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**La Régie de l'énergie
Demande de Hydro-Québec
Dossier R-3401-98**

Hydro-Québec tariff application

Evidence of William Marshall

Q1. What is your name and position?

My name is William Marshall and I am employed as Director – Strategic Planning at NB Power Corporation?

Q2. What is the nature of your evidence?

My evidence reviews the postage stamp rate design as employed by Hydro-Québec in the application and shows how it is discriminatory for point to point service.

Q3. What qualifications do you have that are relevant to your evidence?

I am a Professional Engineer who has spent the majority of my 30-year professional career in the electric utility business. In recent years I have been heavily involved with all issues related to the deregulation and restructuring of the power industry including the development of open access electric transmission tariffs and their regulation. Attached is a CV that provides additional information on my professional career.

Q4. What do you believe to be the fundamental issue that must be decided by the Régie with respect to the application?

The interpretation by Hydro-Québec that the wording in Section 49(II) of the Act “uniform rates throughout the territory served by the electric power transmission system” requires a postage stamp rate applicable as a single rate to all transmission customers is wrong and inconsistent with sound principles. Furthermore it is inconsistent with Hydro-Québec’s current rate structure under which discounts are applied to customers served from the transmission system based on the voltage at which they are served. If the single postage stamp rate in the application is approved and applied uniformly to all network customer loads in Québec it will result in significant increases in rates to many large customers. I do not believe that in amending the Act the government of Québec intended to indiscriminately increase rates to large customers in Québec. Interpretation of “uniform rates throughout the territory” must be broader. I agree with the Decision D-2000-102 of the Régie in that the words do not necessarily imply “a uniform allocation of costs nor uniform charges”. In order to be consistent with the basic principles of rate design utilized throughout the utility industry the words should be interpreted to mean “uniform application of a uniform schedule of rates throughout the territory”.

1
2 **Q5. What other factors must the Régie consider in making a decision in this case?**
3

4 The law defines the "electric power transmission system" in Section 2 (6) as "a network of
5 installations for the transmission of electric power, including step-up transformers located at
6 production sites, transmission lines at voltages of 44kV or higher, transmission and
7 transformation substations and any other connecting installation between production sites and the
8 distribution system." This requires that the revenue requirement for the transmission system be
9 determined based on the assets as defined.

10
11 Furthermore the law in Section 164.1 states that the long transmission lines to connect northern
12 generation (GRTA's) are "assets deemed to be prudently acquired and useful for the operation of
13 the network". In my professional opinion this issue was never in doubt. I have great faith that
14 the decisions of Hydro-Québec to construct remote northern hydro stations and long transmission
15 lines were pursued in the economic interests of serving its customers.

16
17 There is no difficulty including the GRTA's in the transmission system nor is there difficulty
18 with the definition of the transmission system for the purpose of total revenue requirement
19 determination. The issue is not what is in the total revenue requirement but how it allocated to
20 customer classes and how it is collected. The challenge for the Régie is to set a uniform
21 schedule of rates for collection of the revenue requirement and have these rates based in a non-
22 discriminatory manner on the cost of providing the service received.

23
24 In fulfilling this duty the Régie must clarify the scope and meaning of "uniform rates throughout
25 the territory". Indeed Hydro-Québec's council Me. F. Jean Morel agrees that the Régie has
26 latitude in this regard. In the presentation "Energy Law in Québec after Bill 116, the Hydro-
27 Québec Perspective" to the Canadian Bar Association, Région of Québec, Me Morel said,
28 (Unofficial translation) "I am convinced that the Régie will hear, in the rate application from the
29 electrical power carrier the arguments of the stakeholders on the interpretation of Section 49,
30 (11) of the Act and decide its scope and meaning."
31

32 **Q6. What method of rate design does the Hydro-Québec tariff application employ?**
33

34 The Hydro-Québec application employs a postage stamp pricing method that is similar to the
35 FERC pro forma tariff.
36

37 **Q7. In the evidence of Dr. Orans he states that "In North America today, the industry
38 standard is the FERC Pro Forma tariff." Do you agree with his position?**
39

40 I agree that it is the most commonly used tariff design but I do not agree that it is the industry
41 standard. There is no such thing in North America as a standard transmission tariff design.
42 Rather there is a policy statement issued by the FERC on October 26, 1994 which specifies
43 principles that must be met regarding the pricing of transmission services¹. These principles are
44 consistent with the goals of rate design given by Dr Orans.

¹ Inquiry concerning the Commission's pricing policy for transmission services provided by Public Utilities under Federal Power Act; Policy Statement, October 26, 1994, Docket No. RM93-19-000, 18 CFR 2, 59 FR 55031, p. 1

1
2 The FERC policy statement does not promote any single design approach but instead provides
3 flexibility in transmission pricing. The FERC recognized that there appear to be a number of
4 workable, non-traditional transmission pricing methods that offer potential improvements in
5 fairness, practicality, and economic efficiency.

6
7 The Commission states that transmission pricing must adhere to the American Federal Power
8 Act (FPA) requirement that transmission rates “be just and reasonable and not unduly
9 discriminatory or preferential”. The Commission elected to permit more flexibility to utilities to
10 file innovative pricing proposals that meet the traditional revenue requirement ... as long as they
11 satisfy certain pricing principles. FERC refers to this category of proposals as conforming
12 proposals.

13
14 **Q8. What are the principles that the FERC requires to be met?**

15
16 The FERC has formulated the following 5 principles for conforming transmission tariff
17 proposals. Conforming proposals must meet the requirements of the first two principles. The last
18 three principles are goals that a conforming proposal must try to meet but that will be balanced
19 against the need for rates that are just and reasonable:

20
21 1. Transmission Pricing Must Meet the Traditional Revenue Requirement

22 First a utility must determine its total company revenue requirement, the capital component
23 of which traditionally has been measured by embedded (depreciated original) cost. Second, a
24 utility must allocate among individual customers or classes of customers that portion of the
25 total revenue requirement that is attributable to providing transmission services, in a manner
26 which appropriately reflects the costs of providing transmission service to such customers or
27 classes of customers. Finally the utility must design rates to recover those allocated costs
28 from each customer class. Different customers may pay different rates if they use the system
29 in different ways. ... Thus, although no single ratemaking method is necessarily favored by
30 the FPA, this pricing principle will ensure that users pay a just and reasonable price for
31 transmission services and that transmission owners, while being appropriately and
32 adequately compensated, will not be able to exercise their market power to collect exorbitant
33 rates.

34
35 2. Transmission Pricing Must Reflect Comparability

36 This principle requires that “[a]n open access tariff that is not unduly discriminatory or
37 anticompetitive should offer third parties access on the same or comparable basis, and under
38 the same or comparable terms and conditions, as the transmission provider’s uses of its
39 system”.

40
41 Pricing comparability does not mean that the Commission is endorsing an end result in
42 which there are no differences in prices paid by various customers. For example, the
43 Commission is not suggesting that prices must be based on highly aggregated costs so that
44 all customers face a uniform rate per kWh of service. Rather, we are receptive to pricing
45 proposals that disaggregate costs in order to give better price signals to all users of the
46 system—third parties and the transmission owner itself. Such aggregation still permits

1 different customers to pay different prices. Pricing comparability does not rule out such a
2 result.

3
4 3. Transmission Pricing Should Promote Economic Efficiency

5 FERC specifies that transmission pricing should promote economic efficiency in the
6 following aspects of the electric industry:

- 7 ➤ Efficient expansion of transmission capacity
- 8 ➤ Efficient location of new generators and new load
- 9 ➤ Efficient use of existing transmission facilities, including the efficient allocation
10 of constrained capacity through appropriate market clearing mechanisms; and
- 11 ➤ Efficient dispatch of existing resources

12
13 4. Transmission Pricing Should Promote Fairness

14 As a general matter, transmission pricing should be fair and equitable. Existing wholesale,
15 retail and transmission customers should not pay for the costs incurred in providing
16 wholesale transmission services...do not believe that third-party customers should subsidize
17 existing customers. ... The major purpose of transmission pricing reform should be to
18 provide more efficient price signals, particularly for new transmission uses, and not simply
19 to reallocate sunk costs.

20
21 5. Transmission Pricing Should Be Practical.²

22 Transmission pricing should be practical and as easy to administer as appropriate given the
23 other pricing principles.

24
25 **Q9. What types of transmission pricing proposals has the FERC accepted?**

26
27 Following the issuance of Order 888 in 1996 that required all transmission providers under
28 FERC jurisdiction to file open access transmission tariffs, the FERC accepted various pricing
29 methodologies including:

- 30 ➤ Pro forma postage stamp tariffs (many individual utilities)
- 31 ➤ Zonal based tariffs (California ISO)
- 32 ➤ Network only based tariff (ISO New England)
- 33 ➤ Distance based tariffs (MEPCO, MAPP)
- 34 ➤ Combined zonal license plates and regional postage stamps (PJM and NY)

35
36 **Q10. Is it correct that Hydro-Québec have presented a postage stamp pricing method
37 that is similar to the FERC pro forma tariff in the application?**

38
39 Yes.

40
41 **Q11. Does Hydro-Québec employ this postage stamp method in a manner that is
42 consistent with the FERC pro forma tariff cost allocation requirements?**

43
44 No.

45

² Ibid., p. 5 [31,141]

1 **Q12. In what way does the Hydro-Québec method deviate from the FERC pro forma**
2 **requirements?**

3
4 The \$2,674 M revenue requirement in the application does not meet FERC requirements
5 because:

- 6 ➤ It includes distribution connection costs that FERC would not accept as transmission costs.
 - 7 ➤ It includes generation connection costs that FERC would not accept as transmission costs
- 8

9 **Q13. Please explain the inconsistency between the application and FERC requirements**
10 **for distribution costs?**

11
12 In the table titled “*Coûts par fonction 2001 (en \$M)*” on page 3 of *HQT-10, Document 2* of the
13 application, the *Transformation HT/MT* facilities that connect the HT transmission system
14 (voltages of 44-315kv) to the MT distribution system (voltages of 25kv) are shown to have a cost
15 of \$260M and are included as part of the total revenue requirement for the transmission system.
16 These facilities are deemed by FERC to be distribution facilities and their revenue requirements
17 are not to be collected from transmission customers but from distribution customers. FERC
18 states this position in section 14B of its Form 715 guidelines.

19
20 **Q14. Why would FERC allocate this Transformation HT/MT function to distribution as**
21 **opposed to transmission?**

22
23 The basic method of cost allocation for rate design is that costs are allocated to customer classes
24 based on the principle of “cost causation”. The costs of the portion of the system required to
25 serve a customer class and which are “used and useful” by that customer class are allocated to
26 that class. This follows from the need for fairness so that customer classes pay for the cost of the
27 service provided and do not unduly subsidize another class.

28
29 For example, large industrial or wholesale customers served directly from the transmission
30 system are not expected to pay distribution system costs because neither use the distribution
31 system of the transmission utility. The large industrial customer distributes the power within its
32 operation at its own cost and the wholesale customer distributes the power to its customers
33 through its own distribution system at its own cost. Furthermore a large industrial customer that
34 owns and maintains its own transformation HT/MT equipment should not pay costs for this
35 function.

36
37 All customers make use of the high voltage transmission system while all do not make use of the
38 distribution and transformation HT/MT equipment. Setting the line of demarcation between
39 transmission and distribution at the high voltage side of the transformation HT/MT equipment
40 enables the development of a fair rate for transmission services that can be applied to all
41 customers.

42
43 **Q15. Are there customers in Québec today that supply their own transformation HT/MT**
44 **equipment?**

45
46 Yes.

1
2 **Q16. Do they pay for the transformation HT/MT of Hydro-Québec and their own**
3 **equipment?**

4
5 No. As is the common utility practice throughout North America, Hydro-Québec currently
6 employs reductions in charges dependent on the level of the voltage at which a customer is
7 served.

8
9 **Q17. Why is this the common practice?**

10
11 This is the common practice because it charges customers based on the cost of providing the
12 services that they are receiving. It is however common to socialize the cost of serving customers
13 for a given service across a single utility's service territory. There are two reasons for this
14 practice. One is that the cost of overcoming the complexities of accurately assessing the cost of
15 serving an individual customer are not justified. The other reason is that it is generally accepted
16 as beneficial to society not to disadvantage some customers within a certain class of customers
17 based on their geographic location. The interconnection voltage is an appropriate way to separate
18 customers into classes for the calculation of the cost of providing specific services.

19
20 **Q18. What levels of service voltage are eligible for discounts by Hydro-Québec and how**
21 **much are the discounts?**

22
23 The discounts are specified in Section 303 of the Hydro-Québec Electricity Rates Bylaw. It
24 states "when Hydro-Québec supplies electricity at medium or high voltage and the customer
25 utilizes it at this voltage or transforms it at no cost to Hydro-Québec, this customer, and this
26 customer alone, is entitled to a monthly discount".³ The discounts applied are as follows:

27
28

<u>Voltages</u>	<u>Monthly discount \$/kW</u>
29 5 to 15 kV	\$0.501
30 15 to 50 kV	\$0.804
31 50 to 80 kV	\$1.788
32 80 to 170 kV	\$2.193
33 greater than 170 kV	\$2.934

34

35 **Q19. What voltage levels are utilized by point to point transmission service customers?**

36
37 The voltage at which point to point transmission service exits the Hydro-Québec transmission
38 system depends on the exit point but is typically no lower than 80 kV and most often greater than
39 170 kV. In either case this exit voltage is higher than the 15 to 50 kV range that Hydro-Québec
40 utilize as the division voltage between transmission and distribution.

41
42 **Q20. What discounts to the proposed rate in the application would be required to be**
43 **applied to point to point customers so that they would be treated in an equivalent**
44 **manner to Hydro-Québec network service customers?**

45

³ Québec Electricity Rates Bylaw, Section 303 p. 154

1 The differential discount between the 15 to 50 kV range and the range in which the actual
2 voltage level of the point to point customers service should be converted to an annual discount
3 and applied as follows:

4

5 -----Discounts-----

<u>Point to point Voltage</u>	<u>Differential</u>	<u>Monthly</u>	<u>Annual</u>	<u>Resulting tariff</u>
7 15 to 50 kV	0.804-0.804	0.000	0.000	\$75.18/kw
8 50 to 80 kV	1.788-0.804	0.984	11.808	\$63.37
9 80 to 170 kV	2.193-0.804	1.389	16.668	\$58.51
10 greater than 170 kV	2.934-0.804	2.130	25.56	\$49.62

11

12 **Q21. Why should equivalent discounts be applied to point to point customers and**
13 **network service customers?**

14

15 Point to point transmission customers of Hydro-Québec should receive discounts equivalent to
16 those provided to Hydro-Québec network service customers for two reasons. Firstly, it would be
17 discriminatory to point to point customers to do otherwise and secondly, it would not satisfy the
18 requirements of Section 49(II) of the Act which requires uniform treatment throughout the
19 territory served by the transmission system.

20

21 **Q22. Please explain how the treatment of generation connection costs in the application is**
22 **inconsistent with the FERC pro forma postage stamp treatment?**

23

24 In the table titled “*Coûts par fonction 2001 (en \$M)*” on page 3 of *HQT-10, Document 2* of the
25 application, the *Postes de départ* facilities include the costs of generator unit transformers,
26 associated protection equipment and switchgear to connect the generators to the transmission
27 system. The standard practice throughout the industry in North America and as employed by
28 FERC is to charge the costs of these facilities to generators and not to collect them through
29 transmission rates.

30

31 **Q23. Why are these costs charged to generators as opposed to transmission?**

32

33 Because the cost of these facilities are caused by the generator and the facilities are used and
34 useful only to generators who want to increase the voltage of their production to an acceptable
35 level for transmission. It is consistent with the division line between distribution and
36 transmission which is set by FERC at the high side of the HT/MT transformers. Transmission
37 begins at the high side of the generator transformers as well.

38

39 **Q24. Is there a standard approach in the industry for collecting the costs required to**
40 **interconnect a generator to the transmission system?**

41

42 Yes. The costs of the unit transformer and associated protection equipment and switchgear are
43 charged directly to the generator as part of its project cost. The actual work may be done by the
44 transmission utility but the costs are billed to the generator. An example of this with which I am
45 familiar is the Bayside project in New Brunswick. All of the interconnection costs are being
46 charged to Bayside and will not be charged again to transmission customers. This approach is

1 also applied in Ontario where TransAlta's Sarnia project for example is required to pay not only
2 the costs of the unit transformers, protection and switchgear but also the cost of a transmission
3 line to connect to the Hydro One transmission system.

4
5 **Q25. Can you illustrate this with a United States example that would be subject to FERC**
6 **rules?**

7
8 In New England the latest policy as approved by FERC requires that 100 percent of the costs
9 associated with direct interconnection and related upgrades to meet the minimum interconnection
10 standard be assigned to the interconnecting generators. This rule is a result of an intervention
11 before FERC of the 175MW Champion co-generation project at Bucksport Maine. The
12 Champion project which is partially owned by Hydro-Québec argued for the right to proceed
13 expeditiously with its interconnection and pay for any upgrades which may be necessary to
14 preserve the reliability of the transmission system.⁴

15 .
16 **Q26. Are the costs of generator unit transformers of all utility generators in New England**
17 **collected through the transmission tariff?**

18
19 No. If HQUS takes point to point transmission service in New England for delivery from the
20 Champion project to New York they would be charged only the costs of the high voltage
21 transmission system. They pay the costs of their own unit transformer and interconnection but
22 do not contribute to the costs of other generators unit transformers.

23
24 **Q27. Has this always been the practice?**

25
26 No. In the FERC code of accounts through which the costs of utilities are regulated on a
27 consistent basis unit transformers have been recorded as transmission assets. Many utilities in
28 responding to Order888 included these costs in the transmission revenue requirement. This was
29 done by Hydro-Québec and by NB Power as well in the original development of their tariffs. It
30 is now accepted that this practice is discriminatory to competing non utility generators and the
31 generator connection costs are being removed from transmission tariffs.

32
33 **Q28. What is the current practice in New Brunswick?**

34
35 The current NB Power tariff was developed 4 years ago and includes the generator unit
36 transformers. NB Power recognizes that this approach is a deviation from current practice and is
37 in the process of amending the tariff to be consistent with current practice.

38
39 **Q29. Does the Hydro-Québec application follow current practice?**

40
41 No. Under the application a point to point customer would be charged for the generator
42 connection costs of all of Hydro-Québec's generators in addition to having to pay for its own
43 interconnection costs solely on its own.

44
45 **Q30. Do you consider this discriminatory treatment of point to point customers?**

⁴ Order on Complaint, October 29, 1998. FERC Docket No. EL98-69-000, p. 4.

1
2 Yes. Hydro-Québec does not treat the generators that it owns in Québec in the same manner that
3 it argued before FERC that they are treated for generation that they own in the United States.
4 The application subsidizes the cost of Hydro-Québec owned generation by charging point to
5 point transmission customers for costs that should be totally attributed to Hydro-Québec
6 generation.
7

8 **Q31. Could the application be altered in a simple manner such that this discrimination**
9 **would be avoided?**

10
11 Yes. A schedule of discounts based on the receipt point voltage could uniformly be applied to
12 both network service and point to point customers of Hydro-Québec. The charges to Hydro-
13 Québec generation destined for network supply inside Québec would be included in the network
14 service rates and result in a uniform network service rate across the territory. The charges to
15 Hydro-Québec generation for point to point service would avoid the inherent subsidy to Hydro-
16 Québec and enable them to access the regional northeast market in a manner equivalent to all
17 other generators in that market.
18

19 **Q32. Would the application be appropriate if it were revised to reflect the comments you**
20 **have just made?**

21
22 The modifications that I have proposed would make the application consistent with the FERC
23 Pro forma tariff. However FERC's guidance for a utility designing a transmission rate places
24 greater emphasis on meeting the transmission pricing principles than on conforming to what is
25 being done by other transmission owners (e.g. following the pro forma). Whether or not it would
26 meet the pricing principles stated by FERC would depend on the magnitude of the discounts
27 applicable to the voltage levels for point to point service.
28

29 **Q33. Why would it depend on the level of discounts?**

30
31 FERC in the pricing statements open the door for innovation so that pricing methodologies can
32 be developed to enable competition to be efficiently achieved in systems with unique
33 characteristics. Hydro-Québec is such a system. Its remote northern hydro generation caused
34 the construction of long transmission lines that are used only to bring the power to the load
35 centers. This situation differentiates Hydro-Québec from the typical thermal systems in the
36 United States that have used the postage stamp pro forma approach.
37

38 **Q34. Are there precedents in Canada for the unbundling of remote transmission?**

39
40 Yes. There are several rulings concerning the issue of allocation of revenue requirements of
41 transmission associated with remote generation. Concerning electric transmission there is the
42 ruling of the BCPUC with respect to BC hydro transmission to northern generation where these
43 costs are allocated to BC Hydro generation. In the natural gas industry there is the treatment of
44 gas gathering facilities which are not allocated to transportation but to gas production.
45

46 **Q35. Can you give a specific example in the gas industry?**

1
2 Yes. The testimony of Mr. Roland Priddle uses the Maritimes and Northeast Pipeline (M&NP)
3 as an example of a regulator approving a postage stamp rate for transportation. The M&NP
4 pipeline is a good example of how the cost of gathering the output of production facilities is
5 treated differently than the cost of transporting within and between markets. In the case of
6 M&NP the cost of gathering gas from the gas fields and bringing it through an underwater
7 pipeline to the bulk pipeline transmission system is borne by the Sable Island gas producers. The
8 users of the M&NP pay a postage stamp rate based on the costs of the M&NP pipeline only.
9 The Sable Island gas producers pay the cost of bringing the gas to the common carrier facilities.
10

11 **Q36. In what ways does FERC anticipate deviations from the Pro Forma design?**

12
13 With respect to innovative, but conforming pricing proposals, FERC provides guidance in stating
14 that the following three attributes be specified to facilitate analysis:

- 15 • The method for measuring cost
- 16 • The method for treating power flows (i.e. contract path, or flow-based approach)
- 17 • The method for grouping transmission facilities (corporate postage stamp versus more
18 disaggregated approaches, such as zones, or line-by-line methods.

19 This guidance implies that innovation in any combination of these three areas will be considered.
20

21 **Q37. Why should the Hydro-Québec tariff conform to the FERC principles when FERC**
22 **concedes that it has no jurisdiction over transmission in Québec?**

23
24 Hydro-Québec (US Energy Services) has presented the Régie to FERC as having functions,
25 powers and procedures similar to that of FERC in its application for market based rates in the
26 US.⁵ Indeed FERC's acceptance of this request included the recognition that "...Hydro-Québec,
27 after the passage of legislation by the Province of Québec, ... adopted open access tariffs.⁶
28

29 There have been challenges by US market participants before FERC that point to point service
30 through Quebec is priced to discriminate against Hydro-Québec competitors. It is important to
31 the regional market that the Hydro-Québec point to point service not just be non discriminatory
32 but that it be seen to be non discriminatory. This can best be achieved by totally adhering to
33 FERC transmission cost allocation and pricing principles.
34

35 **Q38. Are there other influences on transmission regulation that the Régie should**
36 **consider?**

37
38 The application is patterned after the requirements of FERC order 888 that was issued in 1996.
39 The current trend of the electric industry in North America is heavily influenced by FERC Order
40 2000. This order calls for the formation of regional transmission organizations over large
41 geographic areas. It is apparent that in the long term there will be RTOs that span these
42 boundaries or at very least there will be coordination between RTOs across these boundaries. I
43 say this because although FERC has no jurisdiction in Canada, there are close commercial and

⁵ H.Q. Energy Services (U.S.) Inc. Docket No. ER97-851-000

⁶ ER97-851-001 Order Accepting For Filing Proposed Market Based Rates

1 reliability relationships among utilities in regions that span international boundaries. These
2 relationships require attention to compatibility in both commercial and reliability issues.

3
4 Order 2000 is intended to address the inadequacies of the industry changes that resulted from
5 Order 888. One of the inadequacies is that the current transmission tariff rates are based on
6 embedded costs and they reflect average costs over areas that are subsets of the actual bilateral
7 wholesale markets. In order to move power any significant distance, a marketer must pay more
8 than one embedded cost tariff. Also these embedded cost tariffs often reflect the entire costs of
9 the respective systems, rather than just the cost of the portion of the system that is used by a
10 given type of transaction. The result is that transmission tariffs act as a barrier to the replacement
11 of expensive power with less expensive power. This flawed approach to the recovery of
12 embedded cost of transmission facilities sends the wrong economic signal for generation
13 dispatch. One of the intended outcomes of Order 2000 is the elimination of the pancaking of
14 rates so that the total cost of transmission is no longer an unreasonable barrier to trade.

15
16 While the Régie can not be expected to inject the requirements of Order2000 on the application it
17 should be cognizant of the inadequacies of Order 888 pro forma tariffs and their influence on the
18 regional market.

19
20 **Q39. Would you provide a brief summary of your evidence?**

21
22 The postage stamp rate design as employed by Hydro-Québec in the application is inconsistent
23 with FERC and industry standards and is discriminatory to some large network service
24 customers and to all point to point service customers.

25
26 Section 49(II) must be interpreted in a “contextual, pragmatic and purposive manner”, taking
27 into account the public interest in the absence of discrimination and the concomitant need for
28 transparency and fair dealing. To provide for fair and non discriminatory rates the Régie must be
29 consistent with the basic principles of rate design utilized throughout the utility industry and
30 interpret the Act to mean “uniform application of a uniform schedule of rates throughout the
31 territory”.

32
33 The itemized shortcomings in the application regarding distribution connection and generator
34 connection costs can be overcome through a uniform schedule of discounts applied based on the
35 voltage levels for receipt and delivery of power.

36
37 The relevance of this information to these proceedings is that the application of tariffs to
38 transactions that cross utility boundaries throughout North America must take into account the
39 influence on the larger market and thus society in general.

1
2 **Curriculum Vitae of William K. Marshall, PEng**
3

4 **Education**
5

6 BSc (Electrical Engineering) from University of New Brunswick in 1968
7 BEd (High School & Post-Secondary) from Mount Allison University in 1971
8 MScE (Power Systems) from University of New Brunswick in 1972
9

10 **Experience**
11

12 Eight (8) years as a professional educator at the high school, community college
13 and university levels.

14 Three (3) years as a private engineering consult with work related to power
15 systems, computer systems and educational services.

16 Twenty (20) years as a professional engineer with NB Power in the electric utility
17 industry with responsibilities for power supply planning, power system analysis,
18 integrated resource planning, private power contracts, rate design,
19 interconnections development, environmental emissions strategies, utility
20 restructuring and natural gas opportunities.
21

22 Work experiences over these 31 years include:

23 memberships and participation in various committees, work groups and
24 task forces at the company, provincial, regional, national and international
25 levels

26 participation as a witness before hearings of various administrative boards
27 and government committees

28 writing and presentation of various technical papers, courses and
29 seminars

30 supervision of research within NB Power and the University of New
31 Brunswick
32
33