Fraser Milner Casgrain LLP
77 King Street West, Suite 400
Toronto-Dominion Centre
Toronto, ON, Canada M5K 0A1

MAIN 416 863 4511
FAX 416 863 4592

FILED ELECTRONICALLY AND VIA COURIER

Helen T Newland
Helen.Newland@FMC-law.com
DIRECT 416-863-4471

September 13, 2011

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 represent CANDAS in connection with its application to the Board regarding access to the power poles of licensed electricity distributors for the purpose of attaching wireless telecommunications equipment ("**Application**").

In accordance with Procedural Order No. 1, CANDAS is filing interrogatories in respect of the Toronto Hydro-Electric System Limited's letters of August 13, 2010 and June 10, 2011 to the Ontario Energy Board.

CANDAS will file two paper copies of the above-noted interrogatories as soon as possible.

Yours very truly,

(signed) H.T. Newland

HTN/ko

cc: Mr. George Vinyard
All Intervenors

ONTARIO ENERGY BOARD

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.*

Interrogatories of CANDAS

to

Toronto Hydro-Electric System Limited

September 13, 2011

Interrogatory 1

Topic: Adoption, implementation and amendment of "no wireless" policy

Questions:

(a) On what date did THESL adopt the "no wireless" policy?

(b) Provide a copy of THESL's "no wireless" policy, as adopted.

(c) Has THESL amended or revised the "no wireless" policy since its adoption? If yes, please provide a copy of the amended or revised policy.

(d) Provide copies of THESL's written policy with respect to attachments to distribution poles as it existed prior to the submission date of the August 13, 2010 letter to the Board ("**THESL Letter**").

(e) Did THESL's Board of Directors approve or otherwise endorse the "no wireless" policy?

(f) If the response to (e) is "yes", provide the date of the meeting at which this occurred and a list of those Board members who voted to adopt a "no wireless" policy.

(g) If the adoption of the "no wireless" policy was not endorsed by the THESL Board of Directors, by vote or otherwise, how was the Board of Directors advised of THESL's adoption of the "no wireless" policy?

(h) Were any presentations (oral or in writing) made to the THESL Board of Directors in relation to any of the subjects discussed in the THESL Letter, prior to the letter being filed with the Ontario Energy Board ("**Board**")? If yes, provide particulars of any oral presentations and copies of any written presentations, including, without limitation, power points, notes, memoranda, executive summaries and any similar writing.

(i) Provide copies of all drafts, including notes to draft, of the THESL Letter.

Interrogatory 2

Topic: Application of “no wireless” policy to street light poles

Question:

Does the “no wireless” policy apply to the street lighting poles that are to be transferred to THESL from THESI?

Interrogatory 3

Topic: Consultation with the Board regarding the "no wireless" policy

Questions:

(a) Prior to adopting or implementing the "no wireless" policy, did THESL request any input from the Board or Board staff regarding this policy?

(b) Why did THESL not wait for the Board to reply to the THESL Letter, prior to adopting the "no wireless" policy?

(c) Is it THESL's practice to consult with the Board or Board staff prior to implementing new policies or changing existing policies?

(d) Prior to adopting the "no wireless" policy did THESL seek and obtain legal advice as to the application of the CCTA Order to wireless attachments?

(e) Did THESL receive any form of acknowledgement of receipt, by the Board, of the THESL Letter? If yes, provide copies of all correspondence received from the Board or its staff in this regard.

Interrogatory 4

Topic: Consultation with stakeholders prior to the adoption of the "no wireless" policy

Questions:

(a) Did THESL consult with any Canadian Carrier, including DAScom, Public Mobile, Rogers, Telus and Bell, prior to adopting its "no wireless" policy?

(i) If yes, with whom did THESL consult?

(ii) If yes, what feedback was received and from whom?

(b) Was the THESL Letter served on affected and interested parties? If not, why not?

(c) As of August 13, 2010 how many separate parties had wireless equipment attached to THESL poles? Provide the names of such parties, the number of poles attached to, the type of the equipment so attached, and the date on which those parties first started attaching wireless equipment to the THESL poles.

(d) Is it THESL's intention to decline to review all attachment agreements with the parties indentified in response to (c) at the expiry of their pole attachment agreements with THESL?

(e) Is it THESL's intention to require all parties, identified in response to (c), to remove their wireless attachments from THESL poles at the expiration of the attachment agreement?

(f) Has THESL had any negotiations or discussions with any of the parties who have attached wireless equipment with respect to terms and conditions on which attachment will be available in the future?

Interrogatory 5

Topic: Attachments, attachment agreements and the "no wireless" policy

Questions:

(a) Prior to the adoption of the "no wireless" policy, had THESL entered into any form of agreement or other arrangement of any type that allows for wireless equipment, antennas and / or wireline attachments associated with wireless antennas similar to DAS to any type of THESL owned or controlled distribution poles? If yes, please provide any such agreements.

(b) Subsequent to the adoption of the "no wireless" policy, did THESL enter into any agreement or other arrangement, of any type, permitting the attachment of antennas and / or wireline attachments associated with wireless antennas on THESL poles? If yes, please provide any such agreements.

(c) Subsequent to the adoption of the "no wireless" policy, has THESL approached, or been approached by, any third party to enter into an agreement to permit wireless attachments to THESL owned or controlled poles of any kind (e.g. distribution, streetlight, etc.) or to otherwise allow wireless attachments to THESL poles? If yes, please explain in detail any such discussions and provide any evidence thereof including agreements, business terms or other arrangements.

(d) Prior to, or subsequent to, the adoption of the "no wireless" policy, has THESL approached any third party to enter into an agreement to manage, control, use, supervise or otherwise facilitate wireless attachments on THESL poles, whether for THESL's benefit or a third party's benefit? If yes, please describe, in detail, any such discussions and provide evidence thereof, including agreements, business terms or other arrangements.

(e) Do any third parties currently have any wireless attachments on THESL owned or controlled poles? If yes, provide all applicable agreements regarding these attachments and describe, for each third party,

(i) What type of wireless attachment is located on the poles

(ii) The total number of each type of wireless attachment located on the poles

(iii) The attachment rate, and all other applicable fees, paid by such third party

(iv) The permitted term of each wireless attachment

(v) Whether there are also wireline attachments associated with any of the wireless attachments

(vi) The number of associated wireline attachments

(f) Subsequent to, or as a result of, THESL's adoption of the "no wireless" policy, has THESL terminated or otherwise allowed any attachment agreement to expire? If yes, please provide all attachment agreements in place between THESL and each entity that has attached wireless equipment or antenna systems to THESL poles that have been canceled or terminated by THESL as a result of its "no wireless" policy.

(g) If THESL is unable to terminate any attachment agreements due to the terms contained therein, please provide details from each of these agreements including the term and termination provisions included in each agreement.

(h) Does THESL allow third parties to attach equipment of any kind to THESL poles without the benefit of an attachment agreement? For the purposes of this question, attachments include any and all attachments made by, but not limited to, municipalities, affiliates, subsidiaries (either wholly or partially owned) or any other entity that THESL may allow to attach to distribution poles without a formal, written agreement. If yes, please

(i) Disclose each entity with the informal ability to attach to THESL owned or controlled distribution poles

(ii) Disclose each entity that attaches any component or piece of equipment with wireless capabilities of any type, kind or nature

(iii) Provide examples of drawings or specifications as provided by each entity whose equipment has any wireless capability

(i) Either prior to or immediately following the adoption of THESL's "no wireless" policy, did THESL approve and / or allow any wireless equipment or antenna systems to be placed on any THESL owned or controlled distribution poles? If yes, please explain in detail and provide any supporting documentation related to

(i) The name of the entity that was allowed to attach

(ii) Examples of their installations

(iii) The total number of poles onto which each entity was approved to attach

(iv) The total number of poles onto which each entity ultimately did complete their attachments

(j) Does THESL or any THESL affiliate permit the attachment of any form of wireless equipment or antenna systems (including, but not limited to, SCADA, SmartGrid, WiFi and mobile communications) on any of THESL's distribution poles?

(i) If yes, please list each type of wireless equipment and include all hardware specifications for each component, photos and locations of each type of wireless installation on THESL poles.

(ii) If yes, please explain how each type of wireless attachment could be attached to alternative structures including, but not limited to, buildings, cell towers, or other structures. If these wireless attachments could not be attached to alternative structures, please explain the reasons why not.

(k) In the event THESL allows or has allowed wireless equipment to be placed on THESL owned or controlled poles (either under an attachment agreement or informally), regardless of whether such wireless attachments are owned by THESL or by a THESL affiliate or by a third party, or whether such wireless attachments are for THESL's own use, third party use or public use, please describe

(i) THESL's policy going forward in relation to placement of THESL's SCADA, SmartGrid, Mobile Communication or other wireless network elements to be installed in the future

(ii) THESL's policy regarding existing attachment agreements with any Canadian Carrier and the placement of wireless equipment under current attachment agreements

(iii) THESL's plan to renew or terminate all forms of commercial attachment agreements with Canadian Carriers as they become eligible for termination

(iv) THESL's policy in relation to THESL's affiliates related to allowing wireless attachments, either informally or under attachment agreement, since the effective date of THESL's "no wireless" policy

Interrogatory 6

Topic: Non-distribution and non-wireline attachments to THESL owned or controlled poles

Questions:

(a) Please list all third parties that have any "non-distribution attachments" ("**NDAs**") on THESL owned or controlled poles. For each third party, please include

(i) What type of wireless attachment is located on the poles

(ii) The total number of each type of wireless attachment located on the poles

(iii) The attachment rate, and all other applicable fees, paid by such third party

(iv) The permitted term of each wireless attachment

(v) Whether there are also wireline attachments associated with any of the wireless attachments

(vi) The number of associated wireline attachments

(vii) Any applicable agreements with such party that allows NDAs

(b) Please provide engineering drawings and specifications of all NDAs currently attached to THESL poles.

(c) Explain how each type of NDA attached to THESL poles could have been attached to alternative structures including, but not limited, buildings, cell towers, or other structures. If they could not have been reasonably been attached, please explain why.

(d) Please provide engineering drawings and specifications of all non-wireline attachments currently attached to THESL poles and the location of all such attachments on THESL poles. For clarity, non-wireline attachments includes all equipment related to or used in conjunction with wireline attachments such as power supplies, rectifiers, cable TV boxes, etc.

(e) As it relates to Figure 2 of page 3 of the Appendix to the THESL Letter, please provide:

(i) a list of all non-wireline (i.e. fibre, cable or other) NDAs attached to THESL poles including:

A. The geographic location of each NDA

B. The specific type of NDA attachment (e.g. surveillance camera, Wi-Fi antenna, battery unit, DAS antenna, etc.)

C. The owner of each NDA

D. The size, weight, dimensions and other physical specifications of each NDA

E. The attachment location on the pole of each NDA (distribution space, communication space, unusable space, etc.)

F. The attachment method (e.g. through bolt, metal band, in-line (i.e. on-cable), etc.)

Interrogatory 7

Topic: "One Zone" attachments to THESL poles

Questions:

(a) Does THESL or its shareholder have an ownership interest in any company or entity that offers any form of wireless or wireline communications services (as those terms are commonly used)? If yes, please provide the name(s) of such entities.

(b) Does One Zone (formerly, Toronto Hydro Telecom) currently operate any wireless infrastructure on any THESL owned or controlled distribution poles? If yes, indicate the total number of wireless attachments on distribution poles, street lighting poles with overhead wires and street lighting poles owned or controlled by THESL.

(c) If one or more One Zone wireless attachments are located on THESL owned or controlled distribution poles, please provide drawings, specifications and attachment methodology for these attachments on each pole type.

(d) How, if at all, do One Zone's wireless attachments differ in any material respect to the previously approved wireless hardware specifications submitted to THESL for attachment of wireless equipment by DAScom.

(e) Please describe how One Zone's attachments to THESL owned or controlled distribution poles could have been accomplished on other suitable infrastructure such as roof tops, solar panels, and towers.

(f) Please describe the current operational and business relationship, if any, between THESL and One Zone / Cogeco and provide copies of all agreements between these two parties.

Interrogatory 8

Reference: THESL's June, 2011 Letter, Section 3

Preamble: "These companies seek to profit by attempting to pay an inappropriate rate of $22.35 per year to attach to LDC poles, which amount is significantly below market and cheaper than both the costs incurred by THESL to facilitate such attachments and the cost of other wireless attachment options already available in the market. As a regulated electricity distributor, THESL submits that is has no obligation to facilitate or accommodate the business models of private interests and it is not up to the LDC's and ultimately electricity ratepayers, to subsidize the CANDAS group's arbitrage opportunity/business model."

Questions:

(a) At any point during any discussions or negotiations with any CANDAS member regarding wireless attachments did THESL offer, or otherwise make an attempt, to negotiate what THESL believed was a fair and just attachment rate? If yes, please provide copies of all emails, correspondence or other documentation to substantiate this claim.

(b) If THESL believes that the Board-approved attachment rate of $22.35 is "inappropriate" why did it not seek to vary this rate in its last cost-of-service rate application?

(c) To THESL's knowledge, are any of the other attachers to THESL poles established as not for profit organizations? If yes, please provide a list of such attachers.

(d) What criteria does THESL use to gauge which for-profit entities will be granted access and which should be denied access? Please provide a detailed description of this process and the decision metrics used to qualify or disqualify each for-profit entity based on this criterion.

Interrogatory 9

Reference: THESL's June 2011 Letter, Section 4

Topic: Alternatives to utility poles as support structures for wireless networks

Preamble: **"**LDC are not exercising any monopoly power in respect of wireless attachments. There are numerous alternatives which are available for wireless attachments, including but not limited to building-top and side-of-building attachments as well as stand-alone structures. There is, in fact, an active competitive market to site and place wireless equipment. The presence of such competitive alternatives undermines any suggestion that an LDC could exert monopoly power. A regulated attachment rate of $22.35 per year for wireless equipment may in fact seriously undermine the ability of this competitive market to further develop and efficiently operate in Ontario."

Questions:

(a) Is it THESL's position that building top, side of building attachments and stand-alone structures represent an economically viable alternative to distribution poles for wireless attachment? If yes, please provide the financial analysis performed by THESL that supports this position. Include all costs including site acquisition costs, building and rooftop rental and network design assumptions.

(b) Is it THESL's position that building top side of building attachments and stand-alone structures represent a technically viable alternative to the use of evenly spaced distribution poles with relatively consistent heights? If yes, please provide the following

(i) THESLs analysis of the morphology, terrain, structure availability reports, tower and rooftop structure heights, RF coverage predictions, network link budget calculations, technical evaluations, as well as the credentials of any firms and individuals who conducted these analyses, which supports THESLs position regarding the technical viability of alternative support structures

(ii) The frequency bands, transport protocols, backhaul assumptions and transport media used to provide backhaul transport from each alternative site to the specified switch center and all other material used in the analysis that led to this presumption

(c) What is THESL's definition of the word "monopoly" as used in THESL's June 2011 letter?

Interrogatory 10

Reference: THESL's June 2011 Letter, Section 5

Preamble: "CANDAS does not represent a public interest that is in any way relevant to the Board's mandate. CANDAS represents a consortium of commercial private interests. The public interest in this proceeding centres around: (i) ensuring that LDCs and electricity ratepayers are not subsidizing a private business model and otherwise undermining a competitive market; (ii) ensuring that the safety and reliability of the distribution system is not compromised; and (iii) ensuring that scarce pole attachment space is appropriately value and efficiently allocated among numerous competing demands for that very limited space."

Questions:

(a) Please provide examples of how the introduction of wireless equipment and antennas would compromise the safety and reliability of the distribution system in a way that is different from the installation of

(i) Cable TV equipment and wireline attachments

(ii) Electricity distribution hardware including transformers, capacitors, breakers, power conductors or other hardware routinely installed on distribution poles

(iii) Copper cables, splice enclosures and power supplies

(iv) Traffic control boxes, security cameras, public safety hardware

(v) SCADA or SmartGrid systems

(vi) WiFi equipment and antenna systems

(b) What is the estimated number of attachment positions available for each pole type owned or controlled by THESL?

(c) What percentage of the poles currently owned or controlled by THESL have attachments? Please provide a breakdown by pole type and identify the number and type of attachments.

(d) What percentage of the poles currently owned or controlled by THESL have attachments in the communication space? Please provide a breakdown by pole type and identify the number and type of wireless attachments.

(e) What percentage of the poles currently owned or controlled by THESL have wireless attachments? Please provide a breakdown by pole type and identify the number and type of wireless attachments.

(f) What percentage of THESL owned or controlled poles have attachments, wireline, equipment or otherwise, in the "unusable space" or otherwise in the space below the communication space?

(g) Does THESL object to the placement of equipment such as optical converters or battery backup in the "unusable space" or otherwise to the space below the communication space provided appropriate Electrical Standards Association ("**ESA**") and other safety guidelines are met? If yes, please explain why THESL objects to placing equipment in the "unusable space" under such conditions.

(h) Is there any equipment which THESL believes could be acceptable to place in the "unusable space"? If yes, what equipment and under what conditions?

(i) What percentage of poles does THESL believe are at full capacity and could not support additional attachments if "make-ready" work or additional support, e.g. guy wires, were added?

(j) Based on the number of poles owned or controlled, or to be owned or controlled by THESL, please explain how the use of approximately 790 poles that were to be used for the wireless attachments of DAScom's Toronto DAS Network would greatly impact the available attachment space on THESL poles.

(k) Does THESL believe that there could be more than three attachments in the communications space provided ESA and other safety guidelines were met and the as-built structure would pass structural and wind loading analysis?

(l) Has THESL evaluated options for increasing the number if attachments on the distribution poles including;

(i) Use of standoff brackets that convert a single attachment to 3 or more wireline attachments

(ii) Overlashing multiple cables onto a single messenger cable

(iii) Increasing the available communication space on taller poles through power "make ready" engineering and commonly used construction standards and practices

(iv) Allowing wireline carriers or antenna attachments to be made on the field side of the pole as opposed to the road side of the pole (pole boxing)

(v) Use of the "unused space" for placement of wireless equipment with antennas on the field side of the pole so as to not consume any existing attachment points on the road side of the pole

(vi) Decreasing space between wireline attachments to allow for additional attachments or any other means of making reasonable accommodation to all Canadian Carriers making applications to attach

If yes, please describe the research that was performed and provide any studies that were produced as a result, including specific references to ESA 22/04, that resulted in their exclusion

from consideration. If not, please explain for each numbered section, why these methods haven't been considered?

(m) What is THESL's criteria for efficiently allocating "scarce pole attachment space" among numerous competing demands? Please provide the decision metrics THESL uses to determine if and when poles are available and who can attach to poles if they are available.

(n) Does THESL have any written or unwritten policy regarding reservations of attachment space in the communication space? If yes, which entities are entitled to a reserved space on all or some number of poles?

(o) Provide copies of the distribution pole attachment agreement(s) as between Toronto Hydro (as it then was) and Toronto Hydro Telecom (as it then was).

(p) Provide copies of the distribution pole attachment agreement(s) as between THESL and Cogeco in respect of the One Zone network.

(q) Provide copies of the distribution pole attachment agreement as between THESI and Cogeco in respect of One Zone attachments to poles that are to be transferred to THESL.

(r) Do any existing attachers have a contractual right to reserve space on THESL poles? If yes, please disclose who these entities are and what process is used when a Canadian Carrier requests access to poles with available space that are reserved by others with a contractual right to use the available attachment points.

Interrogatory 11

Questions:

How many poles does THESL control or own? Please provide a breakdown of pole type (distribution, street Light, etc.) and please provide a detailed assessment of:

(a) The scarcity of pole attachment space and include current pole counts

(b) Pole counts by number of existing attachments not counting spaces reserved for future use

(c) Pole counts by number of existing attachments including spaces reserved for future use

(d) THESL's interpretation of the definition of communication space

(e) The maximum number of wireline attachments available in the communications space based on THESL's interpretation of the meaning of "available communications space"

Interrogatory 12

Topic: Safety concerns contributing to “no wireless” policy

Question:

Were there any notices of safety hazard or other related notices issued for any wireless attachment which contributed to the adoption to the “no wireless” policy? If yes, please provide copies of such notices, correspondence that accompanied such notices and copies of any approved electrical inspections for any wireless location in which a safety violation was noted.

Interrogatory 13

Reference: THESL Letter, paragraph 5

Preamble: The THESL Letter defines "wireline attachments" as "any and all pole attachments consisting of wire, cable, or optical fibre, suspended from poles and running continuously between successive poles, used for the purposes of providing electricity distribution or telecommunications services to the public". The THESL Letter does not mention power supplies, interconnect equipment, splice enclosures, control boxes, battery backup attachments or any of the non-linearly installed hardware placed by electricity distributors.

Questions:

(a) Does THESL consider all non-linear attachments to be wireless attachments? If no, please clarify how the attachments that are routinely installed by electricity distributors, cable TV companies, ILEC's and municipalities are materially different, particularly in size, shape, weight or other physical specifications.

(b) What non-linear telecommunications equipment (i.e. equipment not attached directly on a fibre/cable, e.g. cable boxes, battery backup, etc.) are attached to THESL poles?

(i) Please provide a breakdown, by type, of the number of all non-linear telecommunications equipment attached to THESL poles

(ii) Please describe the varying size, weight, shape and other physical specifications of each of these attachments

(iii) Please explain how those specifications differ from the varying size, shape, weight and other physical specifications of wireless attachments

(c) Are all non-linear telecommunications equipment attached on THESL poles (i.e. equipment not attached directly on a fibre/cable, e.g. cable boxes, battery backup, etc.) installed exclusively in the communication space? If no, where else are they typically installed on distribution poles?

(d) Are any non-linear telecommunications equipment on THESL poles installed routinely in the "unusable" space of the poles? If yes, please describe

(i) The types of such equipment that are allowed in the "unusable space" on THESL poles. Please include hardware specifications, drawings, height, weight and other specifications of wireless attachments

(ii) How each piece of such equipment is attached to the pole, including whether such attachment methodologies include through bolts, stainless steel bands or clamping options

(e) Are any non-linear telecommunications equipment on THESL poles routinely installed elsewhere on the pole besides the electricity distribution space, “unusable” space or communication space? If yes, please describe for each type of equipment with reference to

(i) Where on the pole such equipment is attached

(ii) Specifications, drawings, height, weight and other specifications of wireless attachments

(iii) How each piece of equipment is attached, including whether such attachment methodologies include through bolts, stainless steel bands or clamping options

Interrogatory 14

Topic: Non-linear telecommunications equipment and safety

Questions:

(a) Assuming there is variability in the non-linear telecommunications equipment, please explain how linemen are able to safely navigate and work on poles with these varying types of equipment?

(b) Explain how, using the same techniques, training or other methods described above, linemen would be able to safely navigate and work on poles with similarly varying types of wireless equipment? If they would not be able to safely navigate and work on these poles, explain why.

Interrogatory 15

Reference: THESL Letter, paragraph 1

Preamble: The THESL Letter states "[THESL] wishes to inform the board that, in light of many safety and operational concerns about the attachment of wireless telecommunications equipment to its pole infrastructure that are set out in this letter and its appendix, THESL has adopted a policy not to attach such equipment to its poles." The following questions address a certain pole outside of 700 University Avenue, Toronto, Ontario. Photos are provided for ease of verification.

Questions:

(a) Is this pole owned by THESL or by THESI?

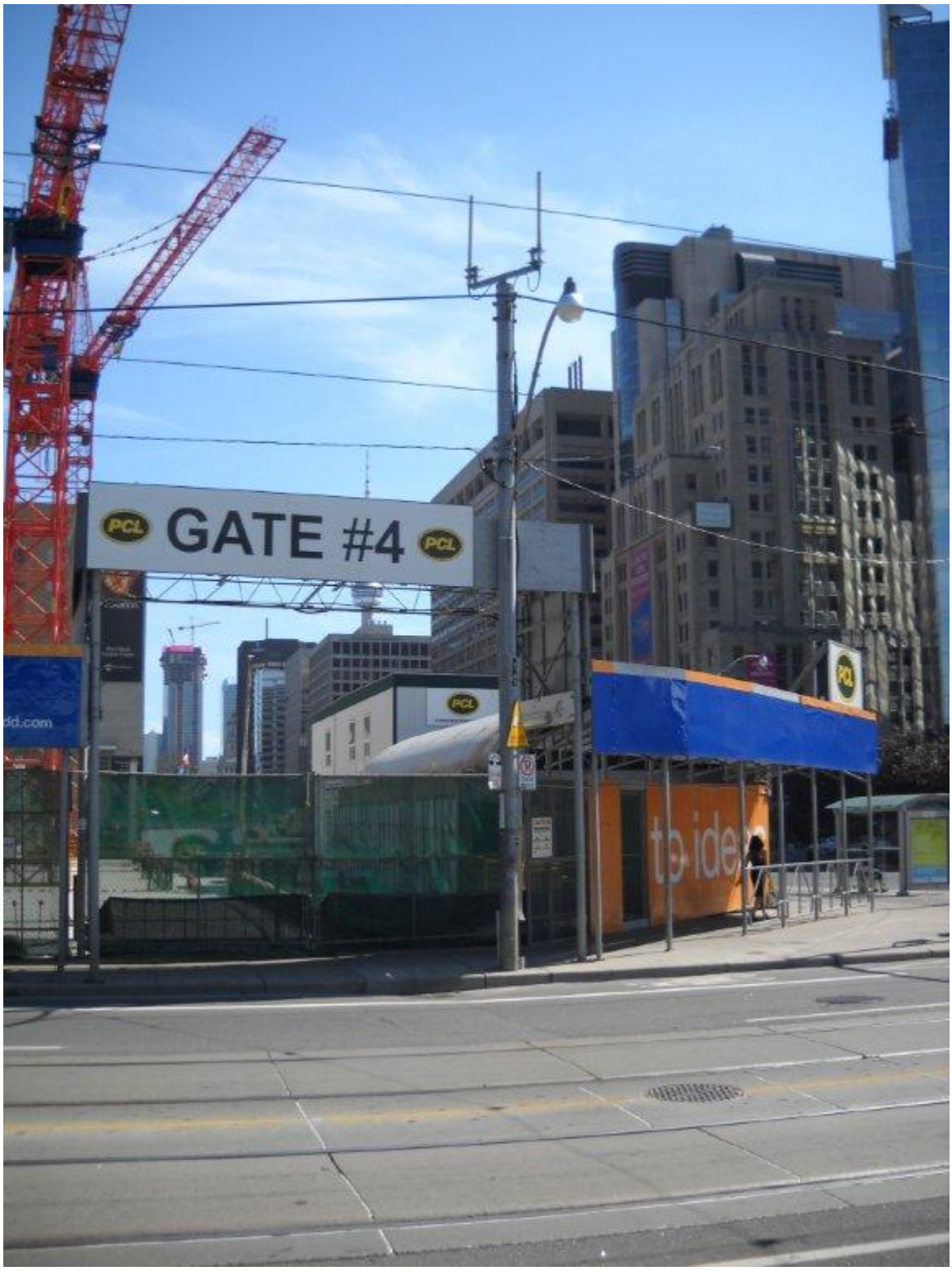
(b) Is this pole a THESI pole or, is it one of the poles that will be transferred to THESL?

(c) Is the apparatus at the pole top a wireless antenna system?

(d) Who owns the antenna system attached to the pole?

(e) If the attached apparatus is permitted by THESL under an agreement, please provide a copy of the agreement that governs this installation.

(f) Does THESL intend to renew the attachment agreement for this pole when it expires?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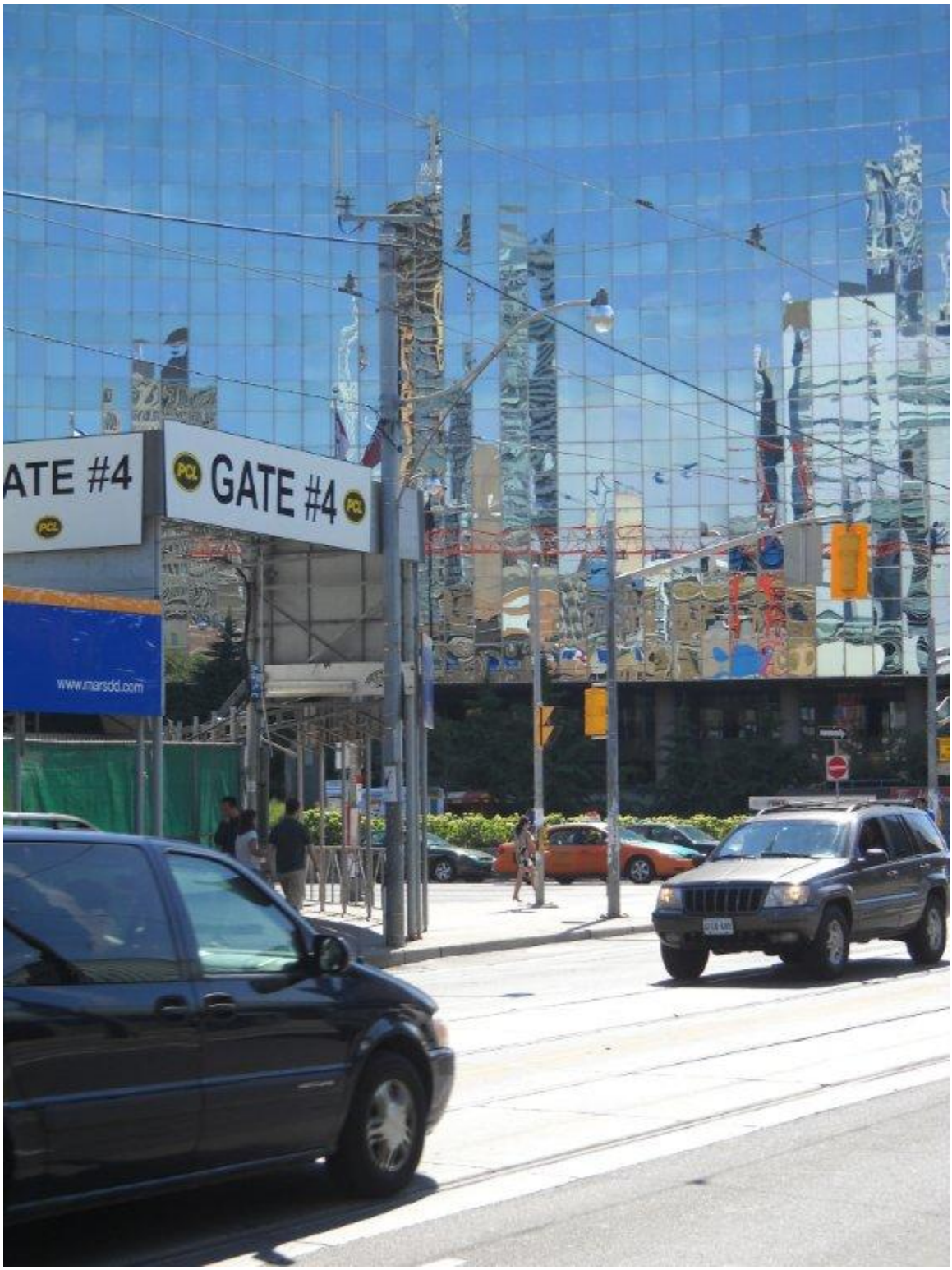
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Interrogatory 16

Reference: THESL Letter, "There are Substantial Physical Differences Between Wireline and Wireless Attachments", paragraph 1

Preamble: "Both systems [wireline and electricity distribution] are largely composed of wire conductors which must run continuously between successive poles and terminate at the premise of customers in order to provide service."

Questions:

(a) Are the wireline attachments used to interconnect DAS nodes materially different from wireline attachments used to interconnect cable TV equipment mounted to poles?

(b) Are wireline attachments used to interconnect DAS nodes materially different from ILEC telephone cables used to interconnect splice enclosures for fibre optic subscriber line interfaces?

(c) Are the dimensions of splice enclosures or cable TV equipment that are mounted in the "unused space" on poles materially different than the wireless equipment installed in the "unused space" on the poles (other than the antenna)? If yes, how are they different?

Interrogatory 17

Reference: Physical Characteristics of DAS Network equipment

Question:

Does THESL agree that the pole attachments of the Toronto DAS Network that were installed on THESL poles were smaller (in width, height, depth and weight) than the equipment that is routinely attached to THESL poles for cable TV enclosures, pole mounted splice enclosures and cable TV power supplies? If no, explain why not.

Interrogatory 18

Reference: THESL Letter, "There are Substantial Physical Differences Between Wireline and Wireless Attachments," paragraph 2

Preamble: "In contrast [to wireline or electricity distribution], as a category, wireless communications attachments are distinctly different from wireline attachments, and within their category they are highly variable in size and configuration".

Questions:

(a) How many different versions of wireless attachments has THESL evaluated?

(i) Please provide specifications or drawings that were reviewed by THESL in this regard

(ii) Please explain where the examples of wireless attachments (or drawings thereof) were obtained

(b) With respect to the nodes applications filed by DAScom for the Toronto DAS Network, describe how the equipment comprising each node varied as between nodes, having regard to:

(i) Size

(ii) Weight

(iii) Configuration

(iv) Attachment method

(v) Location on the pole

(vi) Other material variations

(c) Are there any physical differences between non-wireline cable TV equipment attachments on THESL poles and the Toronto DAS Network wireless attachments (other than an the RF characteristics of the antenna)? If yes, please describe these physical differences.

(d) How many different types of cable TV equipment attachments are installed on THESL poles? Please describe and provide examples of each type of equipment.

(e) Please describe any physical differences between ILEC splice enclosures installed on THESL poles and the Toronto DAS Network wireless attachments (other than an the RF characteristics of the antenna).

(f) How many different types of ILEC splice enclosures are installed on THESL poles? Please describe and provide examples of each.

(g) Are there any material physical differences between ILEC splice enclosures installed on THESL poles and cable TV equipment attachments installed on THESL poles?

(h) How many different non-wireline components are installed on THESL poles in relation to electric service distribution?

(i) If there are differences between the types of equipment installed by cable TV, ILECs, municipalities or other attachers, please describe how THESL was able to work around these variables as it relates to

(i) Attachment requirements and specifications

(ii) Safety and other engineering considerations

(j) How would THESL's training of line crews change if wireless attachments were permitted on THESL owned or controlled poles?

(k) Does THESL provide training for line crews for working on poles with THESL's SCADA or communications equipment?

(i) If yes, are there measurable differences between commercial wireless systems and wireless communications systems used by THESL or other electricity distributors that would require materially different training for crews

(ii) If yes, please describe what differences exist and how the current training programs are lacking or would need to be improved or changed

Interrogatory 19

Reference: THESL Letter, "Safety is Compromised," paragraph 5

Preamble: "Wireless communications attachments outside the distribution space also have the potential to impede safe and efficient access to both distribution equipment and other wireline attachments particularly in situations involving planned emergency restoration work which occurs frequently on THESL's system."

Questions:

(a) How is this situation unique to wireless equipment attachments and not other attachments occupying an area outside the distribution space on a pole?

(b) How would a wireless attachment located on the field side of a distribution pole impede the access of a lineperson working in a bucket truck located on the road adjacent to the distribution pole?

Interrogatory 20

Reference: THESL Letter, "Safety is Compromised," paragraph 5

Preamble: In addition "the drilling of holes through poles to mount wireless communications attachments below the distribution zone incrementally weakens poles and creates stress concentrations in areas where structural integrity must be maintained to support the significant loads exerted by the distribution equipment above".

Questions:

(a) Does THESL use bolts or through bolts to attach electricity distribution equipment to their poles?

(b) Describe what other methods of attachment besides the use of bolts or through bolts are acceptable and approved by THESL for mounting wireline related equipment, such as cable TV power supplies, traffic control equipment, SCADA equipment or other apparatus to the poles.

(c) What is THESL's current approved method for installing messenger cable anchors in the communication space?

(d) Would THESL approve any other attachment methods for equipment, e.g. metal bands? If no, why?

(e) If through bolts are used for any attachments to THESL poles, what size bolts are required?

(f) Does the ESA specify, or provide guidance on, the number of bolt holes permitted in a particular pole? If yes, what is the guidance?

(g) How far apart can bolts be spaced on a distribution pole?

(h) What is the current engineering calculation used by THESL to determine the effect one or more bolt holes may have on a pole?

(i) Based on this engineering calculation and assuming a 5/8" bolt is inserted into a 5/8" hole and tightened properly, can a calculation be made to determine if the hole will have any effect on the load carrying capacity of a pole? If yes, provide an example of this calculation including the percentage decrease in load carrying capacity each bolt hole has on a common wooden utility pole.

(j) In contrast to the vertical load placed on the pole by the electricity distributors and the lateral and vertical loads placed on the poles by wireline carriers, please explain how bolt holes would have a material effect on the structural integrity of the pole generally and as it relates to any engineering study, ESA reference or formal calculations along with a summary of the results.

(k) Would clamps that are properly torqued to hold a piece of equipment to a pole cause damage to the outside of the pole making it more or less vulnerable than if bolts had been used to hold the same piece of equipment?

Interrogatory 21

Reference: THESL Letter, "Pole Attachment Space is a Scarce Resource," paragraph 2

Preamble: "In any situation in which power or signal wireline equipment is required to be suspended above ground, there is no feasible alternative to utility poles, particularly as the systems reach their terminal points and homes and other premises".

Questions:

(a) In what situations is it not feasible to place wireline facilities and cables underground and why?

(b) Can trenches, dug in the right of way, be considered a viable alternative to utility poles for wireline carriers, and if yes, why?

(c) Do underground installations represent suitable alternatives to utility poles for wireline and electricity distribution poles? Please explain why or why not.

(d) If not, in areas where no utility poles exist, how is electric service and other wireline services provided to customers?

Interrogatory 22

Reference: THESL Letter, Appendix 22, paragraph 6, Communications space

Questions:

(a) Please confirm that a minimum of 5 attachment points on a distribution pole are viable assuming 1 at 0", 2 at 6", 3 at 12", 4 at 18" and 5 at 24".

(b) Is there an ESA standard that limits the number of attachments permitted in the communication space of a distribution pole? If yes, please provide the reference for this standard.

Interrogatory 23

Topic: Communications space

Questions:

(a) Does THESL limit attachments in the communication space to a certain number? If yes, what is the limit and please explain the rationale for that limit.

(i) Please explain any engineering or other mechanical reasons to limit the number of attachments.

(ii) Please explain any economic reasons the number of attachments are limited.

(b) Are all THESL poles limited to this same number of attachments? If not, please explain any other limitations on the number of attachments.

(c) Is THESL aware of any other Ontario electric utilities limiting the number of attachments in the communications space to 2.5 or 3 or fewer? If so, please identify those electric utilities.

Interrogatory 24

Topic: Communications space

Questions:

(a) Does THESL limit the communication space to 2 feet?

(i) If yes, is that limitation the same for all poles?

(ii) If not, please explain the different limitations for different poles.

(b) Can the communications space ever be larger or smaller than 2 feet?

(c) Are there any engineering factors requiring the limitation to 2 feet? If yes, please explain.

(d) Are there any safety requirements (including ESA standards) or other guidelines that limit the communications space to 2 feet? If yes, please reference the safety requirements or other guidelines and explain their significance to the 2 foot limitation.

(e) Are there any regulations which limit the communications space to 2 feet?

Interrogatory 25

Reference: THESL Letter, Appendix, paragraph 22-23.

> "In recent years however the number of applications, particularly for wireless communication NDAs, has grown dramatically, due largely to the introduction of "WiFi" networks to the rest of the internet. In 2007, THESL received 392 wireline attachment requests and 0 wireless attachment requests; in 2008 the corresponding figures were 564 and 0; in 2009, 1193 wireline and 250 wireless; and in 2010 wireline requests are projected to reach 1840 with wireless requests reaching 550, for a total in 2010 of 2390 requests.
>
> The surge in requests for attachments has placed a server strain on THESL staff resource and has unavoidably led to longer waiting times for attachment approval. A simple application takes approximately five hours of staff time to process in total; more complicated attachment requests take differing amounts of additional time depending on the complexity. Any requests involving make-ready work on the pole or on existing distribution equipment require significantly more time and planning to execute."

Questions:

(a) Since 2007, on a year over year basis, has there been any change in processing time of attachment applications? If yes,

(i) Provide a breakdown of changes in processing time by application type (e.g. wireless, wireline, etc.)

(ii) Describe the metrics and methodology, as well as the data collection methods, used to calculate such changes

(b) Since 2007, on a year over year basis, has there been any change in the time required to perform fieldwork (e.g. "make ready" work) to accommodate attachment applications? If yes,

(i) Provide a breakdown of changes in processing time by application type (e.g. wireless, wireline, etc.)

(ii) Describe the metrics and methodology, as well as the data collection methods, used to calculate such changes

(c) What methodology does THESL use to prioritize the processing of attachment applications, e.g. first in-first out, by application type, by complexity of the application, or by entity requesting attachment?

Interrogatory 26

Questions:

Does THESL's "no wireless" policy pertain to wireline attachments related to, or used in conjunction with, wireless attachments (e.g. the many fibre optic cable attachments connecting the various wireless "nodes" in a DAS network)?

(a) If yes, please explain the reasons why.

(b) If no, explain the reasons why.

Interrogatory 27

Reference: THESL Letter, "Pole Attachment Space is a Scarce Resource"

Preamble: THESL details many issues related to resource efficiency, cost, aesthetics and other public interests with installing and maintain utility poles. As a Canadian Telecommunications carrier, one of the alternatives for wireless attachments is to place poles in the Rights of Way (ROW).

Questions:

Is it THESL's position that setting new poles in the ROW is a viable alternative to utility poles for wireless attachments.

Interrogatory 28

Topic: Wireless Attachments and other distribution antennas

Questions:

(a) Please provide the following information:

(i) a list of all wireless attachments that are used in conjunction with electricity distribution, such as SCADA antennas or other SCADA equipment

(ii) The geographic location of each wireless attachments that are used in conjunction with electricity distribution

(iii) The specific type of wireless attachments that are used in conjunction with electricity distribution

(iv) The owner of each wireless attachments that are used in conjunction with electricity distribution

(v) The size, weight, dimensions and other physical specifications of each wireless attachments that are used in conjunction with electricity distribution

(vi) The attachment location on the pole of each wireless attachments that are used in conjunction with electricity distribution (distribution space, communication space, unusable space, etc.)

(vii) The attachment method (e.g. through bolt, metal band, in-line, etc.)

Interrogatory 29

Preamble: Electric utilities in the United States are required to permit access on their electric distribution poles to wireless attachments.

Question:

What are the circumstances that exist in Ontario that are materially different from those in the United States that would make a requirement to permit wireless attachments unjustifiable or otherwise untenable?

Interrogatory 30

Preamble: In the United States, the FCC has ruled in a manner similar to the Board's holding in the CCTA Order, namely that telecommunications carriers have a right to attach to utility poles. The FCC has also gone on to clarify that this right includes wireless attachments and, just this year, further strengthened the regulations regarding the rights of wireless attachers including the right to receive equitable terms and conditions of attachment access and regulated rates similar to those of wireline carriers.

Question:

Does THESL believe regulations of wireless attachers similar to the FCC's should be adopted by the Board? If not, please explain why the circumstances in Ontario require a different approach.

Interrogatory 31

Topic: Wireless services in deregulated market

Question:

Has THESL had any negotiations with any of its existing customers, including Rogers Communications Inc., regarding wireless attachment services? If "yes" what was the nature of those discussions?

Interrogatory 32

Reference: Application, para. 10.21; Responses to CCC 1 and CEA 9-1

Questions:

(a) Produce any and all documents, including contracts, evidencing the terms and conditions upon which THESL (or any affiliate) permitted the "One Zone" network to be attached to its poles.

(b) How many of THESL's (or its affiliates') poles are currently utilized to hold:

(i) TTC communications equipment

(ii) "One Zone" communications equipment

(iii) Any other telecommunications equipment

(c) For each of the equipment identified in operations (b)(i), (ii) and (iii) provide:

(i) The identity of the pole (by location and alpha-numerical designation)

(ii) A photograph of each pole, with all communications equipment clearly visible