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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 Board Staff 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
BOARD STAFF**

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

January 20, 2012

1. Reference: Executive Summary of Evidence - Paragraph 3 - Second Bullet: "Space on utility poles is not a scarce resource in any true economic sense; pole space is non rivalrous in consumption and characterized by readily available capacity under normal utility operating practices."

Questions:

- a) The CCTA decision assumes allocation of a finite 2' space on the pole for communication lines. Some of the previously submitted evidence indicates the height of DAS antennas to be slightly greater than 2'. Isn't it true that pole space can be considered nonrivalrous only as long the available capacity far exceeds the demand? In view of the finite space earmarked for communication lines on the poles and considering mounting of a single DAS antennas would use up most if all of the communication space on the pole, could you elaborate why you believe the pole space to be "nonrivalrous" in the context of installation of communication infrastructure?
- b) Are there any regulatory jurisdictions in North America that allow unlimited space on pole lines for installation of communications infrastructure? Please specify.

Response:

As a preliminary matter, CANDAS understands "communication lines" as referred to in this interrogatory to mean a "transmission facility" as defined in the *Telecommunications Act*, S.C. 1993, c. 38, s. 2(1), *i.e.*, any wire, cable, radio, optical or other system for the transmission of intelligence, but that it does not include the ancillary equipment or apparatus associated with the communication lines themselves. In the present context of communications attachments to poles, communication lines would clearly include copper wire, co-axial cable, and fibre-optic cable and could also include wireless antenna but would not include the ancillary power supply or amplification equipment connected to such communication lines that would also need to be attached to the utility's poles.

Further, Ms Kravtin does not understand the CCTA Order as standing for the proposition that the Board mandated, defined or limited communication line attachments to "a finite 2' space on the pole for communications lines." Rather, she notes that for purposes of calculating the rate formula, the Board adopted certain assumptions regarding the spacing on the pole and the number of attachers. With regard to the former, the Board essentially adopted the typical pole size and spacing assumptions proposed by the Canadian Cable Television Association ("CCTA") and used them in its rate calculations which relied on a space or proportion based allocator for allocating both direct and indirect costs (including common space on the pole). In its decision, the Board adopted instead the use of a per capita allocator for allocating indirect costs of the pole. The per capita allocator used by the Board, by definition, relies on as its key driver the number of attachers on the pole rather than the proportional amount of space occupied by attachers. Based on the assumed number of attachers (2.5) – and not the proportional amount of space occupied by attachers - it then calculated the recurring, per pole attachment rate per *attacher*. See CANDAS(OEB)Kravtin REPLY-4 for further elaboration of Ms Kravtin's understanding of the assumptions and methodology used by the Board to determine the per

pole attachment rate per attacher in the CCTA Order. See CANDAS(OEB)Kravtin REPLY-7(b) for her opinions on the ramifications to the utility and to its stakeholders if more communication attachers seek to attach, given the excess recovery for the utility that is built-into the Board's established rate.

The balance of this response will address what are in essence technical or engineering considerations raised by this interrogatory, as they pertain to Ms Kravtin's conclusion, as an economist, that pole space can be considered non-rivalrous.

- a) Ms. Kravtin agrees that pole space can be considered nonrivalrous only as long as available capacity exceeds demand. However, Ms Kravtin understands from her own experience in numerous pole proceedings (including the most recent FCC proceeding in which *inter alia* the FCC adopted rules governing wireless attachments to utility poles) and from the evidence in this proceeding, the following:

(i) **The safe and secure placement of communication lines is merely a function of vertical clearance requirements that are clearly set out in applicable codes and standards:**

As long as safety and security requirements are met, the space below the power zone and clearance space that is used for communication lines can and is routinely expanded. In other words, the amount of space on a pole that can be used to accommodate communication lines is a variable function depending on the size of the pole and the arrangement of lines on the pole based on required clearances between elements attached to the pole and between such elements and the ground surface (primarily clearances between lines for conducting electric power and lines for communications, and between such lines and the ground) as set out in the applicable codes and standards.

Further, it is her understanding that in order to comply with the applicable clearances, and hence avoid safety and operational problems, it is not necessary to limit all communications equipment to the so-called communication space. For example, ancillary power supply and amplification equipment that are required to operate communication lines are routinely attached in the so-called unusable or clearance space that is found below the communication lines. In this regard, Ms Kravtin notes that THESL's practices appear similar to those of U.S. electricity distributors with which she is familiar and as contemplated by U.S. rules mandating non-discriminatory access to utility poles for wireless attachments (including those outside the communication space). See THESL's response to interrogatory THESL(CANDAS)Byrne-13(e), found at Tab 5.1, Schedule 13 filed October 3, 2011, where THESL states that it permits power supply boxes for telecommunications to be attached below the communication space. Furthermore, at the Technical Conference, THESL clarified that it also permits amplifiers for telecommunications to be attached in the so-called unusable space below the communication lines (Transcript, Technical Conference held November 4, 2011, EB-2011-0120, lines 16 to 25).

In relation to communication lines *per se*, as stated above, from a safety and engineering perspective, communication lines need only be installed above the

unusable (or clearance) space in a manner that achieves the required clearances between the communications lines themselves, the ground and the span in between poles.

(ii) **Even without pole replacement, in Ms. Kravtin's experience, standard joint use poles can and do accommodate in excess of three communication lines, especially in urban areas, using a variety of different attachment methods:**

1. Various other installation techniques are used safely by utilities all over the United States, and presumably are or could be used in Canada to accommodate a much larger number of communications lines in the space below the clearance space, such as:
 - multi-arm and side-arm brackets, which are used for wireline communication lines, but are also relevant for DAS and small-cell antennas, since the bracket extends the antenna far enough away from the pole to satisfy all required clearances and need not use any more or even the same attachment space as other communication line attachments;
 - overlashing techniques; and
 - other techniques that would allow attachment of a communication line every vertical six inches.
2. Further, communication lines can be installed on the "field side", *i.e.*, the side of the pole opposite the side facing the street. The "street-side" is where wireline communication lines have traditionally been installed.

See: (i) CANDAS(OEB)Larsen REPLY-4; (ii) CANDAS(OEB)Larsen REPLY-5(a) and (iii) Diagrams depicting street side and field side views of the same LDC pole, entitled, respectively, "Typical CATV Power Supply Installed on a 35' Common Utility Distribution (LDC) Pole – Equipment Shown Installed on Street Side of Pole" and "Typical Wireless Equipment Attachment Installed on a 35' Common Utility Distribution (LDC) Pole – Equipment Installed on Field Side of Pole" attached at pages 3-4 of 4 of Appendix "B" to the Reply Evidence of Tormod Larsen filed October 11, 2011.

3. It is important to understand that DAS and small-cell antennas installed using side-arm brackets need only occupy the pole space taken up by the bracket where it is affixed to the pole. See (i) sample engineering drawings of a DAS side-arm node installation, Evidence of Tormod Larsen filed July 26, 2011, Exhibit D; (ii) picture of a side-arm antenna installation, Evidence of Tormod Larsen filed July 26, 2011, Exhibit C, p. 5; (iii) CANDAS(OEB)6.1 at 10 of 42; and (iv) CANDAS(OEB)Larsen REPLY-5(a).

4. In practice, in the U.S., FCC pole regulations assume a presumptive number of attaching entities in urban areas of five (5), based on the presence of the communication lines of at least three attachers, including a telephone company, a cable company and a competitive local exchange carrier. In addition, poles are also accommodating the attachments of fiber optic cables owned by the utility and/or affiliate for the purposes of providing telecommunications services.

(iii) **Moreover, DAS and small cell antennas need not be affixed in the communication space – they may safely be attached on the pole top, providing yet further flexibility, as compared to other types of communication lines:**

See: (i) pictures of pole-top installations, Evidence of Tormod Larsen filed July 26, 2011, Exhibit B at 6, and Exhibit C at 2, 3, and 4; (ii) CANDAS(THESL)18(a); (iii) CANDAS(THESL)19(c); and Evidence of Tormod Larsen filed July 26, 2011 at 5 (Q.4).

The FCC in its Report and Order and Order on Reconsideration dated April 7, 2011 (the “FCC’s April 7, 2011 Order”) in WC Docket No. 07-245, GN Docket No. 09-51 (appended to CANDAS’ Application at Tab 22), specifically acknowledged the feasibility of placing wireless attachments above the so-called communications space, and further, “shift[ed] the burden of proof to the utility [with the expectation that this] will deter unreasonable delays for wireless attachments above the communication space.” See FCC’s April 7, 2011 Order, paragraphs 42-43.

(iv) **Capacity on poles is readily accessible through normal make-ready processes:** as explained in Ms Kravtin’s Reply Report at pages 4-6, the economic reality of poles is such that for the preponderance of utility poles, additional capacity on poles is readily available through the normal utility operating processes of make-ready, including pole re-arrangements, modifications, and change-overs. Per CANDAS(OEB)Larsen REPLY-5(a), “from a technical perspective, there is no reason why the communication space should be limited to two feet; the communication space could be expanded, for example, were poles to be replaced with taller poles.”

The foregoing structural supply characteristics of poles render space on poles “for practical purposes, nonrivalrous,” as found by the U.S. Eleventh Circuit Court in the APCo case cited by Ms. Kravtin in her Reply Report at 4. This is why “in a true economic sense, pole capacity is neither static nor finite” (Kravtin Reply Report at 5).

In this economic context, there is no valid concern regarding the ability of Ontario electricity distributors to accommodate DAS antennas on their poles or that “the mounting of a single DAS antenna would use up most if all of the communications space on the pole” as suggested in the interrogatory.

- b) Yes, to Ms Kravtin’s knowledge, they all do. She does not know of any regulatory jurisdiction that mandates, limits or defines the amount of space that is made available to communication attachers.

The approach of regulators in the U.S. is to mandate attachment of communication equipment, subject to applicable codes and standards, except for reasons of “insufficient capacity. In other words, in the U.S., except for reasons of “insufficient capacity,” utilities are required by law to provide access to their poles to any and all telecommunications carriers, wireline or wireless, pursuant to Section 224 of the Communications Act of 1934, as amended by the 1996 Telecommunications Act and applicable FCC regulations (or parallel state regulations in jurisdictions that have opted to perform such regulatory functions).

However, as discussed above in part a), capacity is not defined or dictated by the regulators. Instead, the spatial capacity of poles is variable and is a function of the size of each pole (which is expandable through make-ready) and the clearances required under established practices and the applicable codes and standards.

Moreover, the “insufficient capacity” exception to access to pole space is a narrowly-constrained one. In particular, such a finding must generally be mutually agreed upon by the utility and the attaching entity, and carried out on a non-discriminatory basis – *i.e.*, utilities do not “enjoy unfettered discretion to determine when capacity is insufficient.” See *Southern Co. v. FCC*, 293 F. 3d 1348 (11th Cir. 2002) and also 47 U.S.C. § 224 (f)(2).

2. Reference: Executive Summary of Evidence - Paragraph 3 – Third Bullet: “The utility pole owner, by virtue of its natural monopoly, is in a position to artificially limit and control access to its network of poles despite the relative ease with which the utility can accommodate additional attachments through the make-ready process – the cost of which is fully reimbursable to the utility by the incremental attacher.

Questions:

- a) Could you provide the context in which the phrase “relative ease” is used in the above paragraph. For example, if the make ready work involves a pole change-over in an existing line with multiple power and communication circuits with a taller pole using live-line work techniques and on a street busy with vehicular traffic, don’t you think the make ready work would involve quite difficult and risky tasks?
- b) Has Ms. Kravtin made any determination of the planning and construction resources of a utility that might be required for a pole change-over such as described in Question 3? If so, please comment on the results.

Response:

- a) As a preliminary matter, it is important to understand that make-ready work, including pole change-overs are performed routinely by utilities as a normal aspect of their ownership and maintenance of a pole network. There is nothing extraordinary about make-ready including even pole change-overs. Ms Kravtin would expect it to be the case that utilities likely perform many more pole change-overs as a routine work item in connection with their ownership and operation of an electricity distribution system than would be required to accommodate even a relatively intensive third-party communication attachment project.

In this context, Ms. Kravtin uses the phrase “relative ease” to refer to the fact that make-ready work is performed in the normal, routine course of utility business operations with respect to the installation, maintenance and upgrading of its pole plant, and also that third-party attachments (along with the attachments owned by the utility) are routinely accommodated by the utility through the make-ready process.

- b) Ms. Kravtin has not made any specific determination of her own with respect to the planning and construction resources of a utility that might be required for a pole change-over. However, see the preliminary remarks made by Ms Kravtin in part a) above, which, along with the opinions expressed in the referenced portion of her Reply Report, are based on information provided by utilities in the numerous pole proceedings in which she has participated.

Moreover, whatever amount of resources might be required by a utility for a pole change-over or other make-ready work, to the extent that change-over was specifically required to accommodate an additional third-party attachment, it is the third-party attacher, and not the utility (or its ratepayers) that would be responsible for those costs. In this regard, the practice in

Ontario appears to be entirely consistent with the foregoing, as confirmed by THESL: see THESL's response to interrogatory at THESL(OEB)17, found at Tab 1, Schedule 17 filed October 3, 2011.

It is Ms. Kravtin's understanding that a utility would not expend resources for a pole change-over for the express purpose of accommodating a third-party attacher unless and until the third-party attacher expressly agreed to reimburse the utility for the expenditure of any such resources. Notwithstanding that a pole change-over that is triggered by the third-party attacher must be paid for by the latter, the electricity distributor and its stakeholders stand to benefit from the improvements paid for in full by the third-party attacher. See Kravtin Reply Report at 12-13.

3. Reference: Executive Summary of Evidence - Paragraph 3 – Last Bullet: “Valid safety or operational concerns regarding wireless attachments – as with attachments of any kind – can be (and generally are) addressed in existing objective standards and procedures and non-discriminatory terms and conditions of attachment.”

Question:

- a) Do you know of any existing standard approved for use in a Canadian or US electricity regulatory jurisdiction for installation of DAS antennas on an overhead power line? Would it be possible for you to provide us a copy of the approved standard?

Response:

- a) CANDAS assumes that the question in this interrogatory relates to antenna installations in or above the power space, *e.g.*, on the top of the pole (and not literally on the electrified power lines).

Ms. Kravtin’s understanding is that pole-top antenna installations, including for DAS antennas, would be subject to the same clearances prescribed in existing electrical safety codes and other standards of access as are applicable to any other attachments and/or work performed in this space.

Ms. Kravtin’s opinions are also informed by a recent ruling of the Federal Communications Commission in which the FCC chose to “not adopt particular access provisions for wireless attachments in the communications space.” Rather, the FCC chose to address concerns expressed by utility commenters regarding the timeline for access more generally and in a non-discriminatory manner in terms of “novel engineering problems that do not hinge necessarily on whether the service is wireless or wireline,” based on the reasoning that “wireline equipment lacking a developed construction specification would be subject to the same approach.” See FCC’s April 7, 2011 Decision and Order and Order on Reconsideration in WC Docket No. 07-245, GN Docket No. 09-51 (appended to CANDAS’ Application at Tab 22), paragraph 44.

Further, Ms Kravtin notes that existing codes and standards already expressly contemplate pole-top antenna installations on power poles. See *e.g.*, Canadian Standards Association, “Overhead Systems”, Standard C22.3 No. 1-10 at 31, clause 5.10.2.2 and at 99, clause A.5.10.2.2, found on the record of this proceeding at Exhibit G to the Affidavit of Ms Mary Byrne sworn September 1, 2011.

4. Reference: Paragraph 14: “A competitive market analysis generally must begin with the proper definition of the relevant market. Conclusions reached as to the existence of market power (or lack thereof) are highly sensitive to the manner in which the relevant market is defined. From an economics perspective, the concept of substitutability lies at the heart of a competitive market analysis. Two products (or services) are considered to be in the same relevant market if they are close substitutes. On the demand side, this is measured by the extent to which buyers shift their consumption in response to a change in relative price, quality, or other competitive variable”

Question:

- a) It appears that in the CCTA ruling, a uniform pole rental charge of \$22.35 per year per communication attacher was set by the Board based on the assumption that different communication attachments will use approximately equal pole space within the 2’ space allocated for communication lines. Considering installation of DAS antennas on poles would occupy significantly more space in relation to the communication wire-line installations, in a fair and competitive market, shouldn’t the antenna installers be required to pay a higher price? What would be a valid argument against the Board setting a higher rate for installation of DAS antennas on the poles, in proportion to the space occupied by them?

Response:

The question in this interrogatory asks what arguments apply or considerations should be taken into account in determining whether the Board should impose a higher pole rental charge for the installation of DAS antennas. It proceeds on the basis of two underlying assumptions: (1) that DAS antennas occupy more space as compared to other types of communication lines, to use the term used by the Board Staff in its interrogatory on Ms Kravtin’s Reply Report in CANDAS(OEB)Kravtin REPLY-1(a); and (2) that the rate established by the Board in the CCTA Order was based on the assumption that communication lines occupy about equivalent amounts of space on a pole and therefore, was simply a function of the proportion of the space occupied by communication attachers. Before addressing the question in this interrogatory, Ms Kravtin notes that both assumptions are unsubstantiated in her view.

The first assumption is clearly incorrect based on evidence presented in this proceeding – see (i) sample engineering drawings of a DAS side-arm node installation, Evidence of Tormod Larsen filed July 26, 2011, Exhibit D; (ii) picture of a side-arm antenna installation, Evidence of Tormod Larsen filed July 26, 2011, Exhibit C, p. 5; (iii) CANDAS(OEB)6.1 at 10 of 42; CANDAS(OEB)Larsen REPLY-4 and (v) CANDAS(OEB)Larsen REPLY-5(a).

The Board Staff’s second assumption is not consistent with Ms Kravtin’s understanding of the assumptions and methodology used by the Board in arriving at an annual per pole attachment rate of \$22.35 for Canadian carriers.

In the CCTA Order, having determined that all Canadian carriers should have a right of access to power poles (see CCTA Order at 4), the Board proceeded to establish a rental rate for access by Canadian carriers.

Under the heading of the appropriate methodology to use to set the rental rate for Canadian carriers, the Board noted that there are two elements to the rental rate, the first being the direct or incremental costs caused by the third-party communication attacher and the second being the indirect or shared common costs to be borne by the third party communication attacher. It was the latter element of the rental rate that generated the most debate in the CCTA proceeding and took up most of the CCTA Order.

It is important to note that the applicant cable companies in the CCTA proceeding argued that their contribution to common costs should "be based on the cable companies' "proportionate use" of the usable space on the pole," while the respondent electricity distributors argued against this methodology, claiming that "the portion of the common cost each of the parties bear should be equal. In other words, the common cost should be divided equally among attachers on a "per capita" basis." See CCTA Order at 4. In this regard, the Board made the following key findings in relation to the appropriate rate methodology:

- the methodology used to determine rates should be based on cost recovery *i.e.* recovery of the utility's costs, not some form of revenue sharing (CCTA Order at 6)
- the proportionate use methodology was expressly rejected in favour of a per capita or equal sharing methodology for allocating common costs. In reaching this conclusion, the Board stated that "[m]oreover, as more and more parties attach to these poles, the notion that there is a discrete portion of space to be allocated to each becomes more problematic" (CCTA Order at 7).

Having established the appropriate methodology for establishing the rates, the Board then proceeded to set out its assumptions regarding the number of attachers, the underlying costs (both direct and common) and the communication space available on a typical or average pole. Ms Kravtin notes the following with respect to assumptions used by the Board in calculating the pole rental charge:

- The CCTA Order states on its face that for rate calculation purposes, it assumed 2.5 attachers. Certain costs included in the Board's formula (*i.e.*, direct costs pertaining to loss in productivity, and indirect costs pertaining to common or fixed costs of the pole) are then divided by the number 2.5 in order to determine the appropriate allocation of costs to any given attacher. However, the Board noted the pace of change in the telecommunications industry and citing "evidence that in one municipality there are as many as seven different parties seeking attachment," remarked that if anything, there would be more not less than 2.5 attachers on any given pole network in the future (CCTA Order at 7).

- Given the above, one of the most important ramifications of more communications attachers seeking to attach is as follows. Because costs included in the formula rate are divided among the number of attachers, an increase in the number of attachers, all other things being equal, would *reduce* the amount of costs to be recovered on a per attacher basis – but not the total amount of the utility’s costs. Indeed, to the extent there are a greater number of attachers than presumed in the formula, which the CCTA Order acknowledges as likely, the utility would over-recover allocated costs because it would be charging the additional attachers a rate derived by dividing a fixed numerator of allocated costs by a smaller denominator (*i.e.*, the assumed lower number of attachers). Indeed, one can see this effect on the direct costs associated with loss in productivity by comparing the CCTA estimate of this cost based on two (2) attachers with the Board estimate based on 2.5 attachers (see CCTA Order, comparing Appendix 1 with Appendix 2).
- costs used by the Board are fully-allocated costs, meaning they include costs that would exist even in the absence of third-party carriers, a point even THESL has acknowledged. See THESL response to CCC Interrogatory THESL(CCC)Byrne-15, found on the record of this proceeding at Tab 6, Schedule 15 at 2 of 6, filed October 3, 2011, in which THESL states:

“In the CCTA Decision, the formula used to derive the charge of \$22.35 per pole per year predominantly reflected non-incremental costs, or what the Board termed Indirect Costs. Indirect or non-incremental costs are those which do not(materially) vary with the presence of wireless attachments. These were the asset carrying costs including depreciation, return, and taxes, as well as pole maintenance costs. ‘Indirect Costs’ constituted \$20.43 out of a total of \$22.35, or more than 91% of the total. Of the indirect costs, asset carrying costs were \$18.76, and maintenance costs were \$1.67. ‘Direct Costs’ or incremental costs were set at \$1.92.”

Adding to the over-recovery of economic costs implicit in fully allocated costs generally is the fact that the return component used in the OEB formula (*i.e.*, a pre-tax average weighted cost of capital of 11.42 per cent) is very generous to the utility in the context of prevailing conditions in the capital market.

- the Board determined that there should be a province-wide, per pole rental charge, consistent with the per capita methodology that it had adopted;

- the Board accepted the CCTA's "estimate" of the spacing on a typical pole (CCTA Order at 9-10) strictly for purposes of the rate calculation, and in the limited context of identifying an average amount of communication space on a typical or average standard joint-use pole in order to calculate the per capita apportionment of common or fixed costs as described above. The acceptance of the CCTA's estimates for this limited purpose did not in any meaningful sense imply any physical limit to the space that should (or could) be made available on poles for communication lines; indeed, as noted above, the OEB expressly rejected the notion of "a discrete portion of space" to be allocated to each party present on the pole in justifying its adoption of the per capita approach to allocating common costs.

In considering whether the regulated recurring pole rental charge as calculated in the CCTA Order should apply to Canadian carriers seeking to attach wireless and wireline communication lines and in consideration of the CCTA Order's methodology and assumption of 2.5 communication attachers per utility, in Ms. Kravtin's opinion, there is no basis to determine that the rate applied to wireless communication should be higher.

If anything, in a context of "more and more attachers," the rate per communication attacher should be lower rather than higher. There is a built-in-over recovery mechanism in the recurring annual pole rental charge if more communication attachers than the presumed number of 2.5 attachers seek to attach to a given utility's pole network. However, Ms Kravtin understands that in this proceeding, neither CANDAS nor any other party has sought to challenge the regulated recurring pole rental rate.

5. Reference: Paragraph 14: “For the reasons discussed below, the various wireless siting alternatives identified by Dr. Yatchew and Mr. Starkey as constituting the relevant input market (*e.g.*, rooftops, towers, building walls, street furniture, assorted decorative fixtures, billboards, signage, and the like) would not pass a valid price elevation test, *i.e.*, would not place any material constraint on the monopolist’s (THESL’s) ability to raise pole attachment prices for wireless carriers seeking to effectively compete in the provision of telecommunications services.”

Questions:

- a) Has your team conducted any market research which would indicate the level of price elevation that would result from installing DAS antennas on various siting alternatives to poles *i.e.* rooftops, towers, building walls, street furniture, assorted decorative fixtures, billboards, signage etc.?
- b) Please clarify whether the intended meaning of this paragraph is:
 - a. that a wireless carrier would prefer the utility pole as a location, and be willing to pay the monopolist’s rate, even if the price for location on a utility pole were materially higher than the price for locating on the other structures mentioned in paragraph 14; or
 - b. that the regulated pole attachment rate is so low relative to the rate that might be demanded by non-utility locations, that the pole attachment rate might be raised materially without making the other locations desirable to the wireless carrier.

If neither of these statements accurately interprets the meaning, please clarify in other words.

Response:

- a) If by market research, the interrogatory is referring to a formal empirical analysis, no such market research has been conducted, nor would it be meaningful to do so, in the context of the intended meaning of the referenced paragraph (paragraph 15 in Ms. Kravtin’s Reply Report). See response to b) below.
- b) The intended meaning of the referenced paragraph follows directly from the price elevation test contained in established competition guidelines, and as such, is more closely described by option a. As described in footnote 9 of Ms. Kravtin’s Reply Report:

Pursuant to those guidelines, a properly framed analysis determines whether inclusion of potential substitutes would place any material constraint on the ability of a “hypothetical monopolist” [THESL in this case] to raise prices by a small but significant amount and sustain profits. Only if the potential substitute [*e.g.*, rooftops, towers, building walls, street furniture, assorted decorative fixtures, billboards, signage,

and the like] would place such a constraint is the market definition properly expanded to include that alternative.

In the context of these guidelines, however, the pivotal point is not so much that the buyers “would be willing to pay the monopolist’s rate” but that the monopolist would be able to sustain a price in excess of a competitive level notwithstanding the existence of potential substitute products, because those potential substitute products are decidedly inferior, *i.e.*, insufficiently “close” to constrain monopoly pricing.

6. Reference: Paragraph 28: "New entrant telecommunications carriers are directly competing against incumbent telephone companies and cable operators but, increasingly, also with electric distribution utilities, their affiliates and/or companies in which the utility has an interest, whether by ownership or through contractual arrangements."

Question:

- a) Is this statement intended to refer specifically to an interest of THESL, an affiliate, or its shareholder? If so, please describe the nature of that interest.

Response:

- a) The referenced statement is a generic one, referring to the fact that new telecommunications entrants are increasingly competing with electricity distribution companies, either directly in those instances where the utility directly provides the telecommunications services, or indirectly in those instances where the telecommunications services are provided through an affiliate of the utility or through some other entity in which the utility has a business interest or with which it has an economic relationship of some kind, whether by ownership or through contractual arrangement. Whether the competition with the pole-owning utility is direct or indirect does not affect the underlying economic condition discussed in the referenced paragraph, *i.e.*, the incentive on the part of the pole-owning utility to leverage its monopoly control over the existing pole network (the upstream input market) into the downstream (final) telecommunications product market.

7. Reference: Paragraph 22: “The utility receives revenue from the combination of make-ready and other direct fees plus the rental rate, which is in excess of the associated incremental costs it incurs, thus providing it (and ratepayers) with a contribution to the cost of providing core electric distribution service that it otherwise would not have, but for use of available pole capacity;”

Questions:

- a) Is it your understanding that make-ready and other direct fees recover only the costs actually incurred? If so, how do so such fees contribute to the recovery of other costs?.
- b) If the charge structures set in place to apply to wireline attachments are not sufficient to recover the full costs associated with accommodating a wireless attachment, would it not be the case that the utility and its customers become worse off?

Response:

- a) As a matter of economic principle, make-ready and other direct fees should be designed to recover only the actual costs incurred by the utility in connection with the third-party attachment, *i.e.*, costs that would not have been incurred “but for” the attachment request. That said, because these types of fees are often determined unilaterally by the pole owner without regulatory scrutiny, in practice, they may contain mark-ups for contribution to the utility’s overhead or provide the utility recovery for activities such a pole change-out that would have occurred even in the absence of the third-party attachment. In such instances, the fees charged are in excess of costs actually incurred in connection with the attachment and in this manner, such fees may contribute to the recovery of the costs of providing the core electric distribution service.

In addition, as noted by Ms. Kravtin in her report at 12 and by CANDAS in other evidence in this proceeding, there are other benefits, including upgrades to the pole network and improvements in the safety of the poles on which make-ready work to accommodate a third-party communication attacher has been performed that would flow to the utility pole owner, not to mention the indirect benefits to the local economy.

- b) The scenario hypothesized in this interrogatory, *i.e.*, that the charge structures in place are not sufficient to recover the full costs associated with accommodating a wireless attachment, is extremely unlikely to occur for the reasons identified in the referenced paragraph.

To be clear, the charge structures in place generally include (i) non-recurring make-ready fees; (ii) other direct fees and (iii) recurring pole rental charges. Ms Kravtin notes that in the case of at least one Ontario distributor, THESL, the distributor appears to charge an application fee of at least \$95 per application. See Affidavit of Mary Byrne sworn September 1, 2011, paragraph 29.

Thus, the charge structures in place provide for the utility to receive revenue from the combination of non-recurring make-ready and other direct fees in addition to a recurring annual rental rate. Even if the non-recurring make-ready and direct fees are set closer to incremental cost (as they should be in principle but as noted above, are often not in actual practice), where the recurring annual pole rental rate is based on fully allocated costs, by definition, that rate provides for recovery of utility costs that would exist for the utility even in the absence of the third party attachment, including depreciation, maintenance, and capital carrying cost. As discussed in CANDAS(OEB)Kravtin REPLY-4, the recurring annual pole rental charge established in the CCTA Order is based on fully allocated costs

Moreover, as noted in Ms Kravtin's response to CANDAS(OEB)Kravtin REPLY-4, in the case of the CCTA formula rate adopted by the Board, the rate is set to recover a per capita allocation of the indirect or common costs based on only 2.5 attachers, even though as noted by the Board in the CCTA Order, there are likely to be a greater number of attachers (and this is particularly the case if utilities are encouraged to make meaningful accommodations for willing attachers rather than being permitted in their discretion to effectively deny access to some Canadian carriers on a discriminatory basis). As a result, the CCTA formula rate would provide the utility with excess recovery even beyond that associated with a fully allocated cost methodology in the likely scenario that the number of attaching entities exceeds 2.5. This is so, since as explained in response to CANDAS(OEB)Kravtin REPLY-4, spreading the same amount of costs across a larger number of attaching entities would, all else being equal, reduce the per capita allocation of costs upon which the formula rate was based. Along the same lines, as mentioned above, there is further excess recovery of attachment costs (and hence contribution to other utility costs) associated with the CCTA formula's input for return, specifically the formula's use of a 11.42 per cent weighted cost of capital given prevailing capital market conditions.

8. Reference: Paragraph 22: "With more potential space available on the pole to accommodate additional uses and/or users, the utility can realize additional sources of revenue;"

Question:

- a) Is the intended meaning of this paragraph that the communication space on the new pole would exceed the presently allowed communication space of two feet?

Response:

- a) No. The intended meaning of this paragraph is to make the point that the space on poles is not rigidly finite as some electricity distributors have suggested. While the communication space on the pole is easily expanded, it is also the case that the capacity to accommodate more attachments within whatever communication space is available can also be increased. However such increased capacity is achieved, this can represent an increased revenue opportunity for the pole owner if telecommunications carriers are allowed to utilize the available space on a given pole. Again, the referenced statement is referring to space that already exists or can readily be made available using routine make-ready work, but to which some major electricity distributors apparently will not allow certain attachers access without being required to do so.

See also CANDAS(OEB)Kravtin REPLY-1(a), 2 and 7 and CANDAS(OEB)Larsen REPLY-5(a).

9. Reference: Paragraph 21: “For use of this otherwise available space and load-bearing capacity on utility poles, third party attachers are paying well in excess of the incremental costs associated with their occupancy, including a fair return on the utility’s investment.”

Question:

- a) Please clarify whether the assertion is based on:
 - a. Ontario cost data assembled or reviewed by Ms. Kravtin;
 - b. Cost data from other jurisdictions assembled or reviewed by Ms. Kravtin; or
 - c. Another basis (specify).

Response:

- a) The referenced statement is based on the application of the economic principles of cost causation that apply across utilities and across jurisdictions, and that have been recognized in a number of U.S. regulatory and court decisions, including the Alabama Power case cited in footnote 4 of Ms. Kravtin’s Reply Report. In addition, Ms. Kravtin has performed empirical analysis using cost data from other jurisdictions that provide validation of the referenced statement.

10. Reference: Paragraph 23: “The sharing of the utility’s pole network – an asset that has historically been paid for and maintained primarily using ratepayer dollars – allows for more effective utilization of the asset, and hence a means of effectively enhancing the return on ratepayer dollars.”

Question:

- a) Would not the shared use of structures other than utility poles provide for more effective utilization of those assets and enhance return to their owners? If there is a difference in the way the economic argument should be applied in that case, please explain it.

Response:

- a) The shared use of the utility pole network is a special case and is distinguishable from other structures in a number of key respects identified in Ms. Kravtin’s Reply Report. These include: (1) utility pole networks are a natural monopoly such that there no practical and/or economically viable opportunities for other suppliers to enter the market and provide substitutes remotely close to poles; (2) utility poles are a nonrivalrous resource and hence can be characterized as public goods for which shared use does not diminish the use or benefits derived by others’ use and for which market forces alone do not tend to produce as much sharing as is efficient; and (3) utility pole networks have historically been built and maintained as a regulated asset already paid for in full through electricity rates such that a broader public interest or social welfare criterion applies to the question of the most effective utilization of these assets (as opposed to a more narrowly defined private or pecuniary interest of an owner).

Furthermore, to the extent that the question posed suggests that other structures are close substitutes to utility poles, as stated in Ms Kravtin’s Reply Report, and in CANDAS(Energy Probe)Kravtin REPLY-2(b) and 2(d), Ms Kravtin would disagree with this premise.

11. Reference: Paragraph 27: “This economic reality strongly supports a regulatory policy that mandates the same, non-discriminatory right to access utility poles to telecommunications attachments and/or attachers, without regard to the technology or mix of technologies employed or any other particular aspect of the carrier’s business model.”

Question:

- a) Please clarify whether, in your view, “the same, non-discriminatory right to access” necessitates the application of the same rates and charges to all telecommunications attachments or attachers.

Response:

- a) It is Ms. Kravtin’s view that as a general proposition non-discriminatory access would include the application of the same rates, charges, terms and conditions to all telecommunications attachments and attachers. However, the non-discriminatory application of rates, charges, terms and conditions to all carriers does not necessarily mean that all carriers pay identical rates or experience identical conditions of access. For example, under FCC rules, the pole rate formula for telecommunications carriers is computed differently for urban and rural areas, such that carriers may pay a different rental rate depending on the nature of the areas in which they are predominantly located. Similarly, there will be variation among attachers as to the amount of make ready charges they will be subject to, depending on the specific poles within a utility’s network to which they seek to attach and the specific nature of the proposed attachment and the particulars of any make-ready work required to accommodate it.