



**EB-2011-0027**

**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  
Summerhaven Wind LP, for an Order or Orders granting  
leave to construct Transmission Facilities.

**BEFORE:** Cathy Spoel  
Presiding Member

## **DECISION AND ORDER**

### **SUMMARY OF APPLICATION AND PROCEEDING**

On January 27, 2011, Summerhaven Wind LP ("Summerhaven" or the "Applicant") filed an application (the "Application") under Sections 92 and 97 of the *Ontario Energy Board Act, 1998* (the "Act") seeking leave to construct transmission facilities to connect the Summerhaven Wind Energy Centre ("SWECC") to the IESO-controlled grid and approval of a form of easement. The work involves constructing 9 km of 230 kilovolt (kV), single circuit overhead transmission line and associated facilities in the County of Haldimand to connect the wind farm to the existing transmission corridor at the Hydro One Networks Inc. ("HONI") N1M designated 230 kV transmission line (the "Transmission Facilities"). The proposed transmission line would extend from a new substation located at the wind farm to a new HONI switchyard at the N1M termination. The Board assigned file number EB-2011-0027 to this proceeding.

The Board issued a Notice of Application and Written Hearing on February 24, 2011 and the Applicant served and published the Notice as directed by the Board. In response to the Notice, six parties requested and were granted intervenor status in this proceeding: Capital Power, Glenfred Gaswells Ltd; the Corporation of Haldimand County; Haldimand County Hydro Inc. ("HCHI"); HONI; and the Independent Electricity System Operator ("IESO"). None of these parties was determined to be fully cost eligible. The Corporation of Haldimand County filed a letter on October 12, 2011 indicating its withdrawal from the proceeding. Addressed in a separate section in this Decision and Order, is a partial cost eligibility award granted to HCHI. HCHI has been found eligible for a partial award of costs principally in recognition of the helpful evidence it filed during the hearing that addressed distribution reliability concerns that relate generally to public interest issues in this proceeding.

Ms. Becky Haywood, Rob and Diana Smuck, requested and were granted observer status.

The Board issued eight procedural orders in this proceeding. Appendix B of this decision and order provides details on procedural matters.

On September 30, 2011, the record of the proceeding was completed with parties filing their comments on the Draft Conditions of Approval which were issued on September 20, 2011.

For the reasons set out below, the Board finds the proposed 230 kV transmission line to be in the public interest and grants leave to construct the Transmission Facilities, subject to the Conditions of Approval attached to this Decision.

## **PROJECT OVERVIEW**

The applicant entered into a feed-in-tariff ("FIT") contract with the Ontario Power Authority ("OPA") in April 2010 in respect of the sale of electricity from SWEC, a windfarm. Summerhaven is seeking leave to construct Transmission Facilities to connect the SWEC in Nanticoke, County of Haldimand, to the IESO-controlled grid.

## THE BOARD'S JURISDICTION

The Application has been made under s. 92(1) of the Act for an order of the Board for leave to construct the proposed Transmission Facilities.

The Board's jurisdiction to consider issues in a section 92 leave to construct case is limited by sub section 96(2) of the OEB Act which states:

- (2) In an application under section 92, the Board shall only consider the following when, under subsection (1), it considers whether the construction, expansion or reinforcement of the electricity transmission line or electricity distribution line, or the making of the interconnection, is in the public interest:
1. The interests of consumers with respect to prices and the reliability and quality of electricity service.
  2. Where applicable and in a manner consistent with the policies of the Government of Ontario, the promotion of the use of renewable energy sources.

## EVIDENCE AND BOARD FINDINGS

### Project Need

The Applicant is the owner responsible for the development, construction and operation of the 124.4 MW SWEC. The Applicant was also awarded a 20-year power purchase agreement<sup>1</sup> under the OPA's FIT program in April 2010.

As a result of the requirement to deliver renewable energy to the IESO-controlled grid, the Board is satisfied that the need for the transmission line and related facilities has been established.

### Price, Reliability and Quality of Electricity Service

While the route selected by the Applicant for the proposed Transmission Facilities is on private lands, the Board notes that the evidence provided in the proceeding indicated that this route is likely to result in the Transmission Facilities being located in close

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<sup>1</sup> Exh. A/Tab 2/Sch. 1/p.1/paragraph. 3

proximity to HCHI's distribution system along a certain distance on Concession Rd 5. The evidence is that close proximity of transmission and distribution facilities could result in negative impacts on the distribution system that require mitigation activities. In the Board's view, this situation requires assessment of the price, reliability and quality of electricity service from two perspectives; 1) potential impacts on transmission facilities and 2) potential impacts on distribution facilities and by extension, on distribution ratepayers.

HCHI argued <sup>2</sup> that the Act does not restrict the Board's consideration of impacts to the facilities and consumers of the connecting utility, in this case HONI. HCHI's position was, therefore, that the Board should also consider the impacts of the Transmission Facilities on HCHI's consumers in regards to price, reliability and quality of service, taking into account both HCHI's existing plant as well as any new plant that HCHI has planned for the reasonably foreseeable future.

Board staff submitted that it considers investigation and mitigation of potential negative impacts resulting from the induction phenomenon attributable to the proximity of the proposed 230 kV transmission line to HCHI's distribution lines and to HCHI's customers to be part of the consideration of "reliability of electricity service" which is within the Board's jurisdiction.

The Applicant did not dispute either the position of HCHI or that of Board staff that potential negative impacts of the Transmission Facilities on HCHI's distribution system and on HCHI's customers is within the jurisdiction of the Board in this proceeding.

The Board finds that it is within the Board's jurisdiction to review any potential negative impacts of the Applicant's proposed Transmission Facilities on HCHI's distribution system and on HCHI's customers.

### Transmission System

#### *Transmission Pricing Impacts*

The Board notes that even though the proposed Transmission Facilities will be funded by the Applicant, the connection to HONI's system was at issue in this case. The issue arose since an alternative arrangement of sharing a connection station with another wind project, was, according to IESO evidence, a more economic alternative to the

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<sup>2</sup> HCHI's Submission, June 22, 2011, paragraph 22)

Applicant's selected option and would result in less impact on transmission rate payers than building two separate connection stations. The common connection station matter is addressed in a separate section in this Decision and Order.

#### *Transmission Reliability and Quality Impacts*

An IESO System Impact Assessment ("SIA") for this project, dated November 4, 2010 was filed by the Applicant on January 27, 2011. The SIA concluded that the proposed project does not have a material adverse impact on the reliability of the IESO-controlled grid. The SIA report included a number of detailed recommendations and technical requirements. The Applicant did not object to any of the technical requirements and recommendations contained in the SIA, except for the SIA recommendation of a shared common switching station for this project and the Port Dover Nanticoke Wind Project (outlined in Figure 2 in the SIA report).<sup>3</sup>

A completed Customer Impact Assessment ("CIA"), dated November 9, 2010, by HONI was filed by the Applicant on January 27, 2011. The CIA concluded that with appropriate construction and outage planning, it is expected that the connection of Summerhaven's proposed transmission facilities can be implemented with minimal supply impact to the existing transmission customers in the area. The Applicant did not object to any of the conclusions and recommendation listed in the CIA report.

The Board accepts the conclusions of the SIA and CIA reports which indicate that the proposed project will not have a negative impact on the reliability of the IESO-controlled grid or on the reliability of supply to the transmission customers in the area. With the exception of the recommendation in relation to a shared connection station, compliance with the requirements and recommendations of the SIA and the CIA is required by section 1.7 of the Conditions of Approval, attached as Appendix A to this Decision and Order.

#### Distribution System

##### *Distribution Pricing Impacts*

The Board notes that HCHI's submission<sup>4</sup> acknowledged the Applicant's offer to bear responsibility for the cost of mitigating any induction effects on the distribution system. HCHI, noted, however that since there is no direct connection between the two systems

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<sup>3</sup> Exh. B/ Tab 8/ Sch. 2/SIA Report/Section 3.1 Proposed Connection Arrangements/p. 16

<sup>4</sup> HCHI's Submission, June 22, 2011, p. 4, par.13)

i.e., no joint pole use, there is no requirement for a contractual relationship between HCHI and the Applicant. In the absence of a contract, HCHI could therefore have difficulty recovering costs from the Applicant.

The Board notes that the Applicant has offered to absorb the costs of mitigating possible induction effects on HCHI's distribution system and HCHI's customers. The Board also finds it appropriate to explicitly address HCHI's concerns about cost recovery for any impacts that the Transmission Facilities have on HCHI's distribution system. The Board has addressed the details of potential impacts of the Transmission Facilities on HCHI's system and the recovery of costs to mitigate such impacts in the Conditions of Approval, attached as Appendix A to this Decision and Order.

#### *Distribution System Reliability and Quality Impacts*

Four issues were considered in assessing the potential impacts of the proposed Transmission Facilities on HCHI's distribution system reliability.

The first issue related to HCHI's expressed need to increase the capacity of a certain distribution feeder via a 27.6 kV voltage conversion (the "Distribution Upgrade"), and the co-location of the new distribution line required to be built as part of the Distribution Upgrade adjacent to a portion of the proposed transmission line along Concession Rd 5.

The second issue concerned the review of two induction studies; 1) a preliminary study commissioned by HCHI (the Kinectrics Report); and 2) a study commissioned by the Applicant<sup>5</sup> and filed as an attachment to its Final Argument.

The third issue was a review of the proximity requirements for the proposed transmission and Distribution Upgrade along the co-location distance on Concession Rd 5.

The fourth issue related to mitigation of possible increased impacts on animal contact potential at certain farms due to the presence of the proposed Transmission Facilities in close proximity to the proposed Distribution Upgrade along Concession Rd 5.

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<sup>5</sup> Applicant Reply Submission, July 27, 2011, Schedule C, Peak Induction Study and Schedule D, Peak GPR Report

## 1. Need and Location of the Proposed Distribution Upgrade

The Board notes that in its response to a Summerhaven Interrogatory,<sup>6</sup> HCHI indicated that any additional load such as the supply to Summerhaven's transformer station from its single phase distribution lines along Concession Rd 5 and Concession Rd 4 (currently operating at 4.8 kV) would trigger an immediate need to convert to higher system voltage. HCHI confirmed its plans<sup>7</sup> to upgrade the existing distribution system, along Concession Rd 5, and also indicated that construction on the opposite side of the municipal right of way would likely be more expensive and would also be inconsistent with HCHI's policy of only locating poles along one side of municipal rights of way.

In its Reply Argument, the Applicant indicated its disagreement with the position of both HCHI and of Board staff in regard to the location of the proposed 27.6 kV distribution line. The Applicant pointed out that if HCHI were to upgrade to 27.6 kV by replacing the existing distribution line, the Adjacent Length would only be approximately 550 metres. The Applicant also stressed<sup>8</sup> that it is not aware of any power system design or regulatory principle that states that electricity infrastructure should be built only on one side of a municipal right of way. The Applicant also submitted that it has equal rights, along with distributors, to the use of municipal rights of way.

The Board observes that as a regulated distributor, HCHI is obligated under section 28 of the Electricity Act,<sup>9</sup> to connect new customers, and that this obligation is also a condition in its licence, the Distribution System Code and its Conditions of Service. The Board accepts HCHI's assertion that it needs to increase the capacity of its single distribution line along Concession Rd. 5. The Board also notes that at 66 feet (about 20.1m), Haldimand County Concession Rd. 5 has a narrower right of way than most other Haldimand County roads. The Board finds that HCHI's position of avoiding locating utility poles on both sides of this municipal right of way is reasonable.

## 2. Status of Completed Induction Studies

The Board found the exchange<sup>10</sup> between the Applicant and HCHI that took place during the Technical Conference on the issue of the potential induction impact of the proposed Transmission Facilities on HCHI's distribution system to be very helpful. This

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<sup>6</sup> HCHI response to interrogatory #1 (a), June 15, 2011, page 2

<sup>7</sup> HCHI's submission, June 23, 2011[correcting typographical error on page 3, section 11(d)], page 8, paragraph 39)

<sup>8</sup> Applicant Reply Submissions, July 27, 2011, paragraph 20, and Schedule B, Photos

<sup>9</sup> Electricity Act, 1998, S.O. 1998, c.15, Schedule A, section 28

<sup>10</sup> Technical Conference, May 17, 2011, pages 52-53

exchange ultimately led to the filing by HCHI of a preliminary induction study report (the “Kinectrics Report”).<sup>11</sup>

The Board notes that the preliminary results and recommendations of the Kinectrics Report include: (1) maintaining a distance of 10 metres or more between transmission and distribution poles; (2) calculations of the neutral to remote earth to be about 7 Volts (which meets the Ontario Electrical Safety Code limit of 10 Volts); (3) the assertion that the 10 Volt limit can be exceeded in certain circumstances; and (4) a reminder that distributors must maintain their contributions to animal contact potential at customer premises under 0.5 Volts, according to the Board’s Distribution System Code.<sup>12</sup>

The Board also appreciates that the Applicant’s Reply Submissions<sup>13</sup> included four Schedules, two of which are detailed studies relevant to the induction issue. Schedule C contained a Peak Induction Study and Schedule D contained a Peak Underground Arcing and Ground Potential Rise Report. The Applicant indicated<sup>14</sup> that with one exception related to induced voltage during fault conditions, the conclusions of the Peak Induction Study are not significantly different from the HCHI Induction Study – the Kinectrics Report.

The Board also found helpful the Applicant’s proposal<sup>15</sup> to carry out a neutral voltage survey to establish a baseline prior to commercial operation of the Transmission Facilities and a post-energization neutral voltage survey that would be based on field measurements rather than theoretical models. These surveys would be used to identify areas where mitigation by the Applicant may be required.

The Board finds that it is not necessary to carry out a final induction study prior to the issuance of any decision by the Board, as originally proposed by Board staff.<sup>16</sup> The Board is satisfied that any potential impacts of induction attributable to the proposed Transmission Facilities will be addressed through the requirements in the Conditions of Approval, attached as Appendix A to this Decision and Order.

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<sup>11</sup> HCHI’s evidence, May 31, 2011 – INDUCTION STUDY FOR HALDIMAND COUNTY HYDRO INC, Kinectrics Report, pages 4-5

<sup>12</sup> Distribution System Code, February 7, 2011, Section 4.7.4

<sup>13</sup> Applicant Reply Submissions, July 27, 2011

<sup>14</sup> Applicant Reply Submissions, July 27, 2011, paragraph 25

<sup>15</sup> Applicant Reply Submissions, July 27, 2011, paragraph 27

<sup>16</sup> Board staff Submission, June 22, 2011, section B.1.6, pages 8-9



### 3. Co-location Implication on Transmission Design

As directed by the Board, HCHI filed its proposed 27.6 kV distribution system design on July 13, 2011, and Summerhaven filed its proposed transmission design on July 27, 2011.

The Board notes that in HCHI's submission, it listed conditions including: (a) the requirement that the Applicant's transmission facilities maintain clearances relative to HCHI's proposed distribution line as indicated in the Kinectrics report<sup>17</sup> (including the neutral height of 25 feet above the crown of the road); (b) the requirement that all transmission road crossings be built to provide adequate clearance for HCHI's future needs; (c) the stipulation that the centreline of the proposed 230kV transmission line along Concession Rd. 5 be located on private property at least 10 metres from the property line paralleling the municipal right of way; (d) the requirement that the installation of guy wires not be anchored within a municipal road right of way and (d) the requirement that, where any span guys cross over the roadways, appropriate clearances under the span guys be provided for HCHI's facilities.

Board staff's submission<sup>18</sup> generally agreed with HCHI's positions except for the required separation between the two lines. Board staff's view favoured a diagonal separation between any proposed 230 kV pole and any pole of HCHI's planned 27.6/16 kV pole line for the 2 km stretch along Concession 5 Road (as described in the Kinectrics Report).<sup>19</sup>

The Applicant's submission indicated agreement with some of the conditions of approval proposed by both HCHI and Board staff. The following were highlighted as areas of clarification or disagreement: (a) in regard to HCHI's noted requirements for span guys crossing over the road ways, the Applicant asserted that HCHI needs to provide the exact location of its proposed distribution facilities in advance of the Applicant finalizing the design of the Transmission Facilities; (b) with the exception of the calculation of induced voltage during fault conditions as a result of differing calculation assumptions between HCHI and the Applicant, the conclusions of the Applicant's Peak Induction Study are not significantly different than the HCHI Induction Study; (c) the Applicant disagreed with HCHI's proposal that the transmission line be

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<sup>17</sup> HCHI's evidence, May 31, 2011 – INDUCTION STUDY FOR HALDIMAND COUNTY HYDRO INC, Kinectrics Report, drawing 01-316

<sup>18</sup> Board staff submission, June 22, 2011

<sup>19</sup> HCHI's evidence, May 31, 2011 – INDUCTION STUDY FOR HALDIMAND COUNTY HYDRO INC, Kinectrics Report, page 5, first paragraph

placed a minimum of 10 metres from the edge of the municipal right of way and also disagreed with the Board staff proposal that there should be a minimum 10 metre diagonal separation between the transmission line poles and HCHI's distribution poles. The Applicant indicated that the basis for the 10 metre separation is not relevant to the case at hand and referenced an interrogatory response,<sup>20</sup> where it was stated that this distance was based on CSA Standard CSA-C22.3 No. 6 (the "Gas Pipeline Standard"). The Applicant submitted that its proposal to locate the transmission line within 5 metres of the HCHI proposed distribution line should be accepted by the Board. The Board, notes, however that the Applicant's own commissioned study<sup>21</sup> indicated that 6 metres is adequate separation between any transmission pole and a distribution pole. The noted Applicant's study conclusion states in part that:

*In summary, on the basis of the engineering calculations described in this report, the design separation of **6 m [19.7 ft]** between the transmission line ground electrodes and the distribution line ground electrodes was determined to be more than adequate to avoid underground arcing.[emphasis added]*

The Board accepts as reasonable the results of the Applicant's study,<sup>22</sup> which indicated that a distance of 6 metres between the transmission and distribution lines was adequate to maintain induction voltages (under fault conditions) within allowable safety standards. The Board agrees with the Applicant that additional modeling in the form of induction studies at a later date would be of limited value in addressing HCHI's concerns. However, the Board, finds that it would be appropriate to include in the Conditions of Approval the Applicant's proposal to carry out early stage neutral voltage surveys to establish a baseline prior to commercial operation of the transmission line, and a post-energization neutral voltage survey that would be based on field measurement. The Board also finds that it is reasonable that for any areas that are identified as requiring mitigation, the Applicant and HCHI will jointly decide on the appropriate mitigation steps, which steps the Applicant will be required to undertake at its own cost.

In regard to HCHI's condition that the guy wires be anchored outside of the municipal right of way, the Board accepts the Applicant's position that it does not at this time anticipate it will need to install any guy wires in the municipal right of way, and that

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<sup>20</sup> HCHI's response to Applicant's Interrogatory # 3, (b), page 5, dated June 15, 2011

<sup>21</sup> Applicant Reply Submission, July 27, 2011, Schedule D, page 13, last paragraph "Peak GPR Report" - [Underground Arcing and Ground Potential Rise]

<sup>22</sup> Ibid

going forward, the Applicant will make commercially reasonable efforts to locate guy wires outside of these rights of way. In instances where this may be required, the Applicant will be required to make best efforts to minimize any impact to HCHI.

#### 4. Mitigation of Increased Impacts - Animal Contact Potential

The Board notes that in regard to the issue of Animal Contact Potential, Board staff indicated that it is important to address the implications of the impact of the proposed Transmission Facilities on 21 farm properties that are in proximity to the estimated 2 km stretch where HCHI's future 27.6/16 kV distribution line will be co-located.<sup>23</sup>

The Board also notes that the Applicant submitted that contrary to Board staff's view,<sup>24</sup> it does not believe that a post-energization animal contact potential study (which would involve carrying out testing at every farm within the vicinity of the proposed Transmission Facilities) is necessary. Rather, the Applicant submitted that it proposes to install neutral decoupling devices on HCHI's existing infrastructure at all relevant customers' points of interconnection. This would effectively pre-empt any possibility that animal contact voltage may arise as a result of the proposed Transmission Facilities and in addition it would likely be a more cost effective solution.

The Board notes that the Applicant indicated in its Reply Argument<sup>25</sup> that it would be willing to cover any costs associated with effective mitigation measures that would address the induction issues by improving the grounding (reducing the ground resistance to a range of 3 Ohms to 15 Ohms<sup>26</sup> by installing additional ground rods at the pole locations) of the distribution line poles on HCHI's proposed 27.6 kV distribution system along the Adjacent Length.

The Board finds the Applicant's proposal to cover the additional cost of improving the grounding<sup>27</sup> of HCHI's proposed 27.6 kV distribution system along the Adjacent Length, to be reasonable.

The Board also accepts the Applicant's proposal to cover the cost of installing neutral decoupling devices on HCHI's existing infrastructure at relevant customers' points of

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<sup>23</sup> Figure 3 of the Kinectrics Report dated May 31, 2011, has been updated and filed as part of HCHI's Response to Board staff Interrogatory #3, Question (i)

<sup>24</sup> Board staff Submission, June 22, 2011, Sec B.1.5, page 7

<sup>25</sup> Applicant Reply Submission, July 27, 2011, paragraph 40

<sup>26</sup> Applicant Reply Submissions, July 27, 2011, Schedule "C", Peak Induction Study, Section III.D

<sup>27</sup> Applicant Reply Submissions, July 27, 2011, Schedule "C", Peak Induction Study, Section III.D

interconnection. In the event that this solution proves inadequate, the Board will require that the Applicant make best efforts to provide further required mitigation of these effects at its own cost as specified in the Conditions of Approval, attached as Appendix A to this Decision and Order.

### **Land Matters and Form of Easement Agreement**

Summerhaven has indicated that there may be a requirement for permanent easements and/or temporary easements or rights of way for access associated with construction activities. This entails entering into agreements with the affected parties. The Applicant has identified fourteen properties that would be affected by the proposed route, and advises that property rights are presently being negotiated for these locations.<sup>28</sup>

In accordance with Section 97 of the Act, the Board must be satisfied that Summerhaven either has or will offer to each owner affected by the proposed route or location an agreement in a form approved by the Board. Summerhaven filed draft forms of agreement with its pre-filed evidence for the following land options: Option Agreement, Transmission Easement, Option to Purchase and Substation Easement.

The Board notes that there were no requests to vary the forms of land agreements to be offered to affected landowners and the evidence shows that Notice was properly served. The Board therefore finds the forms of land agreement acceptable.

### **Environmental Study and the Renewable Energy Approval Process**

This project falls within the definition of projects that are governed by the Renewable Energy Approval ("REA") process, provided for under the *Environmental Protection Act*, and the project will ultimately require an approval by the Ontario Ministry of the Environment ("MOE"). The REA process emphasizes a broad consultative approach, requires public information meetings and with the preparation of several reports, including but not limited to, a project description report, a construction plan report, a consultation report, a design and operations report, a decommissioning plan report, an archaeological and heritage report, a natural heritage and water report as well as additional technical reports. The Applicant filed an REA update recently<sup>29</sup> indicating that it filed the REA application with the MOE on June 14, 2011. The MOE has

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<sup>28</sup> Response to Undertaking TCJ1.1 filed on May 27, 2011

<sup>29</sup> Applicant REA Update, filed on November 1, 2011.

screened the REA submission, and is now undertaking a technical review of this document. The Applicant also indicated that minor project location changes have been proposed since the time of the REA application, but that none of these changes affect the Facility (as defined in the Applicant's REA documentation).

Since the REA process has extended beyond the evidentiary portion of this proceeding, the Board's order granting leave to construct will be conditioned on the successful completion of the REA approval process.

### **Common Switching Station Impact**

As previously noted, the final SIA report<sup>30</sup> strongly recommended that a common switching station to connect both the Port Dover Nanticoke Wind project and Summerhaven's proposed Transmission Line instead of utilizing two separate stations. HONI's interrogatory response to the IESO<sup>31</sup> indicated that the estimated cost of the common switching station would be \$30 million as compared to the estimated cost of \$40 million for the two separate stations. The prospect of constructing a common switching station was explored during the Technical Conference.<sup>32</sup> At this venue both Summerhaven and Capital Power, owner of the Port Dover Nanticoke Wind project, explained that a common switching station proposal was not possible given the timelines for the REA processes of the two projects.<sup>33</sup>

The IESO submitted that<sup>34</sup> it completed its Connection Assessment and Approval process within 145 days, which met the 150 days allowed in accordance with section 25.37(2) of the *Electricity Act, 1998* and Ontario Regulation 326/09, parts 3(1)(2). The IESO also pointed out that the preliminary findings and recommendations were presented jointly to both connection proponents on September 2, 2010, approximately 78 days from the date of receiving the earliest completed connection assessment application, and this provided ample time for the two proponents to accommodate the common switching station option in their plans.

In its Reply Submission,<sup>35</sup> the Applicant noted that it had completed over 3 years of environmental field surveys and reports by the time the concept of a joint switchyard

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<sup>30</sup> Exh. B/ Tab 8/ Sch. 2/SIA Report/Section 3.1 Proposed Connection Arrangements/p. 16

<sup>31</sup> Hydro One Response to the IESO's interrogatory # 2, dated June 21, 2011

<sup>32</sup> Technical Conference, May 17, 2011, pages 82-97

<sup>33</sup> Transcripts of the Technical Conference held on May 17, 2011

<sup>34</sup> The IESO revised submission dated June 24, 2011, paragraph 4

with Capital Power was raised in September, 2010. It stressed that any delay resulting from rework of the draft reports or requirements for additional field studies would have significantly delayed its development and would risk exposing the Applicant to large financial penalties from suppliers and from the OPA.

The Board notes that Capital Power's views<sup>36</sup> were very similar to those of Summerhaven, where Capital Power indicated that a change in its Port Dover Nanticoke Wind project's connection point, whether initiated in the fall of 2010 (when HONI first raised the issue) or now, would mean that the Project would meet neither its Commercial Operation Date ("COD") of October 31, 2012, nor its Milestone COD under the FIT Contract of March 10, 2013. This could lead to a potential termination of the OPA Contract and the risk of losing the initial security deposit of (approximately \$2 million) of the FIT application as well as significant liquidated damages in the event that the Milestone COD of March 2013 is not met.

The Board acknowledges and agrees in principle with the IESO recommendation expressed in the final SIA report that a common switching station is generally the preferred solution both economically and from a flexibility and reliability perspective. However, in this case, the Board accepts HONI's evidence in its response to an IESO interrogatory,<sup>37</sup> which indicated that the common station option in this circumstance was not feasible from a practical timing and scheduling viewpoint. The Board has therefore not required the Applicant to implement the common switching station recommendation provided in the SIA.

### **Conditions of Approval**

On September 20, 2011, the Board circulated draft Conditions of Approval seeking comments from Summerhaven and intervenors.

The Board Conditions of Approval attached to this Decision and Order as Appendix A were modified from the originally circulated draft version in three areas to increase clarity, to reflect comments received from the parties and to better balance the interests of all parties. The following are the areas where material variations were effected in the Conditions of Approval.

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<sup>35</sup> Summerhaven's Reply Submission, July 27, 2011, par. 50

<sup>36</sup> Capital Power Submission, June 22, 2011, Section 5.

<sup>37</sup> Hydro One Response to the IESO Interrogatory #3, List 1, filed on June 21, 2011

Condition 1.4

Condition 1.4 was amended to clarify that compliance with the SIA requirement does not include the requirement to build a common switching station for the Summerhaven and Port Dover Nanticoke Wind projects.

Conditions 2.3 and 2.5 (minimum distance between transmission and distribution lines)

The Board acknowledges the Applicant's observation<sup>38</sup> that Condition 2.3 in the draft Conditions of Approval cannot be implemented in the event that the Transmission Line is constructed prior to the HCHI Upgrades, because if that occurred it would be impossible to determine the centreline of the HCHI Upgrades without knowing the exact location of the distribution pole placements.

The Board considered the Applicant's proposed re-write of Condition 2.3, and the two competing standards for a minimum separation distance between transmission and distribution poles (the 10 metre separation referenced in HCHI's Kinectrics Report and the 6 metre separation recommended in the noted study that was commissioned by the Applicant<sup>39</sup>). The Board is now of the view that a 6 metre minimum distance is an acceptable separation distance. The Board finds this 6 metre minimum separation distance can be achieved by requiring that the portion of the transmission line running adjacent to HCHI's upgraded distribution line be kept at a minimum distance of 4 metres from the south property line of the Concession Rd 5 right of way. This finding is based on the premise that HCHI will locate its upgraded distribution line at least 3 metres from the property line as depicted in the three drawings<sup>40</sup> included in the attached Schedule "A" to the Conditions of Approval.

Condition 2.10

Changes were introduced in this clause to accommodate HCHI's comments requesting flexibility under certain conditions.

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<sup>38</sup> Applicant's response to the Draft Conditions of Approval, September 30, 2011, p. 2

<sup>39</sup> Applicant Reply Submission, July 27, 2011, Schedule D, page 13, last paragraph "Peak GPR Report" - [Underground Arcing and Ground Potential Rise]

<sup>40</sup> Three drawings, part of the design drawings included in HCHI's Design Submission, July 13, 2011, and attached as Schedule "A" to the Conditions of Approval. The three drawings are titled [CROSS SECTION "A" CONCESSION ROAD 5], [CROSS SECTION "B" CONCESSION ROAD 5], and [CROSS SECTION "C" CONCESSION ROAD 5]

## **COST AWARDS**

In Procedure Order No. 2 issued on March 28, 2011, the Board denied the cost award requests of HCHI and the Corporation of Haldimand County. In that Order the Board indicated that the Corporation of Haldimand County, being a public body, is not eligible for cost awards, and that HCHI, is explicitly excluded from eligibility by the Board's *Practice Direction on Cost Awards*.

HCHI's Reply Submission<sup>41</sup> dated August 3, 2011, indicated that it is appropriate for the Board to reconsider the request given the unique nature of this proceeding and the considerable expense that HCHI incurred to file expert evidence regarding the proposed design for the transmission facilities.

The preliminary induction study by Kinectrics<sup>42</sup> filed on May 31, 2011 by HCHI was helpful to the Board in better understanding the issues in this proceeding. The Board is therefore inclined, under these unusual circumstances, to deviate from its *Practice Direction on Cost Awards* to allow HCHI to file a cost claim restricted to all reasonable costs associated with the preparation and filing of the Kinectrics study and the preparation and participation of the Kinectrics expert witness, Dr. Emanuel Petrache in the technical conference, held on May 17, 2011, and the costs of counsel's attendance at the technical conference held on May 17, 2011. Any claim for costs outside of these areas will not be considered.

## **CONCLUSION**

Having considered all of the evidence related to the Application, the Board finds the proposed Transmission Facilities to be in the public interest.

## **THE BOARD ORDERS THAT:**

Pursuant to section 92 of the Act, Summerhaven Wind LP is granted leave to construct electricity transmission facilities, as described in the first paragraph of this Decision and Order, connecting the Summerhaven Wind Energy Centre to the IESO-controlled grid subject to the Conditions of Approval attached as Appendix A to this Order.

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<sup>41</sup> HCHI Reply Submission, August 3, 2011/p. 7/Part VI. Costs

<sup>42</sup> Kinectrics Report dated May 31, 2011 titled "INDUCTION STUDY FOR HALDIMAND COUNTY HYDRO INC."



1. Haldimand County Hydro Inc. may file with the Board by **Monday, November 21, 2011** its cost claim restricted to costs associated with the preparation and filing of the preliminary induction study by Kinectrics, filed on May 31, 2011 and for the preparation and participation of the Kinectrics' expert witness, Dr. Emanuel Petrache, in the Technical Conference, held on May 17, 2011 and the costs of counsel's attendance at the Technical Conference held on May 17, 2011. Cost claims must be filed in accordance with the Board's Practice Direction on Cost Awards.
2. Summerhaven Wind LP may object to the cost claim no later than **Monday, November 28, 2011**, by filing its submission with the Board and delivering a copy to Haldimand County Hydro Inc.
3. If an objection to the cost claim is filed by Summerhaven Wind LP, Haldimand County Hydro Inc. will have until **Monday, December 5, 2011** to make a reply submission to the Board, with a copy to Summerhaven Wind LP as to why its cost claim should be allowed.
4. Summerhaven Wind LP shall pay the Board's costs incidental to this proceeding upon receipt of the Board's invoice.

All filings to the Board must quote file number EB-2011-0027, be made through the Board's web portal at [www.errr.ontarioenergyboard.ca](http://www.errr.ontarioenergyboard.ca), and consist of two paper copies and one electronic copy in searchable / unrestricted PDF format. Filings must clearly state the sender's name, postal address and telephone number, fax number and e-mail address. Please use the document naming conventions and document submission standards outlined in the RESS Document Guideline found at [www.ontarioenergyboard.ca](http://www.ontarioenergyboard.ca). If the web portal is not available you may email your document to the address below. Those who do not have internet access are required to submit all filings on a CD in PDF format, along with two paper copies. Those who do not have computer access are required to file 7 paper copies.

**ISSUED** at Toronto, November 11, 2011

**ONTARIO ENERGY BOARD**

*Original Signed By*

Kirsten Walli  
Board Secretary

**APPENDIX A**

**TO DECISION AND ORDER**

**BOARD FILE NO. EB-2011-0027**

**CONDITIONS OF APPROVAL FOR SUMMERHAVEN WIND LP  
LEAVE TO CONSTRUCT PROCEEDING**

**DATED November 11, 2011**

## **Conditions of Approval**

### **Note:**

The Conditions of Approval attached to the Ontario Energy Board ("Board") Decision and Order include references to permits and approvals by other organizations, Crown corporations, or Government Ministries that are prerequisites for the successful completion of the facilities that are the subject of this Ontario Energy Board process. Notwithstanding any such references in these Conditions of Approval, the Ontario Energy Board is not responsible for ensuring the implementation or operationalization of any of the requirements enumerated in such permits or approvals or the reports associated therewith even where such permits, approvals or associated reports are required, for any reason, to be filed with the Board.

### **1.0 General Requirements**

- 1.1 Summerhaven Wind LP ("Summerhaven" or the "Applicant") shall construct the 9 km of 230 kV overhead transmission line (the "Transmission Line") and associated facilities, (collectively, the "Transmission Facilities") in accordance with applicable laws, codes and standards and restore all lands in accordance with its Leave to Construct application, evidence and undertakings, except as modified by the Board's Decision and Order and by these Conditions of Approval.
- 1.2 Unless otherwise ordered by the Board, authorization for Leave to Construct shall terminate December 31, 2012 unless construction of the Transmission Facilities has commenced prior to that date.
- 1.3 Summerhaven shall implement all the recommendations included in the Decision from the Ministry of Environment regarding the Renewable Energy Approvals under Part V.O.1 of the Act made pursuant to the Environmental Protection Act, R.S.O. 1990, c. E.19.
- 1.4 Summerhaven shall satisfy the Independent Electricity System Operator ("IESO") requirements and recommendations as reflected in the System Impact Assessment document dated November 4, 2010, ("SIA") and such further and other conditions which may be imposed by the IESO with the exception of Recommendation (1) at page 7 of the SIA that a common switching station be built for the Applicant's project and the Port Dover and Nanticoke Wind Farm.
- 1.5 Summerhaven shall satisfy Hydro One Networks Inc.'s requirements as reflected in the Customer Impact Assessment document dated November 9,

2010, and such further and other requirements or conditions which may be imposed by Hydro One Networks Inc.

- 1.6 Summerhaven shall advise the Board's designated representative of any proposed material change in the Transmission Facilities, including but not limited to material changes in the proposed route, construction techniques, construction schedule, restoration procedures, or any other material impacts of construction. Summerhaven shall not make a material change without prior approval of the Board or its designated representative. In the event of an emergency, the Board shall be informed as soon as practicable.
- 1.7 Summerhaven shall obtain all necessary approvals, permits, licences, certificates and easement rights required to construct, operate and maintain the Transmission Facilities, and shall provide copies of all such written approvals, permits, licences and certificates and any related reports or documentation upon the Board's request.

## **2.0 Reliability Considerations - Transmission and Distribution Lines**

- 2.1 In designing and constructing that portion of the Transmission Line that runs parallel to the proposed location of certain upgrades proposed by Haldimand County Hydro Inc. ("HCHI") consisting of two 27.6KV, 3 phase circuits on the south side of Concession Road 5 as further outlined in Schedule "A" attached hereto (the "HCHI Upgrades") for a certain distance (the "Adjacent Length"), the Applicant is required to accommodate the HCHI Upgrades. Specific accommodation measures are described in sections 2.2, 2.3, 2.5, 2.9 and 2.13 of these Conditions of Approval. The location of the Transmission Line parallel to the HCHI Upgrades for the Adjacent Length is hereinafter referred to as the "Co-location Option".
- 2.2 Under the Co-location Option, the pole locations, pole heights, and clearances for the Transmission Line along the Adjacent Length shall accommodate the HCHI Upgrades and comply with all applicable codes and standards.
- 2.3 Under the Co-location Option, the Transmission Line must be located on private property at a minimum distance of 4 metres from the south property line of Concession Rd 5 right of way and as described in the Application.<sup>1</sup>
- 2.4 Under the Co-location Option, the Transmission Line must be designed to accommodate the distribution neutral height of 25 feet (7.62 metres) above the crown of the road.

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<sup>1</sup> Application, Exhibit B/Sch. 6/Tab 1, filed 2011-03-02.

- 2.5 Under the Co-location Option, and in the event that HCHI commences construction of its HCHI Upgrades prior to the construction of the Transmission Line, the Applicant shall locate its Transmission Line poles such that a minimum distance of 6 metres is maintained between any Transmission Line pole and any distribution pole, unless otherwise agreed to by HCHI and the Applicant. Under the Co-location Option, and in the event that the construction of the Transmission Line commences<sup>2</sup> prior to the HCHI Upgrades, it is assumed that HCHI will locate its distribution poles such that a minimum distance of 6 metres is maintained between any distribution pole and any Transmission Line pole, unless otherwise agreed to between HCHI and the Applicant.
- 2.6 With the potential exception, due to environmental considerations, of the crossing of the Transmission Line at Concession Rd 4, all road crossings shall be designed and built to provide adequate clearance for the HCHI Upgrades, whether or not the Co-location Option is selected by HCHI. Should issues arise between HCHI and the Applicant regarding the crossing of the Transmission Line at Concession Rd 4, the Applicant and HCHI will cooperate to ensure selection of an acceptable configuration to both parties that meets applicable laws, codes, standards and environmental permitting requirements. In the event that environmental permitting requirement imposed on the Applicant result in the construction of the Transmission Line in such a configuration that HCHI is later required to install the 27.6kV circuit underground to achieve compliance with applicable laws, codes and standards, the Applicant will bear the incremental cost of an underground installation.
- 2.7 The Applicant shall make every commercially reasonable effort to avoid locating guy wire anchors within a municipal road right of way.
- 2.8 Where any span guys for the Transmission Line cross over municipal roadways, appropriate clearances under the span guys, such clearances to be determined in accordance with applicable codes and standards, must be provided in order to allow HCHI to construct the HCHI Upgrades, including maintaining a neutral height of 25 feet (7.62 metres) above the crown of the road.
- 2.9 The Applicant shall provide HCHI with all necessary information related to the location of any span guys for the Transmission Line that cross over the municipal roadways.
- 2.10 The Applicant shall carry out and make available to HCHI a primary circuit baseline neutral voltage survey (the "Baseline Survey") to establish a baseline on the primary circuit prior to commercial operation of the

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<sup>2</sup> based on a design of the Transmission Line that has been finalized and made available to HCHI

Transmission Line, and a primary circuit post-energization neutral voltage survey (the "Post-Energization Survey") based on field measurement. For the purpose of conducting the Baseline Survey and the Post Energization Survey, the Applicant shall, with the cooperation of HCHI, conduct the noted field measurement for a continuous period of 48 hours.

For any areas that are identified as requiring mitigation, the Applicant and HCHI will cooperate to decide on the appropriate mitigation steps, which the Applicant will undertake at its own cost, provided that the Applicant shall not be required to undertake any mitigation measures on any aspect of HCHI's existing or future distribution infrastructure that does not already meet the prescribed standards established by the Distribution System Code, Electrical Safety Code and such other standards and codes as may be applicable.

In a situation where the HCHI Upgrades are constructed after the Baseline Survey is completed but prior to the energization of the Transmission Line, the Applicant and HCHI may agree to coordinate their schedules to conduct the Post-Energization Survey on HCHI Upgrades at the Applicant's cost. If the Applicant, acting reasonably, indicates that it cannot coordinate its schedule with that of HCHI, and HCHI wants a Post-Energization Survey to be carried out on the HCHI Upgrades by the Applicant, the Applicant shall not be responsible for the costs to carry out a new Baseline Study on the HCHI Upgrades.

- 2.11 Should HCHI select the Co-location Option and should HCHI choose to use additional grounding at the distribution poles for the stretch of HCHI Upgrades along the Adjacent Length as recommended by the Applicant<sup>3</sup> the Applicant will absorb the cost difference between the standard design as specified in the HCHI Upgrades and the proposed design noted in the Applicant's Reply Submission.
- 2.12 The Applicant shall bear the cost of installing neutral decoupling devices on HCHI's existing infrastructure at relevant customer points of interconnection (the "Customer Interconnection Points") as agreed to by the Applicant and HCHI, acting reasonably. It is anticipated that this would pre-empt any possibility that unacceptable animal contact voltage ("ACV") may arise as a result of the Transmission Line. In principle, should installation of such devices prove to be insufficient or inadequate at any of the Customer Interconnection Points, the Applicant will be responsible for any reasonable costs incurred by HCHI to mitigate and reduce the level of the ACV to within the acceptable level as set out in the Distribution System Code,<sup>4</sup> provided

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<sup>3</sup> Applicant's Reply Submission, July 27, 2011, paragraph 40.

<sup>4</sup> Distribution System Code, last revised February 7, 2011 and any amendments thereto, Section 4.7.

that HCHI has implemented the Applicant's recommendation for ground rod specification as outlined in the Applicant's Reply Submission.<sup>5</sup>

- 2.13 The Applicant will be responsible for the additional cost of oversizing lightning arresters on the HCHI Upgrades, to take into account the expected voltage rise due to induction as recommended in the Applicant's Reply Submission.<sup>6</sup>
- 2.14 The Applicant and HCHI shall make best efforts to address all issues that arise in respect of the design and construction of the Transmission Line and the Transmission Facilities along the Adjacent Length. If the parties are unable to resolve any disputes and to the extent such disagreement impacts materially upon the construction of the Transmission Line or Transmission Facilities, the Applicant shall notify the Board's designated representative of such disagreement.

### **3.0 Transmission Facilities and Communications Requirements**

- 3.1 The Board's designated representative for the purpose of these Conditions of Approval shall be the Manager, Electricity Facilities and Infrastructure Applications.
- 3.2 Summerhaven shall designate a person as Project manager and shall provide the name of the individual to the Board's designated representative. The Project manager will be responsible for the fulfillment of the Conditions of Approval on the construction site. Summerhaven shall provide a copy of the Order and Conditions of Approval to the Project manager, within ten (10) days of the Board's Order being issued.
- 3.3 Summerhaven shall develop, as soon as possible and prior to the start of construction, a detailed construction plan. The detailed construction plan shall cover all material construction activities. Summerhaven shall submit five (5) copies of the construction plan to the Board's designated representative at least ten (10) days prior to the commencement of construction. Summerhaven shall give the Board's designated representative ten (10) days written notice in advance of the commencement of construction.
- 3.4 Summerhaven shall furnish the Board's designated representative with all reasonable assistance needed to ascertain whether the work is being or has been performed in accordance with the Board's Order.

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<sup>5</sup> July 27, 2011, at paragraph 40.

<sup>6</sup> July 27, 2011, Schedule C-Peak Induction Study, Section VI – Mitigation, Section D – Surge Arresters.

- 3.5 Summerhaven shall, in conjunction with Hydro One Networks Inc. and the IESO, and other parties as required, develop an outage plan which shall detail how proposed outages will be managed. Summerhaven shall provide five (5) copies of the outage plan to the Board's designated representative at least ten (10) days prior to the first outage. Summerhaven shall give the Board's designated representative ten (10) days written notice in advance of the commencement of outages.
- 3.6 Summerhaven shall furnish the Board's designated representative with five (5) copies of written confirmation of the completion of Transmission Facilities construction. This written confirmation shall be provided within one month of the completion of construction.

#### **4.0 Monitoring and Reporting Requirements**

- 4.1 Both during and for a period of twelve (12) months after the completion of construction of the Transmission Facilities, Summerhaven shall monitor the impacts of construction, and shall file five (5) copies of a monitoring report with the Board within fifteen (15) months of the completion of construction of the Transmission Facilities. Summerhaven shall attach to the monitoring report a log of all comments and complaints related to construction of the Transmission Facilities that have been received. The log shall record the person making the comment or complaint, the time the comment or complaint was received, the substance of each comment or complaint, the actions taken in response to each if any, and the reasons underlying such actions.
- 4.2 The monitoring report shall confirm Summerhaven's adherence to Condition 1.1 and shall include a description of the impacts noted during construction of the Transmission Facilities and the actions taken or to be taken to prevent or mitigate the long-term effects of the impacts of construction of the Transmission Facilities. This report shall describe any outstanding concerns identified during construction of the Transmission Facilities and the condition of the rehabilitated Transmission Facilities' land and the effectiveness of the mitigation measures undertaken. The results of the monitoring programs and analysis shall be included and recommendations made as appropriate. Any deficiency in compliance with any of the Conditions of Approval shall be explained.

End of document

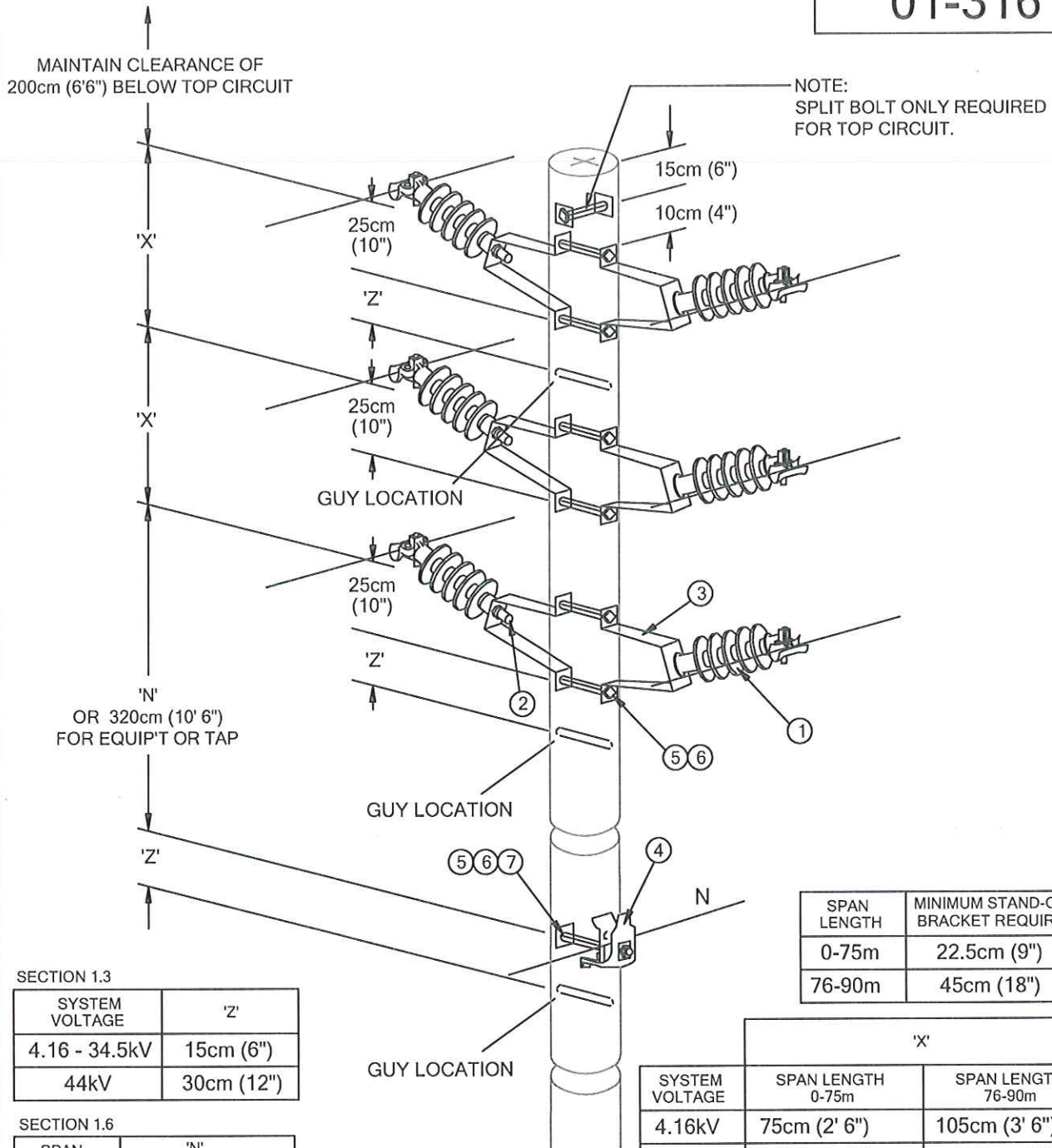


Appendix A  
Schedule "A"  
HCHI's Design Upgrades  
Conditions of Approval - (EB-2011-0027)

Appendix A (Cont'd)  
Conditions of Approval - (EB-2011-0027)

Schedule "A"  
HCHI's Design Upgrades  
[13 pages filed with the Board on July 13, 2011]

# 01-316



## SECTION 1.3

SYSTEM VOLTAGE	'Z'
4.16 - 34.5kV	15cm (6")
44kV	30cm (12")

## SECTION 1.6

SPAN LENGTH	'N' MIN CLEARANCE
0-45m	1.5m (5')
46-60m	1.8m (6')
61-70m	2.1m (7')
71-90m	2.4m (8')

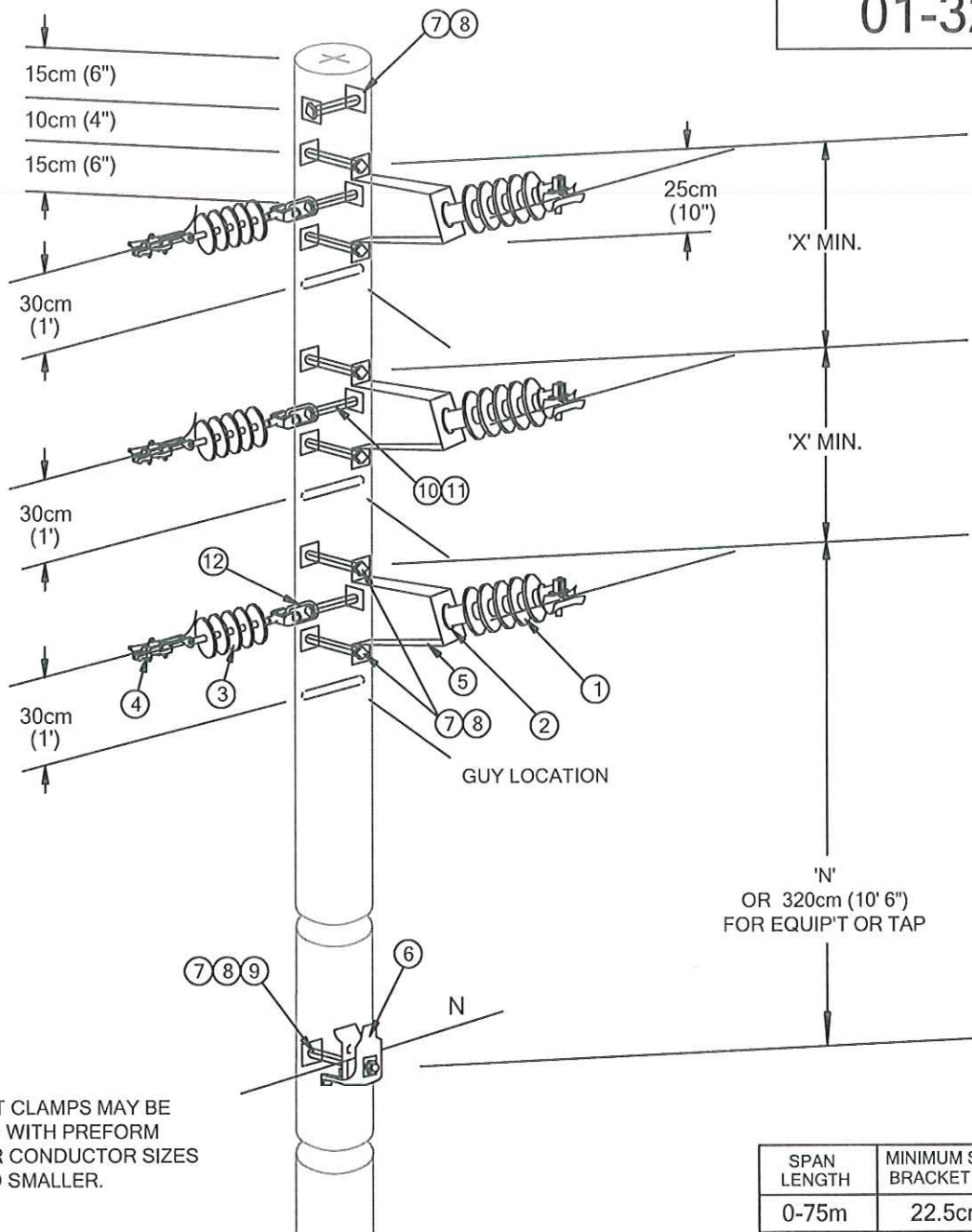
SYSTEM VOLTAGE	'X'	
	SPAN LENGTH 0-75m	SPAN LENGTH 76-90m
4.16kV	75cm (2' 6")	105cm (3' 6")
8.32kV	120cm (4')	150cm (5')
13.8kV	120cm (4')	150cm (5')
27.6kV	150cm (5')	180cm (6')
34.5kV	150cm (5')	180cm (6')
44kV	150cm (5')	180cm (6')



Title: PRIMARY 3-PHASE 2-CCT, TANGENT  
or LINE ANGLE 0° to 15° or UNDER-BUILT  
4.16 to 44kV, MAX SPAN 90m

SIZE	FILE NAME:	DWG NO.	REV
A	01-316.DWG	01-316	3
SCALE	DATE:	SHEET	
NTS	2008-07-14	1	

# 01-323



NOTE:  
WAVESEAT CLAMPS MAY BE  
REPLACED WITH PREFORM  
GRIPS FOR CONDUCTOR SIZES  
OF 3/0 AND SMALLER.

## SECTION 1.6

SPAN LENGTH	'N' * MIN CLEARANCE
0-45m	1.5m (5')
46-60m	1.8m (6')
61-70m	2.1m (7')
71-90m	2.4m (8')

SPAN LENGTH	MINIMUM STAND-OFF BRACKET REQUIRED
0-75m	22.5cm (9")
76-90m	45cm (18")

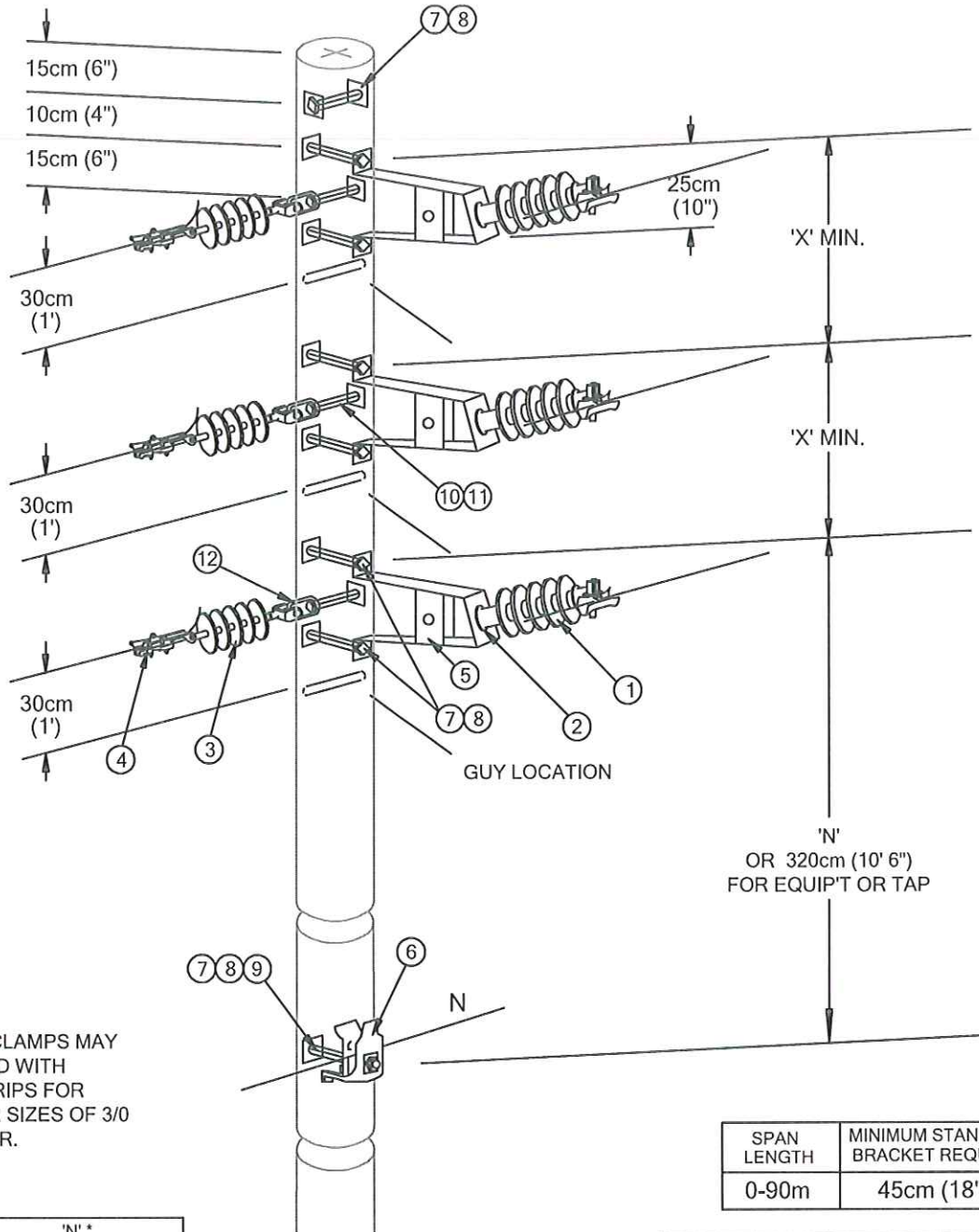
SYSTEM VOLTAGE	'X'	
	SPAN LENGTH 0-75m	SPAN LENGTH 76-90m
4.16kV	75cm (2' 6")	105cm (3' 6")
8.32kV	120cm (4')	150cm (5')



Title: PRIMARY 3-PHASE VERTICAL DEADEND  
AND TANGENT  
4.16 to 8.32kV, MAX SPAN 90m

SIZE	FILE NAME:	DWG NO.	REV
A	01-323.DWG	01-323	1
SCALE	DATE:	SHEET	
NTS	2008-07-14	1	

01-324



NOTE:  
WAVESEAT CLAMPS MAY  
BE REPLACED WITH  
PREFORM GRIPS FOR  
CONDUCTOR SIZES OF 3/0  
AND SMALLER.

SECTION 1.6

SPAN LENGTH	'N' * MIN CLEARANCE
0-45m	1.5m (5')
46-60m	1.8m (6')
61-70m	2.1m (7')
71-90m	2.4m (8')

SPAN LENGTH	MINIMUM STAND-OFF BRACKET REQUIRED
0-90m	45cm (18")

SYSTEM VOLTAGE	'X'	
	SPAN LENGTH 0-75m	SPAN LENGTH 76-90m
13.8kV	120cm (4')	150cm (5')
27.6kV	150cm (5')	180cm (6')



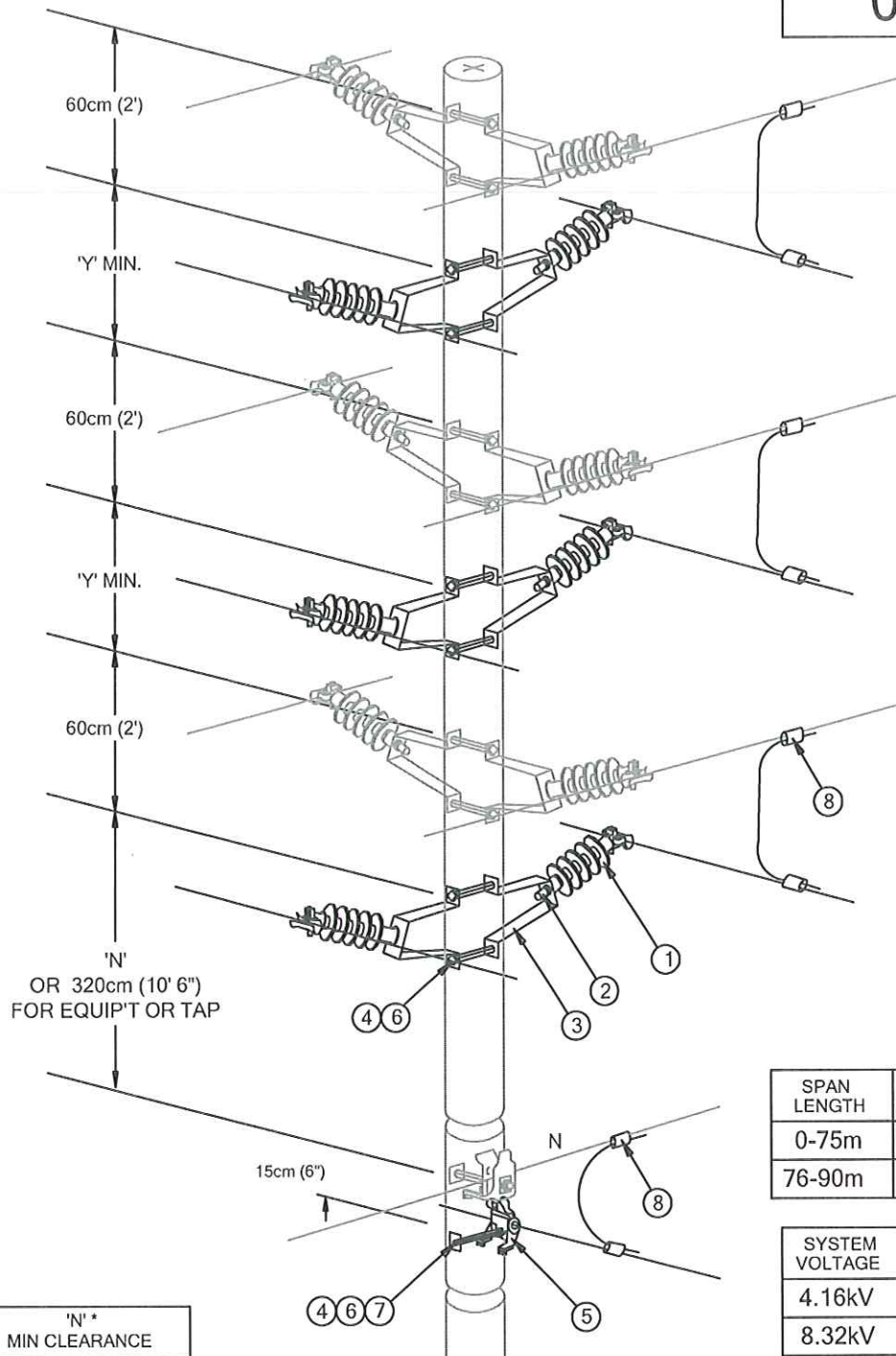
Title:

PRIMARY 3-PHASE VERTICAL DEADEND  
AND TANGENT  
13.8 to 27.6kV, MAX SPAN 90m

SIZE	FILE NAME:	DWG NO.	REV
A	01-324.DWG	01-324	0
SCALE	DATE:	SHEET	
NTS	2006-06-26	1	



01-334



SECTION 1.6

SPAN LENGTH	'N' * MIN CLEARANCE
0-45m	1.5m (5')
46-60m	1.8m (6')
61-70m	2.1m (7')
71-90m	2.4m (8')

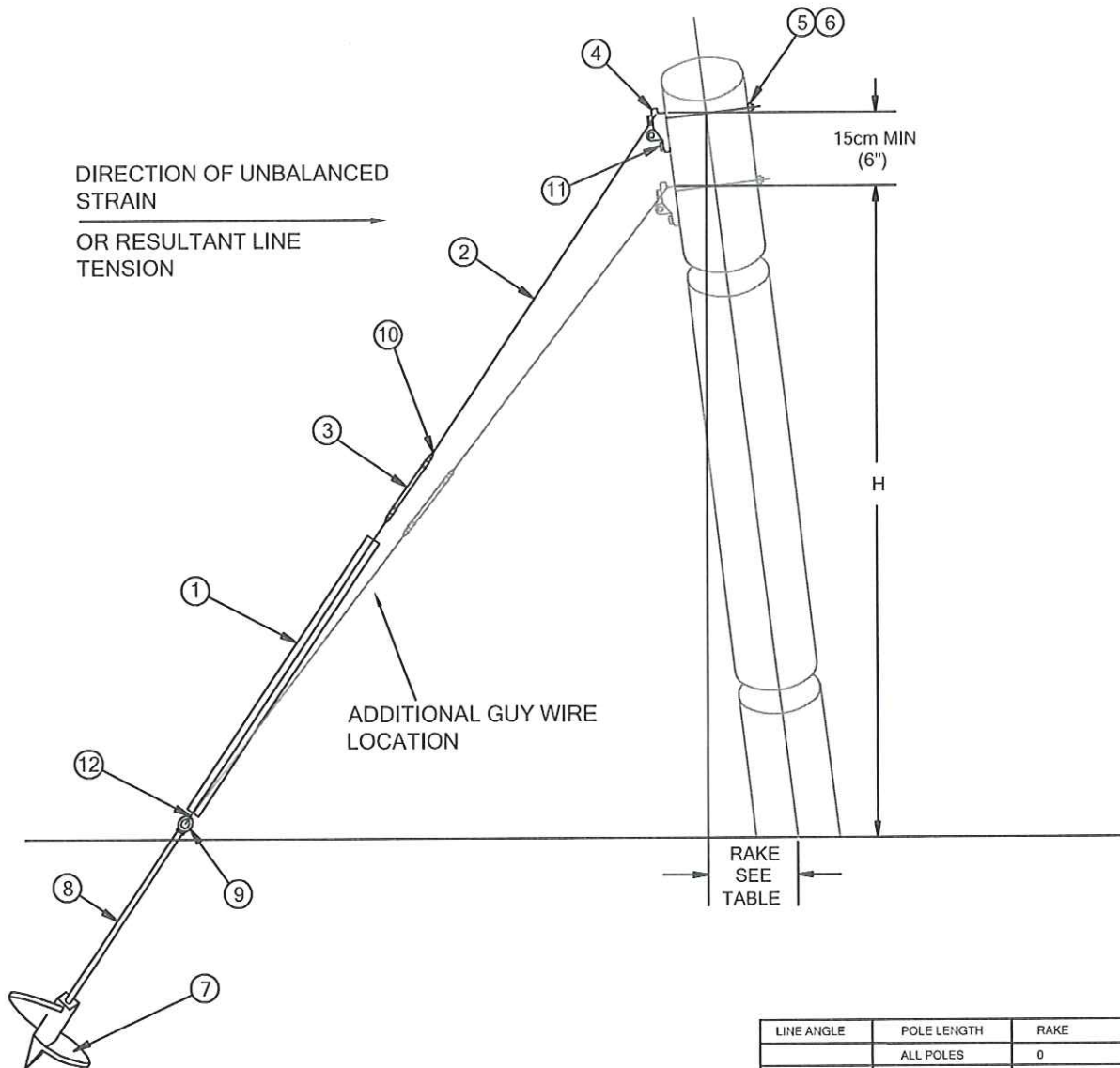
SPAN LENGTH	MINIMUM STAND-OFF BRACKET REQUIRED
0-75m	22.5cm (9")
76-90m	45cm (18")

SYSTEM VOLTAGE	'Y'
4.16kV	60cm (2')
8.32kV	60cm (2')
13.8kV	60cm (2')
27.6kV	70cm (2' 4")
34.5kV	80cm (2' 8")
44kV	90cm (3')



Title: PRIMARY 3-PHASE 2-CCT CROSSOVER LINE TAP  
4.16 to 44kV, MAX SPAN 90m

SIZE	FILE NAME:	DWG NO.	REV
A	01-334.DWG	01-334	1
SCALE	DATE:	SHEET	
NTS	2008-07-14	1	



## NOTE:

1. ANCHOR TYPE TO SUIT SOIL CONDITIONS SEE TABLE 06-12 OF SECTION 06.
2. ITEM 12 - CLAMP, GUY, 3-BOLT CAN BE SUBSTITUTED WITH ITEM 10 - GRIP, GUY WIRE, 3/8" (9mm)

LINE ANGLE	POLE LENGTH	RAKE
	ALL POLES	0
UP TO 15 °	12.2m (40ft)	40cm (1' 4")
	13.7m (45ft)	40cm (1' 4")
	15.2m (50ft)	50cm (1' 8")
OVER 15 °	16.8m (55ft)	50cm (1' 8")
	18.3m (60ft)	60cm (2' 0")
	19.8m (65ft)	60cm (2' 0")
	21.3m (70ft)	70cm (2' 3.5")
	22.9m (75ft)	70cm (2' 3.5")
	24.4m (80ft)	80cm (2' 7.5")

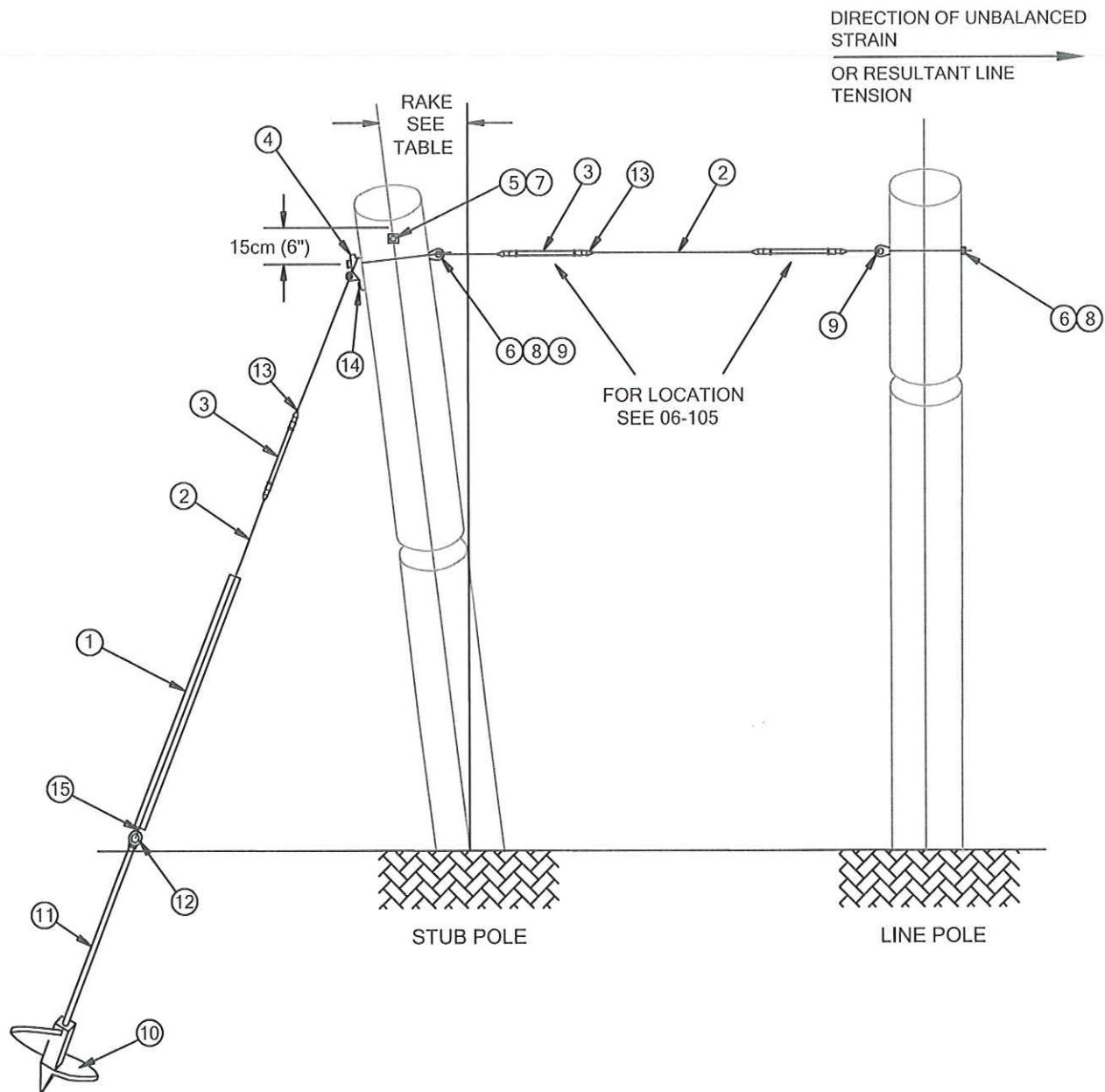


Title:

DOWN GUY(S)

SIZE	FILE NAME:	DWG NO.	REV
A	06-100.DWG	06-100	0
SCALE	DATE:	SHEET	
NTS	2006-06-26	1	

# 06-104



NOTE:  
 1. ANCHOR TYPE TO SUIT SOIL CONDITIONS SEE TABLE 06-12 OF SECTION 06.  
 2. ITEM 16 - CLAMP, GUY, 3-BOLT CAN BE SUBSTITUTED WITH ITEM 14 - GRIP, GUY WIRE, 3/8" (9mm)

STUB LENGTHS	RAKE
9.1m (30ft)	60cm (2' 0")
10.7m (35ft)	70cm (2' 3 1/2")
12.2m (40ft)	80cm (2' 7 1/2")



Title:

SPAN and ANCHOR GUY

SIZE A	FILE NAME: 06-104.DWG	DWG NO. 06-104	REV 0
SCALE NTS	DATE: 2006-06-26	SHEET 1	

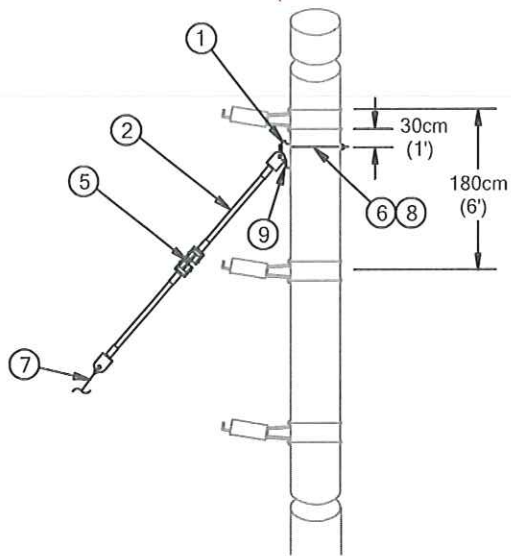


FIG. 1  
GUYING DOUBLE CIRCUIT  
BETWEEN PHASES

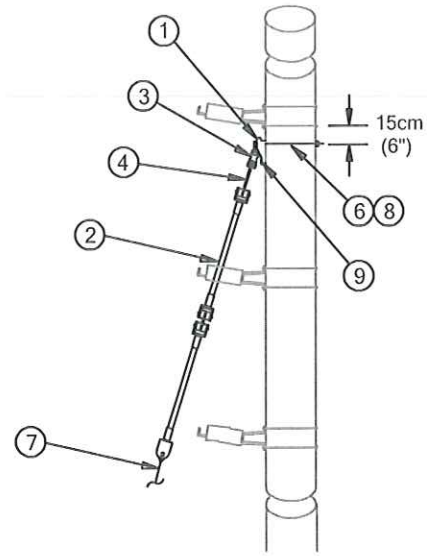


FIG. 2  
GUYING DOUBLE CIRCUIT  
BETWEEN PHASES

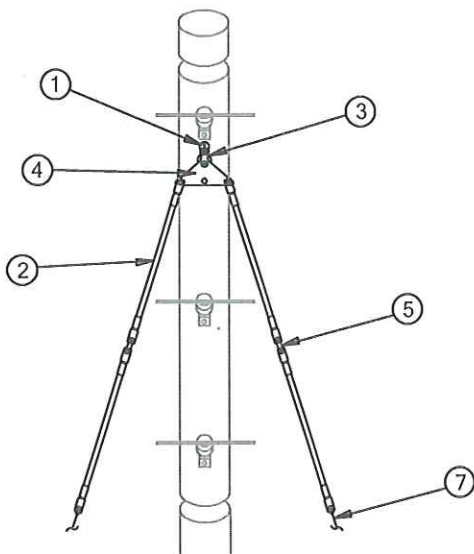


FIG. 3  
GUYING TO TWO ANCHORS

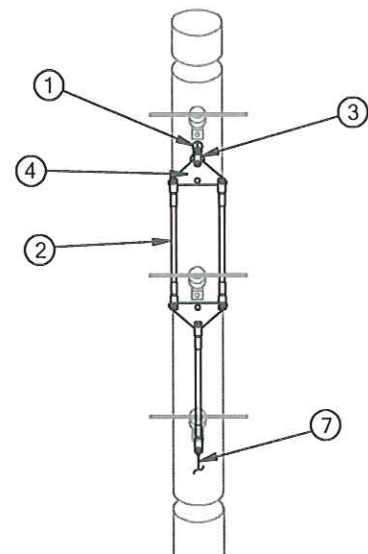
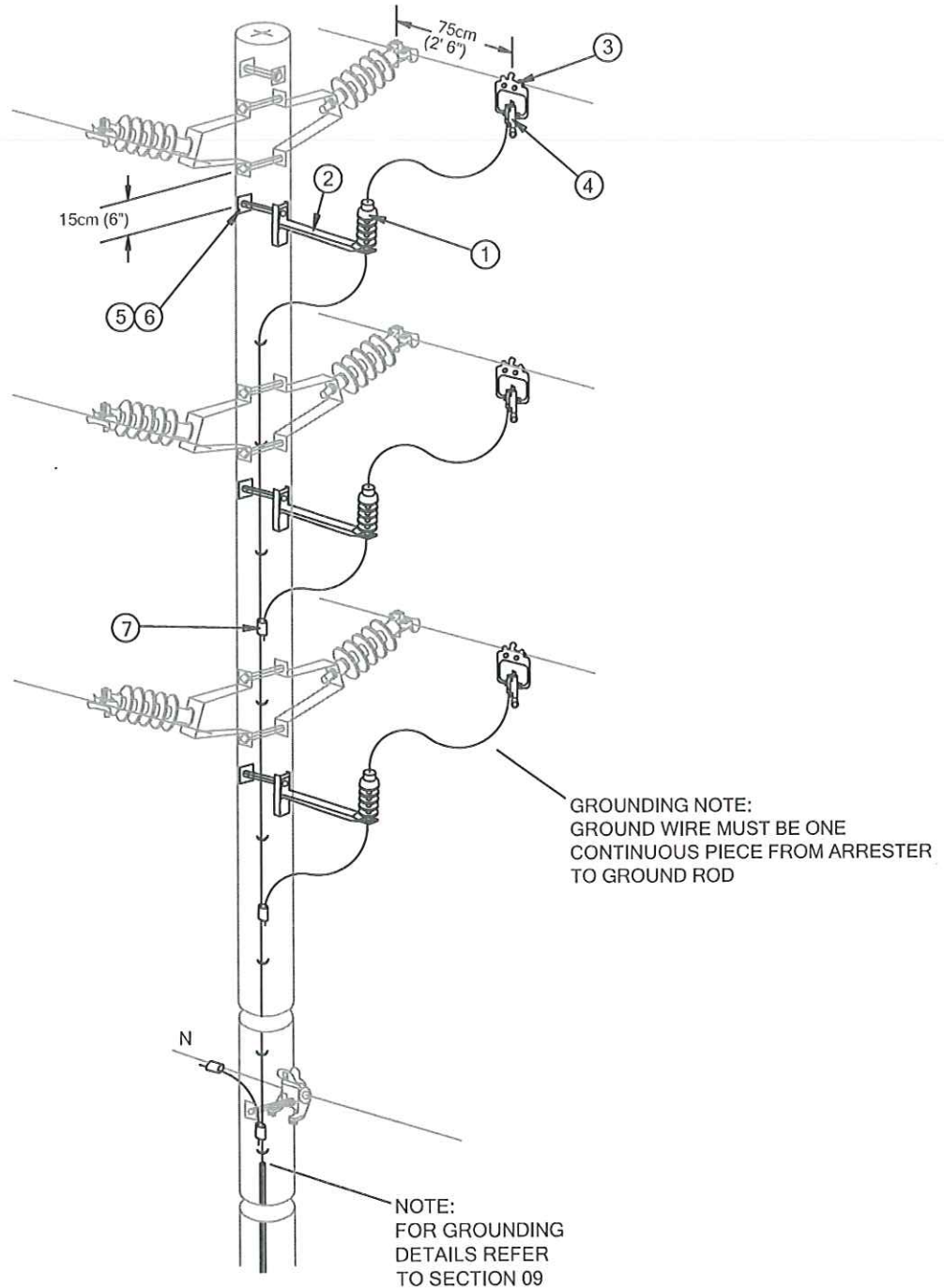


FIG. 4  
GUYING TO ONE ANCHOR



07-302



NOTES:  
1. REFER TO THE LATEST ESC  
BULLETIN 36-8-X AND  
MANUFACTURER APPLICATION  
NOTES FOR LIGHTNING  
ARRESTER APPLICATIONS.



Title: ARRESTER INSTALLATION  
3-PHASE (VERTICAL)  
4.16 to 44kV

SIZE	FILE NAME:	DWG NO.	REV
A	07-302.DWG	07-302	1
SCALE	DATE:	SHEET	
NTS	2007-09-19	1	

# 08-100

SYSTEM VOLTAGE	'X'	'Y'	'Z'
2.4kV	75cm (2' 6")	105cm (3' 6")	320cm (10' 6")
4.8kV	75cm (2' 6")	105cm (3' 6")	320cm (10' 6")
8kV	75cm (2' 6")	105cm (3' 6")	320cm (10' 6")
16kV	75cm (2' 6")	105cm (3' 6")	320cm (10' 6")
*16kV	105cm (3' 6")	150cm (5')	410cm (13' 6")
20kV	105cm (3' 6")	150cm (5')	410cm (13' 6")

\* 16kV HAS OPTIONAL FRAMINGS FOR USE WITH LARGER DISCONNECTS

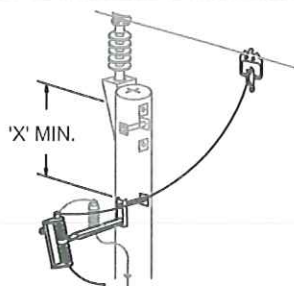


Figure A - 1-PHASE TANGENT FRAMING

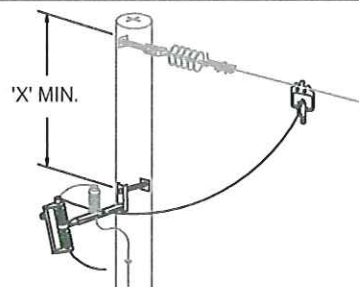


Figure B - 1-PHASE DEADEND FRAMING

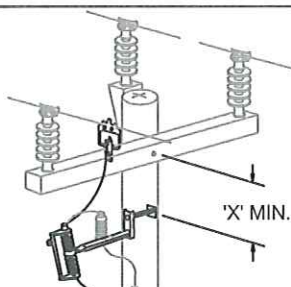


Figure C - 3-PHASE CROSSARM FRAMING

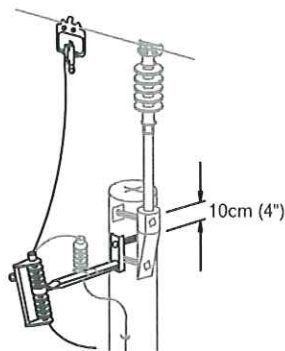
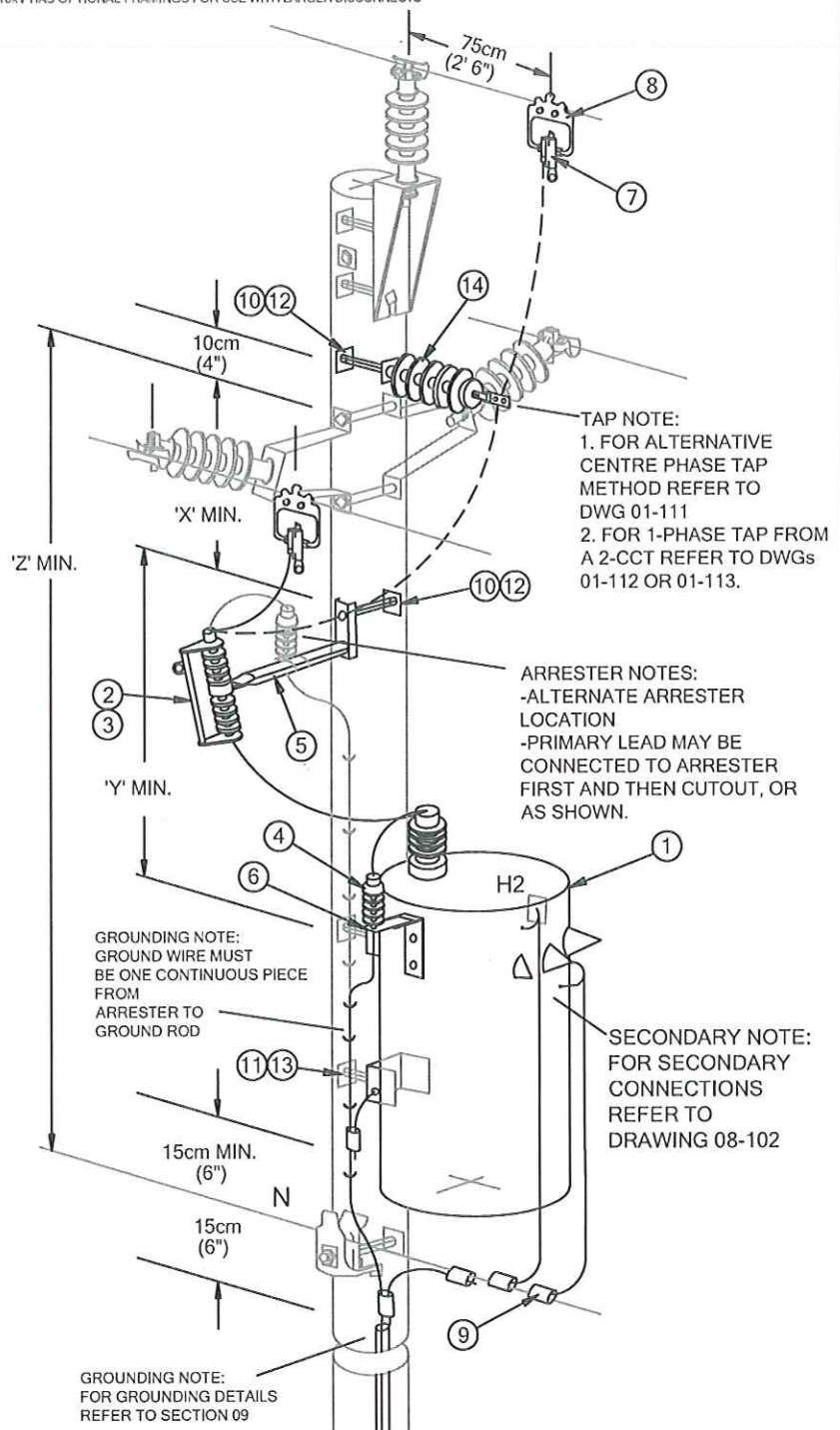


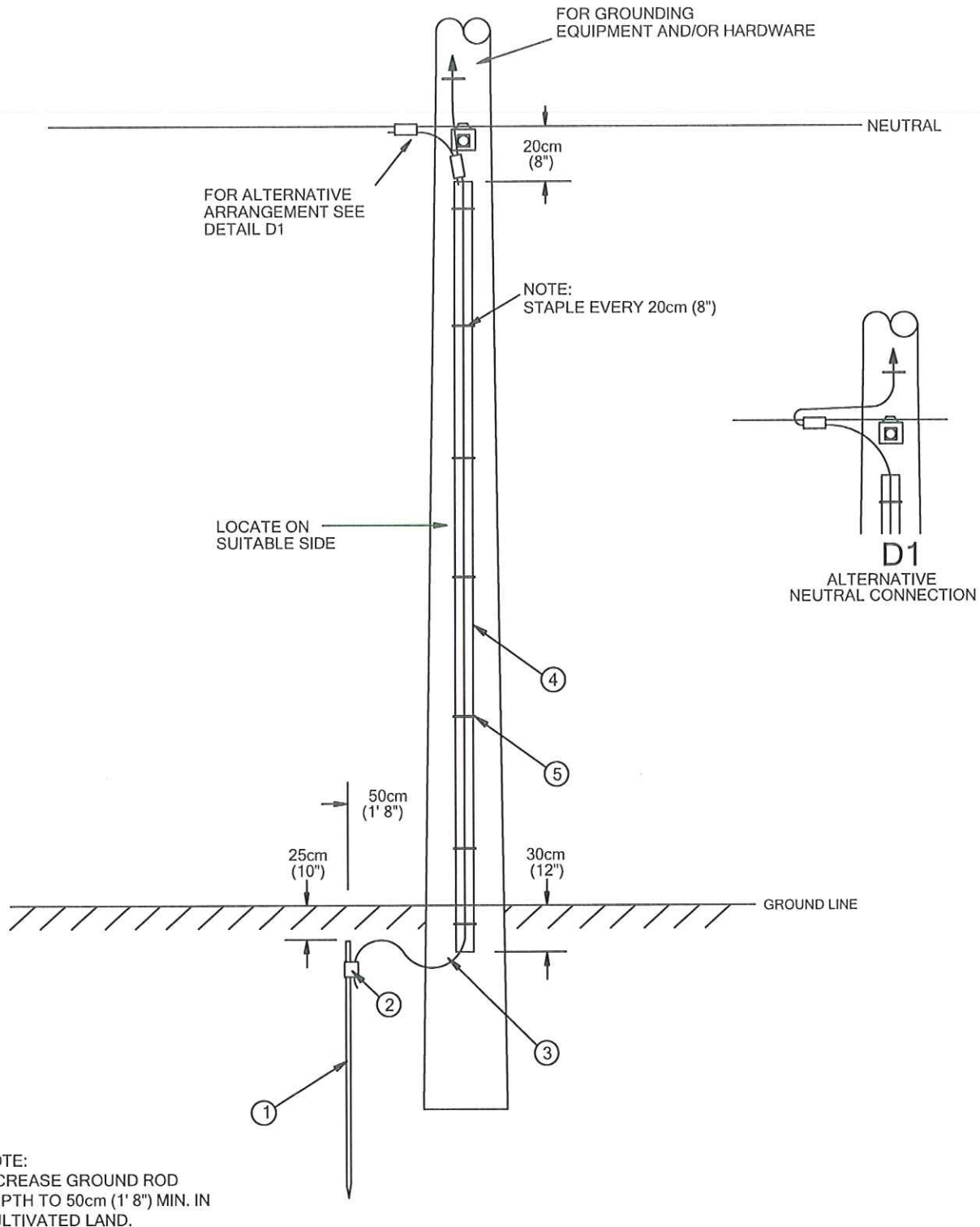
Figure D - 1-PHASE TANGENT FRAMING WITH POLE TOP EXTENSION



Title: 1-PHASE TRANSFORMER INSTALLATION  
(Utility Pole)  
10 to 100kVA 2.4 to 20kV

SIZE	FILE NAME:	DWG NO.	REV
A	08-100.DWG	08-100	1
SCALE	NTS	DATE: 2007-04-05	SHEET 1

09-100



Title:

GROUNDING FOR OVERHEAD  
INSTALLATIONS ON WOOD POLES

SIZE  
A

FILE NAME:

09-100.DWG

DWG NO.

09-100

REV  
2

SCALE

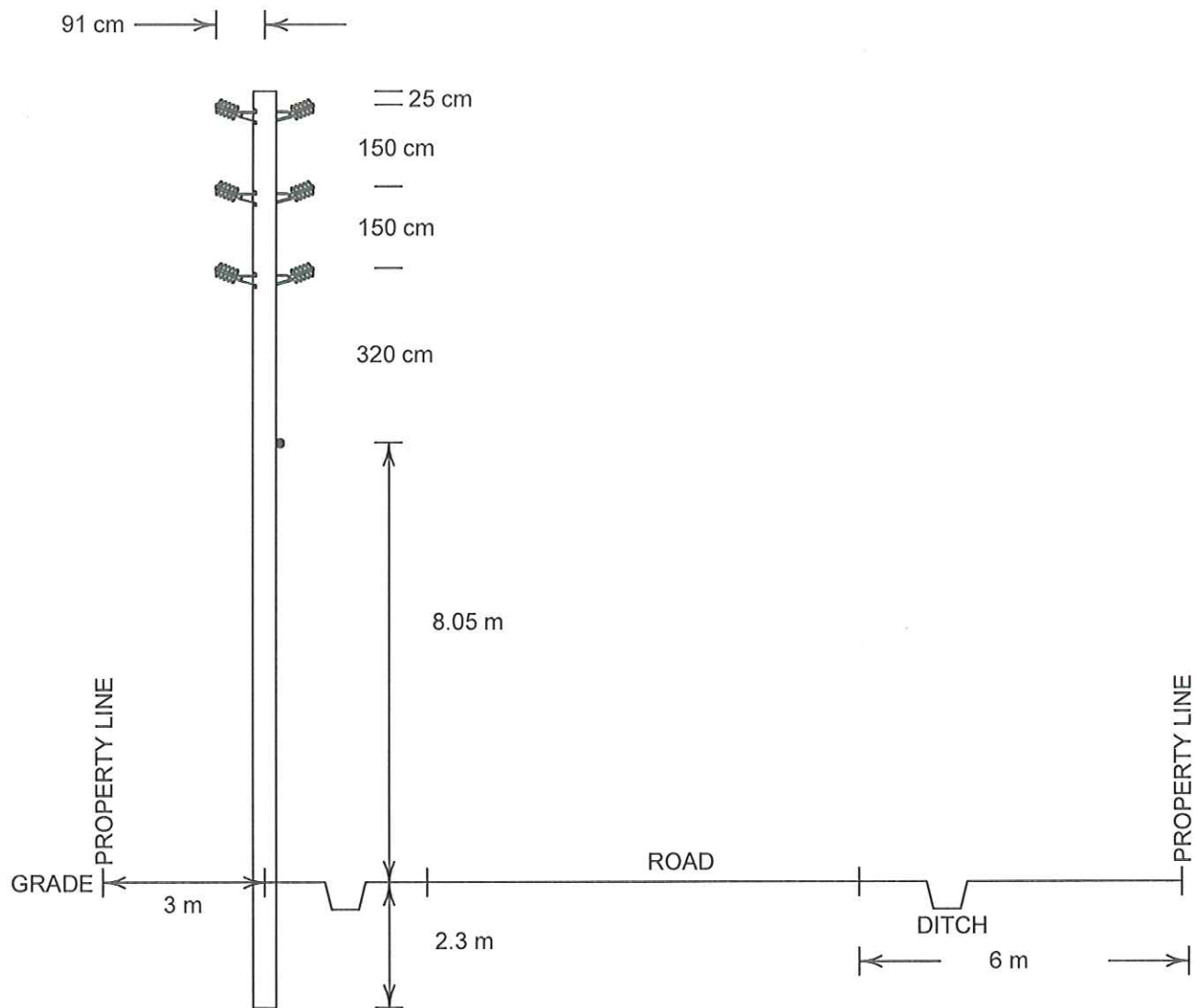
NTS

DATE:

2008-03-18

SHEET

1



Title:

CROSS SECTION "A" CONCESSION ROAD 5

APPROVED BY:

SIZE  
LET

FILE NAME:  
CROSS SECTION "A".DWG

DWG NO.

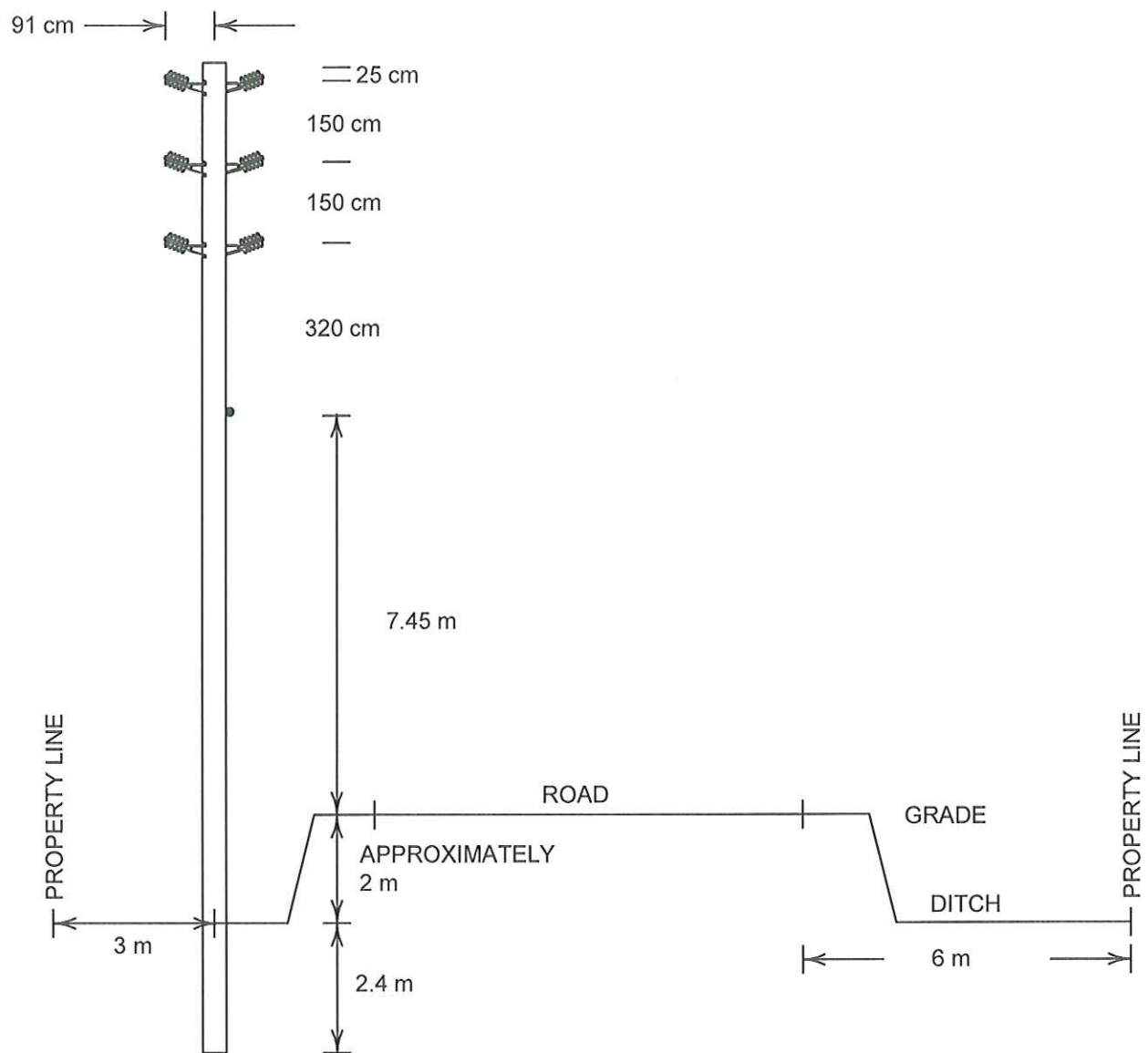
REV

DRAWN BY: J.L.

SCALE:  
NTS

DATE:  
JULY 7, 2011

SHEET  
1 OF 1



Title:

CROSS SECTION "B" SANDUSK RD.

APPROVED BY:

SIZE  
LET

FILE NAME:

CROSS SECTION "B".DWG

DWG NO.

REV

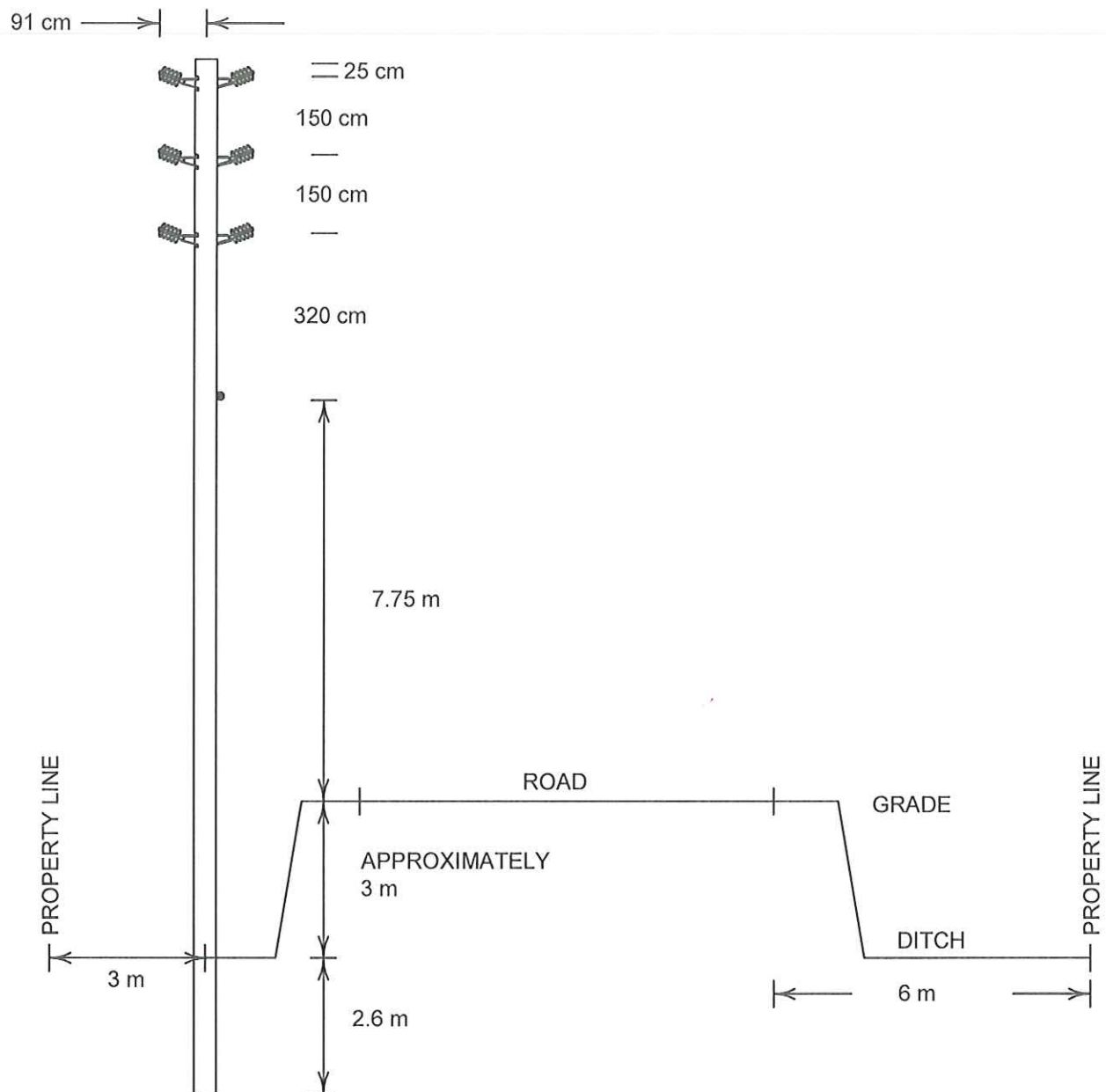
DRAWN BY: J.L.

SCALE:  
NTS

DATE:  
JULY 7, 2011

SHEET  
1 OF 1





Title:

CROSS SECTION "C" CONCESSION ROAD 4

APPROVED BY:

SIZE  
LET

FILE NAME:

DWG NO.

REV

DRAWN BY: J.L.

SCALE:  
NTS

DATE:  
JULY 7, 2011

SHEET  
1 OF 1

**APPENDIX B**

**TO DECISION AND ORDER**

**BOARD FILE NO. EB-2011-0027**

**DATED November 11, 2011**

**PROCEDURAL DETAILS**

## PROCEDURAL DETAILS

The Application was received on January 27, 2011 and the Board issued a Notice of Application and Written Hearing on February 24, 2011. The Applicant served and published the Notice as directed by the Board. In response to the Notice, six parties<sup>1</sup> requested and were granted intervenor status.

**Procedural Order No.1** was issued on March 18, 2011 inviting and specifying dates for interrogatories, and for responses to be submitted by the Applicant. **Procedural Order No. 2**, issued on March 28, 2011, established a renewed schedule for interrogatories. Responses were received as specified in the Order.

Following issuance of **Procedural Order No. 3** on April 28, 2011, allowing for all parties to make submissions and for the Applicant to respond to any such submissions, the Board received a letter on April 29, 2011 from Haldimand County Hydro Inc. ("HCHI") requesting a delay from the schedule for submissions in order to further investigate issues raised during the interrogatory process. On May 4, 2011 the Applicant responded to HCHI's April 29 letter objecting to HCHI's request.

On April 29, 2011 HCHI also filed a Motion to defer the final decision in this proceeding, and another proceeding involving a leave to construct application for a wind farm (EB-2011-0063) to allow the Board to conduct a generic proceeding to decide issues of general application to the development of transmission lines in municipal rights-of-way.

On May 5, 2011 the Board issued **Procedural Order No. 4** that scheduled a technical conference ("TC") for May 16 and May 17, which was later moved to May 17 and May 18 by way of **Procedural Order No. 5**.

**Procedural Order No.6** was issued on May 27, 2011 allowing for the filing of intervenor evidence on induction impacts and the filing of interrogatories and responses to these interrogatories. The order also allowed for submissions by the parties by June 22 and Summerhaven's reply by June 30.

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<sup>1</sup> The Corporation of Haldimand County filed a letter on October 12, 2011 indicating its withdrawal from the proceeding.



On May 30, 2011 the Board issued its Decision and Order denying the HCHI Motion to defer the Decision in this proceeding until such time that a generic hearing is completed. The Board outlined its reasons for not proceeding with a generic hearing and further indicated that any issues related to the development of the proposed transmission lines by Summerhaven should be addressed within the context of this proceeding, as long as they are relevant and within the Board's jurisdiction to hear and determine.

On June 3, 2011 the Board received a letter from Capital Power requesting that it be allowed a right of reply to Summerhaven's reply should the applicant make any submission on the issue of a common connection point as per the IESO's System Impact Assessment ("SIA") recommendation. On June 10, 2011, Summerhaven submitted to the Board that its position on a common connection point had been fully stated during the TC and that there was therefore no reason to amend the procedural schedule. Capital Power's request for a right of reply was reiterated in a letter filed with the Board on June 17, 2011.

**Procedural Order No. 7** was issued on June 22, 2011 to accommodate Capital Power's request to reply to Summerhaven by allowing for the filing of reply submissions by Capital Power, other intervenors and Board staff in the event that Summerhaven makes a submission on the common connection point.

On June 27, 2011 the Board received an Email from Capital Power referring to its June 17, 2011 letter and requesting that because of the unique circumstances of this case, it be permitted to reply not only to the submissions of the Applicant, but also to the submissions of Board staff and intervenors that may be adverse to the interests of Capital Power. The Board accommodated the request without delaying the original deadline of July 5, 2011 as set out in Procedural Order No.7, by issuing a letter dated June 27 to Summerhaven and all intervenors of record allowing for Capital Power the right to reply to the submissions of the Applicant, Board staff and intervenors that may be adverse to its interests, no later than Tuesday, July 5.

The Board received amendment requests to the schedule set out in Procedural Order No.7, first from Summerhaven on June 29, followed by a response request by HCHI on June 30 suggesting adjustment to Summerhaven's request, and finally Summerhaven's acceptance on July 4.

On July 5, 2011 the Board issued **Procedural Order No.8** with a reschedule by requiring that HCHI file its proposed design for the 27.6/16 kV distribution line by July 13, and Summerhaven to file its proposed final transmission line design by July 27. Procedural Order No.8 also required Intervenor and Board staff to who wish to make submissions in reply to Summerhaven's reply submission, or to submissions of other intervenors insofar as they are limited to matters related to the common connection point as outlined in the SIA report by August 3.

All submissions by Intervenor and Board staff, and reply argument by Applicant were delivered by the specified dates. On August 3, the record was completed being the deadline for submissions in reply to Summerhaven's reply submission, or to submissions of other intervenors insofar as they are limited to matters related to the common connection point.

On September 20, the Board issued a letter to Summerhaven and intervenors of record, seeking comments on draft Conditions of Approval ("COA") that were attached to the letter, by September 30, 2011. The Board indicated that once finalized, COA will form part of the Decision and Order as an Appendix. The Board also indicated that its preference is for Summerhaven and HCHI to, where possible, reach a consensus regarding any modifications to the draft COA. Summerhaven, HCHI and Capital Power sent their comments as directed by the Board.