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January 20, 2012

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

Dear Ms. Walli:

**RE: Application by Canadian Distributed
 Antenna Systems Coalition ("CANDAS");
 Board File No.: EB-2011-0120**

We are writing to file the responses of CANDAS to the interrogatories of Energy Probe in respect of the Reply Report of Ms Patricia Kravtin filed on behalf of CANDAS.

For ease of reference, where we have referred to answers to first round interrogatories, we have used the following protocol: *e.g.* THESL(CANDAS)Byrne-1, would be a reference to THESL's response to CANDAS' question #1 on Ms Mary Byrne's Affidavit.

Where we have provided a reference to answers to second round interrogatories on CANDAS' Reply Evidence, we have used the following protocol: *e.g.* CANDAS(OEB)Larsen REPLY-1, would be a reference to CANDAS' response to Board Staff's question #1 on Tormod Larsen's Reply Evidence.

We will file two paper copies of the responses as soon as possible.

Yours very truly,

(signed) H.T. Newland

YMS/bc

cc: All Intervenors

IN THE MATTER OF the *Ontario Energy Board Act, 1998*, S.O. 1998, c. 15, (Schedule B);

AND IN THE MATTER OF an Application by the **Canadian Distributed Antenna Systems Coalition** for certain orders under the *Ontario Energy Board Act, 1998*.

**RESPONSES TO INTERROGATORIES OF
ENERGY PROBE**

(on the Reply Report of Ms Patricia Kravtin filed on behalf of the Applicant, CANDAS)

January 20, 2012

Interrogatory # 1

Ref: Kravtin Report, p. 3-6

Issue: Natural Monopoly

Ms. Kravtin states that pole capacity is not a scarce resource and that consumption of that space is “nonrivalrous” (p.4) and subject to zero marginal or incremental cost of use (p.5), except in a state of

“full capacity ... in which all poles are actually fully occupied after all practical modifications or rearrangements have been made and pole change-outs for higher capacity poles cannot practically occur due to terrain, obstructions, zoning, or other such externally-imposed restrictions.” (p.6)

- (a) Is Ms. Kravtin aware of any locality in North America in which full capacity has been achieved?
- (b) Has Ms. Kravtin undertaken a review of Toronto Hydro’s hydro pole network and reached a conclusion that such a state of full capacity does not exist?
- (c) Recognizing that Toronto Hydro (i) is wholly-owned by the City of Toronto, (ii) owns the hydro poles in the City, and therefore (iii) has “monopoly control” (p.6) over their use, how, in Ms. Kravtin’s opinion, can the Board distinguish between an abuse of monopoly control and a mere exercise thereof properly incidental to ownership?

Response:

- (a) To clarify, the state of full capacity, while requiring exhaustion of the entire capacity of all poles in a given area, is based on a pole by pole evaluation after consideration of all feasible modifications, rearrangements and change-outs that can be made, with the exception of those that cannot practically occur due to terrain, obstructions, zoning, or other such externally-imposed restrictions. Ms Kravtin is not aware of any locality in North America in which a utility has substantiated a valid claim of full capacity for anything other than for a very limited number of poles. See also CANDAS(OEB)Kravtin REPLY-1(a), and CANDAS(OEB)Larsen REPLY-2.
- (b) If by review of Toronto Hydro’s hydro pole network, this interrogatory is asking if Ms Kravtin has undertaken a physical audit of Toronto Hydro’s pole network, the answer is no. Such a review was outside the scope of her assignment.

However, the structural characteristics of poles that render space on poles nonrivalrous are generic in nature due to the homogeneity of poles, and accordingly, apply across utilities and across jurisdictions. Absent clear and cogent evidence to the contrary, Ms Kravtin has no basis to believe that Toronto Hydro’s hydro pole network is in a state of full capacity, again with the exception possibly of a very limited number of individual poles. Indeed, THESL failed to provide any information on the number of poles that “are at capacity” on grounds that it does not have precise records regarding the number of

attachments on its poles and that it was not possible to have this data for purposes of the present proceeding. See THESL's response to CANDAS' Interrogatory at THESL(CANDAS)Byrne-7(d), found on the record of this proceeding at Tab 5.1, Schedule 7 filed September 30, 2011.

Furthermore, there is no evidence that in connection with the proposed Toronto DAS Network that any of DASCOT's applications for wireless attachment permits were denied based on the alleged lack of capacity on THESL's poles. See CANDAS(OEB)1 and in particular CANDAS(OEB)1.4.

- (c) As stated by the Board in the CCTA Order, "[a] showing of abuse is not necessary to justify the intervention of this Board" in an application concerning access to power poles. See CCTA Order at 3. Thus, while this interrogatory poses an interesting theoretical exercise – and one that could be addressed within the Structure-Conduct-Performance paradigm at the core of Industrial Organization Economics, which differentiates between the underlying structure of a market (*i.e.*, the condition of monopoly), the observed conduct in that market (*i.e.* monopoly abuses, leveraging of market power), and the resultant performance in that market (*i.e.*, excessive prices, discriminatory practices, creation of barriers to entry) – as acknowledged by the Board in the statement above, such an exercise is not needed to justify a policy mandating non-discriminatory access to hydro poles for telecommunications carriers. It is the existence of the hydros' monopoly control of distribution poles and the potential for abuse of this monopoly power that it is appropriate for the Board to consider in setting and interpreting policy for regulated pole assets rather than deferring any action until after there has been a finding of actual abuse.

Interrogatory # 2

Ref: Kravtin Report, p.7-11

Issue: Market Definition

Ms. Kravtin states that the concept of substitutability (p.7) has demand-side and supply-side aspects.

Section 4 of the U.S. Department of Justice Horizontal Merger Guidelines state:

Market definition focuses solely on demand substitution factors, i.e., on customers' ability and willingness to substitute away from one product to another in response to a price increase or a corresponding non-price change such as a reduction in product quality or service. The responsive actions of suppliers are also important in competitive analysis. They are considered in these Guidelines in the sections addressing the identification of market participants, the measurement of market shares, the analysis of competitive effects, and entry.

Similarly, the Merger Enforcement Guidelines of the Canadian Bureau of Competition Policy state:

4.2 Market definition is based on substitutability, and focuses on demand responses to changes in relative prices after the merger. The ability of a firm or group of firms to raise prices without losing sufficient sales to make the price increase unprofitable ultimately depends on buyers' willingness to pay the higher price. The ability of competitive suppliers to respond to a price increase is also important when assessing the potential for the exercise of market power, but the Bureau examines such responses later in the analysis—either when identifying the participants in the relevant market or when examining entry into the relevant market.

- (a) Since supply conditions are not part of the market definition exercise in the analysis of market power in these Guidelines, please explain why Ms. Kravtin calls her approach "widely-accepted" (p.7).
- (b) In Ms. Kravtin's view, has Professor Yatchew based his opinion on market definition on the principle of "functional equivalence", i.e. that two products or technologies (such as hydro poles and rooftops) that enable wireless attachments are to be included in the relevant market?
- (c) If so, is functional equivalence sufficient in Ms. Kravtin's view to place products or technologies in the same relevant market in a market power inquiry?
- (d) Does Ms. Kravtin accept the view that since Public Mobile deployed cell towers after being refused access to hydro poles, those two technologies for connecting wireless cables must be in the same relevant market for a market power analysis?

Response:

- (a) Ms Kravtin disagrees with a number of the underlying premises to this question: (1) that supply conditions are not relevant to the market definition exercise, (2) that the market definition exercise is isolated from the overarching competitive analysis performed pursuant to the guidelines, and (3) as a related matter, that the order in which the various interrelated components of the guidelines are analyzed should have any substantive effect on the findings of the competitive analysis. As for the first premise, the referenced guidelines, indeed in the very passage cited above, refer specifically to supply conditions including "The responsive actions of suppliers," "entry," and "[t]he ability of competitive suppliers to respond to a price increase." The complete sets of guidelines contain additional references to consideration of supply conditions. As for the second premise, although various sections of the guidelines focus on distinct analytical elements, that distinction is without a difference. It is well established, including in published commentary by the US Department of Justice on the Guidelines, that the analysis is intended to be applied in an integrated fashion, and that "[t]he ordering of these elements in the Guidelines, however, is not itself analytically significant, because the Agencies do not apply the Guidelines as a linear, step-by-step progression." See Department of Justice/Federal Trade Commission, "Commentary on the Horizontal Merger Guidelines," March 2006, online at <http://www.justice.gov/atr/public/guidelines/215247.htm>. That the third premise does not hold follows directly from the first two. Ms Kravtin's entire discussion of market definition and application of the well-established guidelines (see Kravtin Reply Report at 7-11) is clearly, and properly, in the context of the competitive market analysis in its totality.
- (b) Ms Kravtin's views on Professor Yatchew's opinions on market definition are set forth at pages 7 to 11 of her Reply Report. Therein she states her view that Professor Yatchew appears to base his opinions on the mere existence or numerousness of alternative siting options for wireless attachments without the required demonstration of the closeness of these potential substitutes to utility pole attachments in a real economic sense. For products to be placed in the same relevant market, they must be sufficiently close substitutes so as to limit the exercise of market power by the suppliers and to be perceived by buyers as providing sufficiently comparable physical and technical attributes. If one defines "functional equivalence" as meeting the required economic criteria for close substitutes, then in Ms Kravtin's view, Professor Yatchew has not based his opinion on "functional equivalence." On the other hand, if one defines "functional equivalence" by a lesser standard such as mere existence or as weak substitutes, then perhaps one could say that Professor Yatchew based his market definition upon a manner of functional equivalence as so defined.
- (c) See response to (b) above.
- (d) No. As the interrogatory indicates, Public Mobile only deployed cell towers after it became apparent that the Toronto DAS Network could not be completed in a reasonably timely manner due to indefinite delays in the permitting of access to the THESL poles for both the wireline and wireless components of the proposed DAS installation. For the reasons set forth in Ms Kravtin's Reply Report at 7-10, cell towers

are decidedly inferior substitutes for access to hydro poles, and as such, not properly defined within the same relevant product market. See also Reply Evidence of Tormod Larsen and in particular Table 1 – Uses and Limitations of Wireless Access Technologies and Table 2 – Wireline and Wireless Network Architecture. See Lemay-Yates Report dated October 11, 2011 at 14-15. See Ms Kravtin's response to interrogatories at CANDAS(THESL)Kravtin REPLY-1(a) and CANDAS(VECC)Kravtin REPLY-2(c).

Interrogatory # 3

Ref: Kravtin Report, p.12-13

Issue: Access pricing

Ms. Kravtin indicates that the utility and its ratepayers “stand to be made much better off financially after the accommodation of an additional attachment.” She also states that the payment of rent for pole access by the attacher provides the utility and its ratepayers “with a contribution to the cost of providing core electric distribution service that it would not otherwise have but for use of available pole capacity.”

- (a) If full capacity of the pole network has not been achieved, what are the relevant “economic costs” to which Ms. Kravtin refers, other than “make ready”, pole maintenance and related administrative work for which the attacher reimburses the utility? Is the economically efficient price for the incremental attachment to a pole zero? Please explain why or why not.
- (b) Should the economically efficient price for the incremental attachment to a pole be limited to a normal return on investment in the pole by Toronto Hydro? Please explain why or why not.
- (c) In her capacity as an expert witness and an adviser to the Board in this matter, how would Ms. Kravtin advise as to how the access price to hydro poles should be determined when the condition of full capacity does not obtain?

Response:

- (a) It is a central tenet of economics that rates that recover the marginal or incremental costs (the equivalent of marginal costs in the case of discrete units of production and defined as those costs that would not exist but for the entity or activity in question) are economically efficient and subsidy-free. The more prices diverge from incremental costs, the greater the deadweight losses in terms of inefficient use of societal resources.

In this context, the true incremental costs associated with third-party pole attachment are generally limited to the types of “but for” costs identified in the interrogatory. Where available capacity exists on the pole, it is true that the economically efficient price for incremental attachment will be very low (although typically some positive number) on a recurring basis, as the preponderance of incremental costs is recovered in the non-recurring charges for reimbursement of the costs associated with make-ready work, along with any upfront administrative fees assessed by the utility.

Other than the non-recurring direct make-ready charges (which were not included in the costs assumed by the Board to calculate the annual, per pole recurring rental charge), the types of direct and indirect costs that the Board included in the annual, per pole rental charge are discussed at 8-9 of the CCTA Order and the per pole allocations

are summarized at Appendices 1 and 2 of the CCTA Order. See also CANDAS(OEB)Kravtin REPLY-7(a) and (b).

- (b) See response to (a) and (c).
- (c) The Board has already established the methodology and assumptions and has calculated the recurring per pole rental rate for Canadian telecommunications carriers. While Ms Kravtin has some concerns about the assumptions used by the Board in instances where more attachers seek to attach, or the input used for the cost of capital, these concerns result in over-recovery rather than under-recovery for the utility. See CANDAS(OEB)Kravtin REPLY-4 and CANDAS(OEB)Kravtin REPLY-7(b).

Interrogatory # 4

Ref: Kravtin Report, p. 14-15

Issue: Social Welfare

Ms. Kravtin states that the monopoly owner of poles might charge “a price for attachment that is too high relative to economic costs”, thereby creating deadweight loss.

- (a) If, as Ms. Kravtin states on p. 15, “...there are essentially no costs to society” of a policy of non-discriminatory access to utility poles, and if the attacher assumes all relevant costs of installation, maintenance and administration resulting from the attachment to the pole, would not any positive fixed price charged for pole access simply re-distribute income?
- (b) Does the payment of rent (i.e. the annual attachment fee) by the attacher constitute a subsidy to utility ratepayers?
- (c) What would Ms. Kravtin expect to be the result of such a subsidy to ratepayers? In particular, would it lead ratepayers to underestimate their power costs and use more electricity?
- (d) Which group or groups would bear the burden of this subsidy: shareholders of the attachers, customers of the attachers, and/or others?
- (e) In light of the burden of the subsidy, why does Ms. Kravtin insist that “social welfare” would be improved? Is there an implicit assumption that ratepayers are more deserving than the shareholders and customers of the attachers?

Response:

- (a) The full statement as referenced at page 15 of Ms Kravtin’s Reply Report goes on to state that “any costs incurred by the utility are more than recoverable from the third-party attacher.” Ms Kravtin believes that while very small, there is some positive amount of recurring incremental cost associated with third-party attachments. See response to CANDAS(Energy Probe)Kravtin REPLY-3.
- (b) From an economics standpoint, where rates cover the incremental cost of attachment, neither the utility, its ratepayers, nor any of the other parties sharing the pole will bear a higher cost as a result of the attachment than they would absent the attachment. From an economics and public policy perspective, the concern with subsidy is appropriately in terms of the impact of the incremental service, in this instance third party attachment, on the existing core business of the firm (i.e. provision of electricity) as these core operations pre-exist the attachment and would continue to exist in the absence of the third-party attachment. From an economics perspective, societal welfare in terms of the efficient use of resources (in terms of both supply and demand) is maximized when prices more closely approximate incremental costs for the

incremental use/user. The greater the rate charged for attachment vis-à-vis incremental cost, the more contribution the third-party attacher is making to the core operations of the utility – again, costs that would exist regardless of the attacher's presence. Whether the contribution to the utility's core electric distribution service is labelled as a "subsidy to ratepayers," or as a contribution in excess of economic costs does not alter the fundamental economic reality of the situation.

Pole rate regulators have generally sought to balance the interests of all stakeholders involved (including not only private parties to the transaction but the broader public interest) by setting a range of just and reasonable rates for pole attachment, with incremental costs at the low end of the range, and fully allocated costs (including costs that would exist even in the absence of the third party attachment) at the high end of the range. From a purely economics perspective, the "first best" solution would be to set the pole attachment rate near the lower end of the range, *i.e.*, incremental cost. However, from a broader public policy perspective, an acceptable "second best" solution is to set a somewhat higher rate that is still within the just and reasonable range, provided the fully allocated cost at the upper end of the range is based on economic principles of cost causation, *i.e.*, have some demonstrated direct or indirect cost linkages to pole attachments. This latter approach has been generally adopted by regulators in both the US and Canada.

- (c) See response to (b) above.
- (d) See response to (b) above.
- (e) See response to (b) above.