in comparison with the activities that are required for other customer classes. I recommend that the call centre weighting be revised downward to a nominal weighting of 0.8 until such time as the company can provide supportable evidence otherwise.

Q11. How did NSPI use the weighting factors it developed for billing services, call centre and customer service head office?

A11. The two individual weighting factors that were developed[15] were combined into a single factor as shown in Table 1, Appendix A. In prior studies billing services, call centre and customer service head office each carried a weighting of 5.0, for unmetered. The process that NSPI appears to have used to develop a composite factor was: (1) to multiply the costs for each of the three activities that would otherwise have been allocated to unmetered using a weighting factor of 5.0 by the ratio of the revised weighting factor to 5.0; (2) to sum the allocated costs under the revised weighting factors; and (3) to multiply 5.0 by the sum of costs for the three activities under the revised factors to the sum of the costs under a weighting factor of 5.0. Table 1 in the updated street lighting analysis shows a composite weighting factor of 1.84, which NSPI then rounds up to 2.0.

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[13] NSPI response to HRM IR-10(b).
[14] NSPI response to HRM IR-10(c).
[15] The two revised weighting factors developed were 4.78 for billing services and 1.04 for the call centre.

Q12. Do you agree with this procedure?

A12. No. First, using the procedure NSPI appears to have used, my calculations result in a composite weighting factor of 1.76 rather than 1.84. I also do not recommend the use of a composite factor in the cost of service study for the three activities for several reasons: (1) the use of a composite factor inherently misstates the cost of each activity if viewed individually; (2) it is not capable of recognizing relative changes in costs over time among the activities that comprise the composite factor; and (3) rounding-up unnecessarily increases costs to unmetered without cause.

Q13. Do you have any concerns with the Miscellaneous Small Loads Tariff that NSPI used on the last page of Schedule 9 in its updated street lighting analysis?

A13. My concerns pertain to the development, rather than use of this tariff. Conceptually, this tariff was developed as an aid in collecting for and attributing system costs to the photocell actuated fixtures and other lighting types in the unmetered class, other than those costs that are directly related to the physical fixtures. Such costs include operating expenses, inclusive of depreciation, taxes and return associated with production, transmission, distribution and customer related functions. HRM had requested workpapers and/or procedures that show the derivation of this rate in an original and follow-up data request[16], but NSPI has not provided the information requested in either. The purpose of the request was: (1) to validate that there was a one-to-one correlation between the system costs that needed to go into the rate versus the costs that were actually used to develop the rate; and (2) to understand which costs were assigned as being demand-related versus energy-related. Workpapers must have been used to develop the Misc. Small Loads Tariff and no portions of the workpapers are seen as being

[16] HRM IR-7(a) and HRM IR-11(a).

confidential in nature. NSPI should provide the requested workpapers prior to the commencement of hearings.

A second concern relates to the declining energy block structure in the Misc. Small Loads Tariff, which has a breakpoint at 200 kWh per month. Here NSPI is introducing pricing into the costing process, which is intended to be objective. During a clarification call between HRM and NSPI, the company indicated that the declining block structure was taken from its general service rate structure. While recognizing that NSPI tried to normalize the rate for 4,300 hours per year of lighting, the fact is that energy *costs* do not decline with use. The energy portion of the rate should be restated as a flat charge.

A third area of concern relates to the fact that the Misc. Small Loads Tariff is comprised of two separate rates: one for photocell-actuated lighting and one for continuous lighting, with equal demand rates for each. Recognizing that photocell-actuated lighting tends to be part on and part off NSPI's system peak and continuous lighting is all on-peak, equal demand rates for photocell and continuous lighting results in photocell lights providing a subsidy to those lights that are in continuous operation. As it is these differences that a street lighting analysis is intended to address, the demand rates in the tariff should be revised accordingly.

Q14. Lastly, what areas do you wish to address concerning street lighting distribution labour?

A14. In response to HRM IR-2, NSPI indicated that of the $4.338M in street lighting maintenance cost, $2.919M was associated with customer operations labour, materials, vehicles and miscellaneous costs associated with maintaining company-owned street lights.

HRM has several concerns that center around: (1) the extent to which street lighting maintenance is performed during crew down time; (2) the extent to which preventive maintenance is being done when the tradesperson is performing maintenance work; and (3) the extent to which over qualified tradespersons are performing maintenance in lieu of lower level qualified tradespersons.

While some of these areas of inquiry were explored during the two rounds of interrogatory requests, many of the responses were not adequate to fully gather the information that was needed. It is HRM's intention to follow up in these areas through cross-examination of appropriate company witnesses.

Q15. Please summarize your recommendations.

A15. Based on the rationale presented in my evidence, I recommend that:

With regard to weighting factors for the unmetered class:

- The weighting factor for billing services operations should be revised downwards from 4.78 to 0.84 based on the methodology presented in Exhibit RDG-1.

- The weighting factor for the call centre should be revised downwards from 1.04 to 0.80

- NSPI should discontinue use of a composite customer-related weighting factor and apply each factor individually.

With regard to the development of the Misc. Small Loads Tariff:

- NSPI should provide the workpapers showing the development of that tariff prior to the commencement of hearings.

- The energy portion of the rates for both photoelectric and continuous burning fixtures should be expressed as a flat rate

- The demand portion of the photoelectric rate should be different from the demand portion of the continuous burning rate to reflect principles of cost causation and reduction of intraclass subsidies

Q16. Does this conclude your testimony?

A16. Yes, it does.

Schedule 1 - Replicate NSPI Table 2, Appendix A in NSPI's updated street lighting analysis

Rate Class	Total Accounts	Percent of Accounts	Meter Reading Processing	Billing	Inquires	Large accounts requiring manual effort	Unmetered accounts with more than 10 lights	LED TCL conversions	Total FTEs	Percent of FTEs	Operating Budget allocated by Rate Class ($M)
No. of FTE->			**2.50**	**7.25**	**2.75**	**1.50**	**0.50**	**0.50**	**15.00**		**2.60**
Residential	415,831	89.90%	2.28	6.52	2.47				11.27	75.17%	1,954,320
TOU	3,296	0.71%	0.02	0.05	0.02				0.09	0.60%	15,491
General Rate 10	22,391	4.84%	0.12	0.35	0.13				0.61	4.05%	105,233
General Demand Rate 11	11,103	2.40%	0.06	0.17	0.07				0.30	2.01%	52,182
Industrial (Rate 21&22)	2,419	0.52%	0.01	0.04	0.01				0.07	0.44%	11,369
Unmetered	7,491	1.62%	-	0.12	0.04		0.50	0.50	1.16	7.75%	201,406
Sub-Total	462,531	100.00%	2.50	7.25	2.75	-	0.50	0.50	13.50	90.00%	2,340,000
LCB/LCCB	57		-	-	-	1.50	1.50	1.50	1.50	10.00%	260,000
Total	462,588		2.50	7.25	2.75	1.50	2.00	2.00	15.00	100.00%	2,600,000

Unmetered Weighting Factor 4.78

Schedule 2 - Table 2 Labour Only

Rate Class	Total Accounts	Percent of Accounts	Meter Reading Processing	Billing	Inquires	Large accounts requiring manual effort	Unmetered accounts with more than 10 lights	LED TCL conversions	Total FTEs	Percent of FTEs	Operating Budget allocated by Rate Class ($M)
No. of FTE->			**2.50**	**7.25**	**2.75**	**1.50**	**0.50**	**0.50**	**15.00**		**0.60**
Residential	415,831	89.90%	2.28	6.52	2.47				11.27	75.17%	450,997
TOU	3,296	0.71%	0.02	0.05	0.02				0.09	0.60%	3,575
General Rate 10	22,391	4.84%	0.12	0.35	0.13				0.61	4.05%	24,285
General Demand Rate 11	11,103	2.40%	0.06	0.17	0.07				0.30	2.01%	12,042
Industrial (Rate 21&22)	2,419	0.52%	0.01	0.04	0.01				0.07	0.44%	2,624
Unmetered	7,491	1.62%	-	0.12	0.04		0.50	0.50	1.16	7.75%	46,478
Sub-Total	462,531	100.00%	2.50	7.25	2.75	-	0.50	0.50	13.50	90.00%	540,000
LCB/LCCB	57		-	-	-	1.50	1.50	1.50	1.50	10.00%	60,000
Total	462,588		2.50	7.25	2.75	1.50	2.00	2.00	15.00	100.00%	600,000

Unmetered Weighting Factor 4.78

Schedule 3 - Table 2 Non-labour Only

Rate Class	Total Accounts	Percent of Accounts	Meter Reading Processing	Billing	Inquires	Large accounts requiring manual effort	Unmetered accounts with more than 10 lights	LED TCL conversions	Total FTEs	Percent of FTEs	Operating Budget allocated by Rate Class ($M)
No. of FTE->			**2.50**	**7.25**	**2.75**	**1.50**	**-**	**-**	**14.00**		**2.00**
Residential	415,831	89.90%	2.28	6.52	2.47				11.27	80.54%	1,610,703
TOU	3,296	0.71%	0.02	0.05	0.02				0.09	0.64%	12,767
General Rate 10	22,391	4.84%	0.12	0.35	0.13				0.61	4.34%	86,731
General Demand Rate 11	11,103	2.40%	0.06	0.17	0.07				0.30	2.15%	43,007
Industrial (Rate 21&22)	2,419	0.52%	0.01	0.04	0.01				0.07	0.47%	9,370
Unmetered	7,491	1.62%	-	0.12	0.04				0.16	1.16%	23,137
Sub-Total	462,531	100.00%	2.50	7.25	2.75	-	-	-	12.50	89.29%	1,785,714
LCB/LCCB	57		-	-	-	1.50	1.50	1.50	1.50	10.71%	214,286
Total	462,588		2.50	7.25	2.75	1.50	1.50	1.50	14.00	100.00%	2,000,000

Unmetered Weighting Factor 0.71

Schedule 4 - Table 2 Sum Labour and Non-labour

Rate Class	Total Accounts	Percent of Accounts	Meter Reading Processing	Billing	Inquires	Large accounts requiring manual effort	Unmetered accounts with more than 10 lights	LED TCL conversions	Total FTEs	Percent of FTEs	Operating Budget allocated by Rate Class ($M)
No. of FTE->											
Residential	415,831	89.90%									2,061,700
TOU	3,296	0.71%									16,342
General Rate 10	22,391	4.84%									111,015
General Demand Rate 11	11,103	2.40%									55,049
Industrial (Rate 21&22)	2,419	0.52%									11,993
Unmetered	7,491	1.62%									69,615
Sub-Total	462,531	100.00%	-	-	-	-	-	-	-		2,325,714
LCB/LCCB	57		-	-	-						274,286
Total	462,588		-	-	-	-	-	-	-		2,600,000

Unmetered Weighting Factor 1.65

Schedule 5 - Table 2 (Modified Unmetered Accts with more than 10 lights & LED TCL conversions) Labour Only

Rate Class	Total Accounts	Percent of Accounts	Meter Reading Processing	Billing	Inquires	Large accounts requiring manual effort	Unmetered accounts with more than 10 lights	LED TCL conversions	Total FTEs	Percent of FTEs	Operating Budget allocated by Rate Class ($M)
No. of FTE->			**2.50**	**7.25**	**2.75**	**1.50**	**0.0833**	**0.0417**	**14.13**		**0.60**
Residential	415,831	89.90%	2.28	6.52	2.47				11.27	79.82%	478,935
TOU	3,296	0.71%	0.02	0.05	0.02				0.09	0.63%	3,796
General Rate 10	22,391	4.84%	0.12	0.35	0.13				0.61	4.30%	25,789
General Demand Rate 11	11,103	2.40%	0.06	0.17	0.07				0.30	2.13%	12,788
Industrial (Rate 21&22)	2,419	0.52%	0.01	0.04	0.01				0.07	0.46%	2,786
Unmetered	7,491	1.62%	-	0.12	0.04		0.0833	0.0417	0.29	2.03%	12,189
Sub-Total	462,531	100.00%	2.50	7.25	2.75	-	0.08	0.04	12.63	89.38%	536,283
LCB/LCCB	57		-	-	-	1.50	1.50	1.50	1.50	10.62%	63,717
Total	462,588		2.50	7.25	2.75	1.50	1.58	1.54	14.13	100.00%	600,000

Unmetered Weighting Factor 1.25

Schedule 6 - Table 2 (Modified Unmetered Accts with more than 10 lights & LED TCL conversions) Non-Labour

Rate Class	Total Accounts	Percent of Accounts	Meter Reading Processing	Billing	Inquires	Large accounts requiring manual effort	Unmetered accounts with more than 10 lights	LED TCL conversions	Total FTEs	Percent of FTEs	Operating Budget allocated by Rate Class ($M)
No. of FTE->			**2.50**	**7.25**	**2.75**	**1.50**	**-**	**-**	**14.00**		**2.00**
Residential	415,831	89.90%	2.28	6.52	2.47				11.27	80.54%	1,610,703
TOU	3,296	0.71%	0.02	0.05	0.02				0.09	0.64%	12,767
General Rate 10	22,391	4.84%	0.12	0.35	0.13				0.61	4.34%	86,731
General Demand Rate 11	11,103	2.40%	0.06	0.17	0.07				0.30	2.15%	43,007
Industrial (Rate 21&22)	2,419	0.52%	0.01	0.04	0.01				0.07	0.47%	9,370
Unmetered	7,491	1.62%	-	0.12	0.04				0.16	1.16%	23,137
Sub-Total	462,531	100.00%	2.50	7.25	2.75	-	-	-	12.50	89.29%	1,785,714
LCB/LCCB	57		-	-	-	1.50	1.50	1.50	1.50	10.71%	214,286
Total	462,588		2.50	7.25	2.75	1.50	1.50	1.50	14.00	100.00%	2,000,000

Unmetered Weighting Factor 0.71

Schedule 7 - Table 2 (Modified Unmetered Accts with more than 10 lights & LED TCL conversions) Total Labour and Non-Labour

Rate Class	Total Accounts	Percent of Accounts	Meter Reading Processing	Billing	Inquires	Large accounts requiring manual effort	Unmetered accounts with more than 10 lights	LED TCL conversions	Total FTEs	Percent of FTEs	Operating Budget allocated by Rate Class ($M)
No. of FTE->											
Residential	415,831	89.90%									2,089,638
TOU	3,296	0.71%									16,563
General Rate 10	22,391	4.84%									112,519
General Demand Rate 11	11,103	2.40%									55,795
Industrial (Rate 21&22)	2,419	0.52%									12,156
Unmetered	7,491	1.62%									35,326
Sub-Total	462,531	100.00%	-	-	-	-	-	-	-		2,321,997
LCB/LCCB	57		-	-	-						278,003
Total	462,588		-	-	-	-	-	-	-		2,600,000

Unmetered Weighting Factor 0.84

HALIFAX
REGIONAL MUNICIPALITY

Legal Services

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December 20, 2006

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Nova Scotia
Utility and Review Board

VIA COURIER

Ms. Nancy McNeil
Nova Scotia Utility and Review Board
1601 Lower Water Street, Suite 300
Halifax, N.S. B3J 3P6

Dear Ms. McNeil:

Re: **NSPI Rate Application - NSPI-886**

Enclosed please find the Evidence of Robert D. Greneman on behalf of Halifax Regional Municipality which was filed via e-mail on December 20, 2006 in the NSPI Rate Application.

Yours truly,

HALIFAX REGIONAL MUNICIPALITY

M. E. Donovan
Director, Legal Services

Encl.