

**RP-2003-0044 – ONTARIO ENERGY BOARD COMBINED SERVICE AREA  
AMENDMENT PROCEEDING**

**TORONTO HYDRO-ELECTRIC SYSTEM AND LDC COALITION RESPONSES TO  
VULNERABLE ENERGY CONSUMERS COALITION ("VECC") INTERROGATORIES  
ON THE REPORT OF DR. ADONIS YATCHEW FILED ON NOVEMBER 27, 2003**

**VECC INTERROGATORY #1**

*Reference: Economic and Regulatory Consequences of the Creation of New Embedded Distributors, November 27, 2003 (The Report), page 2, lines 13-19 and page 14, line 8.*

*Preamble: "The guiding principles and model proposed by Wirebury which would establish one or more utilities serving multiple discontinuous areas is wholly inappropriate and should be rejected.*

*First, there would likely be a detrimental impact on the economies of scale, density and contiguity within the industry. Contiguity continues to be one of the most critical features of efficient distribution system design and expansion, and should be maintained in all but exceptional cases."*

*"Discontiguities in utility service areas should be minimized as far as possible"*

*Question:*

- a) Do these conclusions also apply to existing LDCs who seek to acquire or establish distribution service areas that are not contiguous with their current service area? If not, please explain why?*

**Response**

Please see response to Board Staff Interrogatory #6.

## VECC INTERROGATORY #2

*Reference:* The Report, page 3, lines 7-8 and page 4, lines 19-21

*Preamble:* "Uncertainty about service area boundaries and future customer growth could lead to sub-optimal capital investment decisions."

*"They (overlapping service areas) could also result in sub-optimal planning and capital expenditures as "competing" utilities "race for the border" or engage in other gaming to try to capture future customers."*

*Question:*

- a) *Please explain more fully how uncertainty about service area boundaries will lead to sub-optimal planning and capital expenditures?*

### **Response**

Please see response to Board Staff Interrogatory #5.

### VECC INTERROGATORY #3

*Reference:* The Report, page 3, lines 9-15 and page 28, lines 11-19

*Preamble:* "there will be an increase in regulatory burden and the associated costs"

*Question:*

- a) *In Dr. Yatchew's view, apart from the second implication listed, do the remaining 4 regulatory implications attributed to embedded distributors also apply if the OEB was to permit overlapping contiguous services areas for existing LDCs? If not, please explain why.*

#### **Response:**

The report, page 3, lines 9-15 states that under the Wirebury model "there will be an increase in regulatory burden and the associated costs:

- there could be many applications for distributor status and rates;
- there may be many more "utilities" to regulate;
- complex locational tariffs could emerge;
- capital expenditures may require increased regulatory scrutiny;
- there are likely to be disputes over "predatory behavior" which would need to be adjudicated."

If instead one considers overlapping service areas near the boundaries of contiguous utilities then the effects would be generally attenuated because changes would be occurring only at boundaries and not potentially anywhere in the service area. One would not expect many additional applications for distributor status or many more utilities to regulate. There could be additional rate applications and location tariffs but these would generally be restricted to the regions of overlap. Capital expenditures may require increased regulatory scrutiny and there may be a need for adjudication of disputes over predatory behaviour.

## VECC INTERROGATORY #4

*Reference:* The Report, page 4, lines 10-11

*Preamble:* “while the arguments against the Wirebury model are compelling, other service area amendment proposals require consideration of a more subtle set of issues”

*Question:*

- a) *The preceding section (i.e., pages 2-3) documented seven reasons why the OEB should not adopt the embedded distributor model. In Dr. Yatchew’s view, apart from the first argument regarding discontinuous service areas, do the remaining six concerns also apply in the case of overlapping service territories for existing LDCs? If not, please explain why.*

### Response

When considering overlapping service areas, the arguments would be modified as follows:

1. The discontinuity issues are less likely to be present, though there may be dilution of customer density.
2. The potential for sustained competitive benefits would be limited.
3. Unlike the Wirebury model, the “overlapping service area model” does not seem to contemplate the possibility of switching distributors when a location becomes “under-served” as a result of technological change or redevelopment. Thus, there is relatively less risk of structural instability.
4. There is likely to be a detrimental impact on capital planning.
5. There is likely to be an increase in regulatory burden, though it would be attenuated in comparison to the Wirebury model because changes would be occurring only at boundaries and not potentially anywhere in the service area.
6. There may be an increase in revenue uncertainty.
7. Since government policy documents have recognized the natural monopoly character of distribution, the overlapping service area model would seem to be excluded as it would imply that more than one utility can efficiently provide service to the same geographic area.

- b) *The Report does not identify “stranded assets” as a potential concern associated with the embedded distributor model. Does Dr. Yatchew agree with Mr. Todd’s conclusion that stranded assets are not an issue in the case of embedded distributors serving new customers and utilizing the incumbent’s upstream facilities (Todd Report: page 7, lines 27-29 and page 8, line 29 – page 9, line 5)? Please explain your response.*

## **Response**

I am not aware of circumstances under which the Wirebury model would *initially* create massive asset stranding. Nevertheless, if Wirebury is granted distributor status, over time it may seek (and may as a distributor be permitted) to build its own upstream distribution facilities, duplicating and/or stranding existing assets of other distributors. Moreover, going forward, there is substantial risk of sub-optimal capital planning and expenditure.

- c) Are stranded assets a potential issue in the case of contiguous service area amendments between existing LDCs? Please explain the response.*

## **Response**

The analysis of asset stranding would need to be performed on a case-by-case basis.

## VECC INTERROGATORY #5

*Reference:* The Report, page 5, lines 1-3

*Preamble:* "If it is unlikely that the incumbent utility will be able to economically service the area under consideration in the foreseeable future, then an application should be made for a change in service area boundaries"

*Question:*

- a) *Would the "change in service area boundary" in these circumstances result in a changed in the exclusive service areas for the two LDCs concerned or an overlapping service area?*

### **Response**

In my view, changes in service area boundaries should generally be exclusive and not overlapping. (Please see evidence at page 31, lines 4-13).

- b) *What principles should the OEB apply and what information should the OEB require before granting a boundary change Application made by a neighbouring LDC?*

### **Response**

The following should be included among the key principles:

1. Service area amendments should not compromise scale or density economies of distributors. Discontiguities should not be created except in exceptional circumstances. The amendment should move the industry towards, or at least not away from, an optimal industry structure.
2. Regulatory uncertainty should be minimized as far as possible. Thus, service area amendments should not be a routine and common occurrence.
3. Service area amendments should be undertaken if a compelling case can be made that the change serves the public interest. In assessing the public interest, both LDC and customer impacts need to be considered.

It would seem appropriate for the applicant to establish a positive case that its costs of serving the area have a high likelihood of being lower than the costs of the incumbent on a sustainable basis.

- c) *Does the information required depend upon whether or not the incumbent utility concurs with the proposed boundary change? Please explain the response.*

**Response**

There would be substantially lower informational requirements and regulatory burden if the change in boundary was by mutual consent. Nevertheless, the regulator would need to ensure that the change is not for the purpose of exploiting or arbitraging differences in Board approved rates. Thus, customer impacts would be a key focus for the regulator.

- d) *In Dr. Yatchew's view, can such service territory boundary revisions be properly assessed without reference to specific customers? Please explain your response.*

**Response**

In assessing whether the change serves the public interest, the regulator would need to consider the impacts on customers that are directly or indirectly affected.

## VECC INTERROGATORY #6

*Reference:*     *The Report, page 5, line 7*

*Preamble:*     *"Discontiguities should not be created except in exceptional cases"*

*Question:*

- a) Please describe the types of exceptions that would warrant the granting of service area amendments that result in discontinuous service areas?*

*Response*

Please see response to Board Staff Interrogatory # 6.



## VECC INTERROGATORY #7

*Reference: The Report, page 5, lines 9-10; page 16, lines 13-14 and page 38, line 21 to page, line 2*

*Preamble: "It would be desirable if the regulator would have a clearly expressed position on how the distribution industry should evolve over time"*

*"What is the likely impact on industry structure? Will the proposals, if implemented, promote or hinder evolution towards an optimal industry structure?"*

*"The Government agrees with the Advisory Committee [i.e., the Macdonald Committee] on the need for efficiency improvements and consolidation in electricity distribution. It has concluded that geographic rationalization in the distribution sector should proceed on a commercial and voluntary basis."*

*Question:*

*a) Please explain why it is appropriate for the regulator to express a clear position on how the distribution industry should evolve when the stated government policy is that rationalization should proceed on a "commercial and voluntary basis".*

## Response

The Ontario Energy Board is one of the most well-informed government agencies with respect to provincial energy matters. In the process of its regulatory obligations, it has the opportunity to observe the industry on an ongoing basis and to constantly update its knowledge base. As such, its views on the desirable evolution and structure of the distribution would be of great assistance in informing good government policy. A clear position on the part of the Board would also help to reduce regulatory uncertainty and to guide industry participants in their planning and decision-making.

## **VECC INTERROGATORY #8**

*Reference:*     *The Report, page 7, lines 10-11*

*Preamble:*     *"The latter will likely have higher capital costs, as its infrastructure is spread over a larger area"*

*Question:*

- a) Please explain why an LDC having multiple discontinuous service areas, where each is embedded and served by a local distributor or transmission delivery point, necessarily leads to higher capital costs.*

### **Response**

Please see response to Board Staff Interrogatory #5.

## VECC INTERROGATORY #9

*Reference:* The Report, page 10, lines 13-15

*Preamble:* “the establishment of an electricity market and Independent Market Operator has led to additional tasks that need to be performed by distributors, which in turn would tend to drive up minimum efficient scale”

*Question:*

a) Please describe the “additional tasks” referred to above.

### Response

Additional tasks include functions relating to the IMO such as settlement and rebates flowing from the cap on wholesale electricity prices. There may also be further responsibilities relating to DSM and to new rate structures which attempt to promote conservation.

b) *Would Dr. Yatchew agree that between the mid-1990’s and now there has also been a fundamental change in the relationship between Ontario LDCs and Ontario Hydro (i.e., pre-market opening the industry functioned much more like a “cooperative” than it does now)? If so, what impact if any, would this change have on the validity of the study’s results?*

### Response

To my knowledge, there have not been any dramatic changes in the technology of electricity distribution. Since technology is one of the most important determinants of cost structure, I would therefore not expect dramatic changes in the model if it were to be re-estimated using current data. Moreover, I would note that collectively, the four studies – that is, Ontario, Norway, New Zealand and Switzerland – yielded remarkably similar conclusions on scale economies despite their geographic diversity and somewhat different time periods.

While the parameters of economic models are often subject to variability over time, I would not expect that the qualitative conclusions about natural monopoly and economies of scale and density to have changed.

## VECC INTERROGATORY #10

*Reference:* The Report, page 11, lines 5-6 and page 12, lines 1-3

*Preamble:* "The results of the modeling indicate that there is a strong age-related effect and that utilities with aging infrastructure will tend to exhibit higher costs."

*"there is a significant age effect suggesting that new facilities – for example, the distribution wires running through a new sub-division – should have lower associated maintenance costs."*

*Question:*

a) *Please confirm whether the reference on page 11 to "higher costs" is with regard to total costs or O&M costs.*

### **Response**

The model was estimated using total costs. Thus, no separate modeling was performed for O&M versus capital or other costs.

b) *If the reference is to O&M costs, did the study show that utilities with older infrastructure exhibit lower capital (i.e., depreciation) costs?*

### **Response**

Please see response to a) above.

## VECC INTERROGATORY #11

*Reference:* The Report, page 12, lines 12-13 and 15-16

*Preamble:* "The Norwegian analysis included approximately 100 distributors ranging in size from 650 to 290,560 customers"

"The analysis of New Zealand distributors covered 60 companies ranging in size from 600 to 220,000 customers"

*Question:*

- a) *Out of the 81 municipal distributors included in the Ontario Study, how many had less than 600 customers?*

### **Response**

There were no utilities with less than 600 customers in the sample.

- b) *What was the smallest utility (in terms of customer count) included in the Ontario study?*

### **Response**

The smallest utility in the Ontario sample had 624 customers.

## VECC INTERROGATORY #12

*Reference:* The Report, page 13, line 23 – page 14, line 2 and page 11, lines 8-10.

*Preamble:* “some firms may be vertically integrated (e.g., utilities providing generation, transmission and distribution services) which in turn complicates the task of separating competitive and monopolistic segments”

“One might expect cost savings through sharing of certain functions. This is indeed consistent with the statistical results which indicate that such economies of scope are present.”

*Question:*

- a) *Is there any reason why the conclusions regarding “economies of scope” would not also apply to integrated utilities such those referenced on pages 13-14?*

### **Response**

There may be some vertical economies of scope resulting from the integration of generation, transmission and distribution within one entity. However, regulators in many jurisdictions, in their efforts to separate monopolistic from competitive segments of the industry, have deemed their importance to be secondary to the benefits of clear separation of functions to prevent cross-subsidy.

### VECC INTERROGATORY #13

*Reference: The Report, page 16, lines 10-19; page 2, lines 13 to page 4, line 2 and page 31, line 17 – page 32, line 8.*

*Preamble: "In assessing the applications and developing a framework or principles to guide assessment of future applications"*

*Question:*

- a) Does the response set out on pages 31-32 contain Dr. Yatchew's recommendations regarding the framework and principles the OEB should adopt when considering contiguous service area amendments? If not, please outline what Dr. Yatchew's recommended framework and principles are.*

#### **Response**

As the title of the report indicates, the main focus is to assess the economic and regulatory consequences of the creation of new embedded distributors. Pages 31 and 32 contain some, but not necessarily all the principles the Board may find to be of importance. Additional principles relating to fairness of rates, quality of service, safety and simplicity of the regulatory process may also be considered.

- b) Would the same framework and principles be applicable when considering applications for embedded service area amendments? If not, please explain why.*

#### **Response**

As indicated in the evidence, applications for embedded distributor status, like the kind being proposed by Wirebury, should not be considered.

- c) Please indicate how the framework and principles recommended by Dr. Yatchew addresses the issues raised on pages 2-4 of the Report.*

#### **Response**

Pages 2-4 of the report deal primarily with the Wirebury proposal, which should be rejected, and overlapping service areas, which in my view should also not be permitted. The principles referenced in part a) above, would apply to contiguous service area amendments.

#### VECC INTERROGATORY #14

*Reference:* The Report, page 19, lines 10-12

*Preamble:* "If the full consequences of making a choice were borne by the specific customer, then customer preference should arguably receive considerable weight in assessing applications for service area amendments"

*Question:*

- a) Please describe what Dr. Yatchew considers to be the "full consequences of making a choice" – e.g., what costs should the specific customer be expected to bear?

#### Response

Ideally, one would like to be able to assign costs to customers on a cost causality basis. In many cases this cannot be done because of the inherent indeterminacy in assigning common costs. Moreover, rates typically do not reflect the costs of serving each customer, but rather the average costs of serving many customers in various locations.

An example might be helpful in illustrating why following the preferences of the customer might not yield the best outcome. Suppose that a prospective customer is near the border between two utilities and that for regulatory reasons or as a result of density effects and cost averaging, the two utilities will charge substantially different rates to this customer. Suppose further that the customer is physically closer to the lines of the distributor with the higher rates. The customer may prefer to be connected to the distributor with the lower rates even though the lines are more distant. However, from the system point of view, the more cost-effective connection may be to the distributor with higher rates.

- b) For those situations where expansion of the distribution system is required to connect a new customer, the Distribution System Code (Section 3.2) requires that a distributor perform an economic evaluation of the expansion project to determine if the future revenue from the customer(s) will pay for the capital cost and on-going maintenance cost of the expansion project. To the extent projected costs exceed projected revenues, customers are charged the net present value of the difference as a capital contribution.

b.1) Does the Economic Evaluation methodology set out in the Distribution System Code ensure that the "full consequences" are borne by the specific customer?

b.2) If not, please explain what additional consequences and costs need to be addressed?



## **Response**

The economic evaluation described in the Distribution System Code was designed to assess the economic effects of connection of a customer to a given distributor. It was not designed for the purpose of determining the appropriateness of connection to one distributor vs. another. Indeed, to my knowledge, the Distribution System Code does not address issues surrounding “customer switching”. Thus, a separate methodology would need to be devised that would permit fair inter-utility comparisons.

## VECC INTERROGATORY #15

*Reference:* The Report, page 21, lines 9-12

*Preamble:* "Efficiency will be reduced if the incumbent, as a result of economies of scale, density or contiguity, has lower incremental costs of servicing the area than the entrant, but the entrant obtains the right to service on the basis that his incremental costs are lower than the incumbent's rates which reflect average costs"

*Question:*

- a) *Do the requirements of the Distribution System Code (see Question 14) that system expansions undergo an economic evaluation and the customer make a capital contribution to address any shortfalls between expected revenue (based on average costs) and incremental cost address this concern? If not, please explain why?*

### **Response**

As indicated in the response to VECC Interrogatory #14, the evaluations provided for in the Distribution System Code are intended for assessing the economic consequences of connection to the incumbent utility. A separate methodology would need to be devised that would permit fair inter-utility comparisons of economic evaluations.

## VECC INTERROGATORY #16

*Reference:*     *The Report, page 23, lines 15-17*

*Preamble:*     *"To the extent that the interests of developers and homeowners do not coincide, the ultimately affected party – that is the homeowner -- will not even benefit from the opportunity to make the initial choice"*

*Question:*

- a) *Please explain why the interests of the developers and homeowners may not coincide.*

### **Response**

In a world of perfectly competitive markets and perfect information, the developer is driven to provide the best quality product at the lowest possible price to the prospective homeowner. In this sense, market forces drive the developer to maximize customer satisfaction as he pursues his own profit objectives.

However, markets are imperfect to varying degrees and information processing by market participants is also typically imperfect. For example, it is in the developer's interest to minimize capital contributions to the electricity provider. To the extent that these cannot be passed through to the purchaser they have a direct negative impact on the developer's bottom line. Thus the developer is likely to choose the provider with the minimum up-front capital contribution. On the other hand, the home purchaser cares about the initial capital cost of connection only to the extent that this amount is passed through into the purchase price. The home owner, also cares about the future stream of electricity costs, and may on this basis choose a different electricity provider if given the opportunity.

## VECC INTERROGATORY #17

*Reference: The Report, page 24, line 25 – page 25, line 2 and the Supplemental Pre-Filed Evidence of the SW Applicants, page 6, line 19 - page 7, line 25*

*Preamble: “Unlike the cellular telephone where multiple networks can exist within the same geographic area – that is, service areas can overlap or even coincide -- the electricity customer has no alternative network to choose once a connection is established.”*

*Question:*

- a) In their evidence, the SW Applicants suggest that competition in the provision of electricity distribution services is analogous to the provision of local telephone service. What is Dr. Yatchew’s view as to the relevancy of the CRTC decision excerpts referenced by the SW Applicants to the issue of service area amendments for electricity distributors?*

### **Response**

The relevancy of the CRTC decision excerpts is limited. Conventional hardwired local telephone service faces direct and incipient competition. For example, cell phones can now compete directly with conventional phones. No analogous competition is available or expected for the distribution wires business.

## VECC INTERROGATORY #18

*Reference: The Report, page 25, lines 7-15*

*Preamble: "The Wirebury proposal has the potential for inducing sub-optimal capital expenditures. Network planning decisions involve consideration of multiple factors including the current spatial pattern of distribution assets, its strengths and weaknesses, as well as uncertainties regarding future load growth and its spatial pattern. ... Currently, such planning can often be conducted on a cooperative basis with relatively modest regulatory scrutiny because the host and embedded utility are usually not competing with each other for customers"*

*Question:*

- a) Do the same concerns exist in the case of contiguous service areas amendments, if the OEB approves overlapping service areas? Please explain your response.*

### **Response**

Similar concerns would exist for overlapping service areas. One would expect less cooperative planning and more competitive and strategic planning. If the objective becomes maximization of the number of customers that are acquired, there would be significant risk of duplication of assets. Such additional costs would ultimately be borne by each utility's existing customer base.

## VECC INTERROGATORY #19

*Reference:* The Report, page 25, line 24 – page 27, line 15

*Preamble:* The Report outlines a number of consequences if the OEB were to approve the principles underlying the Wirebury model.

*Question:*

- a) *Apart from the issue raised regarding existing utilities forming subsidiaries to compete, would the other concerns raised also apply if the OEB were to approve overlapping service areas for contiguous utilities? If not, please explain why.*

### **Response**

Many of the concerns arising out of the Wirebury model would exist if overlapping service areas were approved. However, one would expect the effects to be attenuated because they would be limited to the overlapping service areas and not potentially anywhere in the service area.

## VECC INTERROGATORY #20

*Reference: The Report, page 32, lines 1-8.*

*Preamble: The report sets out a number of guiding principles for service area amendments for contiguous utilities.*

*Question:*

- a) *What factors besides “economic efficiency” and “regulatory efficiency” should be addressed in demonstrating whether a service area boundary amendment application serves the public interest?*

### **Response**

The regulator may also want to consider whether the amendment would be consistent with appropriate evolution of industry structure. Consistency with government policy, quality of service and fairness of rate impacts would also be relevant factors.

- b) *Please describe what would be required for an applicant utility to demonstrate that a proposed service area boundary amendment application improved economic efficiency?*

### **Response**

Please see response to Veridian Interrogatory #2.

- c) *Is the impact on the incumbent utility’s customers a legitimate factor for the OEB to consider when assessing application’s for service area boundary amendments? If not, please explain why.*

### **Response**

Yes, impacts on customers affected directly and indirectly should be taken into account.

- d) *If the response to (c) is yes, should customers of the incumbent utility be held harmless in terms of impacts on rates as result of the proposed service area amendment? Please explain your response.*

## **Response**

In deciding upon service area amendments the regulator would need to ensure the change is economically beneficial to the distribution system as a whole, not just to one utility or another. In most cases, this would imply that customers of the incumbent utility should be no worse off than they would have been had no service area amendment taken place.

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