

INTERROGATORIES OF POLLUTION PROBE

1 **INTERROGATORY 1:**

2 **Reference(s):** **Exhibit Q1, Tab 4, Schedules 1-1, 1-2, & 1-3**

3

4 Please provide copies of all contracts between Navigant Consulting, Inc. and Toronto
5 Hydro and/or the Ontario Power Authority related to the preparation and production of
6 reports and materials about distributed generation in Toronto.

7

8 **RESPONSE:**

9 Please see Appendix A of this Schedule, for the contract between Navigant Consulting
10 and THESL for the study presented in Exhibit Q1, Tab 4, Schedules 1-1, 1-2, and 1-3.

DISTRIBUTED GENERATION CONSULTING SERVICES AGREEMENT

This Distributed Generation Consulting Services Agreement (the "Agreement") is made as of this 10th day of September, 2008 (the "Effective Date");

BETWEEN:

Toronto Hydro-Electric System Limited

(hereinafter referred to as the "THESL")

AND

Ontario Power Authority

(hereinafter referred to as the "OPA" and together with THESL, the "Buyers")

AND

Navigant Consulting Inc.

(hereinafter referred to as the "Consultant")

In consideration of the mutual covenants and conditions contained herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties agree as follows:

1. Interpretation

- (a) **Contract.** The Contract includes this Agreement and Schedule A to this Agreement.
- (b) **Inconsistency.** In the event of any inconsistency between the provisions of this Agreement or any Schedule to this Agreement, this Agreement will prevail.

2. Retainer and Services/Deliverables

- (a) **Retainer.** The Buyers retain the Consultant, and the Consultant agrees, to perform the work and services and to deliver the deliverables as set forth in Schedule A (collectively, the "Work").
- (b) **Reporting.** The Consultant will comply with the reporting requirements set forth in Schedule A.
- (c) **Consultant's Manager/Staff.** All staff of the Consultant employed in connection with the Work will have the knowledge, abilities, experience and qualifications required for the Work and will perform their tasks in a professional manner. The Consultant will provide such additional support as may be required from time to time for the completion of the Work and its proper performance.
- (d) **Inspection and Warranty.** The Buyers will have the right to inspect the Work at all times and may reject any part thereof which is found to be inappropriate or otherwise not in accordance with specifications and statements set out in the Contract or otherwise required by law. The Consultant, at no additional cost to the Buyers, will promptly redo any of the Work so rejected. This will include, but is not limited to, all reports, policy manuals, implementation plans and written work (howsoever recorded, that is, whether written or on digital media) and data prepared by the Consultant under the Contract which are found, within a period of one year from date of transmittal to the Buyers, to be

incomplete or inaccurate due to a failure to comply with the Contract or with said specifications and standards.

- (e) **Laws, Regulations and Codes.** The Consultant will comply with all federal, provincial and municipal statutes, regulations, bylaws, standards and codes which are applicable to the Work, the Buyers and the operations of each.
- (f) **Assignment or Subcontracting.** The Consultant will not assign, subcontract or otherwise delegate the Contract, or any portion thereof, without the prior written consent of the Buyers.
- (g) **Conflict of Interest.** The Consultant is not engaged, and will not engage, in other commercial activities or retainers which conflict with the Work and/or its obligations hereunder.

3. Payment

- (a) The Consultant will be entitled to fees ("Fees") for Work rendered pursuant to this Contract at the prices and/or rates specified in Schedule A subject to this Section 3.
- (b) Each of the OPA and THESL will be liable, severally and not jointly, to the Consultant each for 50 percent of the Fees payable in total and on each invoice.
- (c) Notwithstanding anything else contained in this Agreement, in no event shall: (i) the total Fees payable by either Buyer, inclusive of expenses and taxes other than GST, exceed \$100,000 in 2008; and (ii) the total Fees payable in aggregate over the term of this Agreement, inclusive of expenses and taxes other than GST, exceed \$309,620.
- (d) The Consultant will be entitled to submit an invoice for the Fees monthly in arrears. At such times, the Consultant will submit a separate invoice to each of the Buyers, and in such detail and format as specified by each Buyer. Invoices will be delivered to the following addresses:

With respect to the OPA:

Ontario Power Authority
120 Adelaide Street West
Suite 1600
Toronto ON M5H 1T1

Attention: Accounts Payable

Facsimile: 416-967-1947

All invoices delivered to the OPA must include the following information:

Purchase Order Number: 50002716

OPA Contact: Accounts Payable

With respect to THESL:

Toronto Hydro-Electric System Limited
14 Carlton Street
Toronto ON M5B 1K5

Attention: Accounts Payable

- (e) The Buyers will each pay accepted invoices within 30 days after receipt thereof.
- (f) If at any time during the performance of the Work there are deficiencies in the Work in the opinion of either Buyer acting independently, such Buyer will inform Consultant of such deficiencies in detail and will have the right to withhold from payment in respect of any of the Consultant's invoices rendered to it an amount that, in such Buyer's reasonable opinion, takes into account the above-noted deficiencies. Any amount withheld shall be paid 30 days after receipt of the Consultant's invoice submitted after such Buyer's approval of the correction of deficiencies, or as soon thereafter as is practicable given the circumstances.
- (g) **Taxes.** Goods Services Tax ("GST") and all other taxes will be shown separately on all invoices. The Consultant will deduct all recoverable GST paid from reimbursable expenses before adding GST to amounts to be invoiced to the Buyers. The Buyers each separately have the right to request further details (including copies of previously submitted invoices or any documentation required in support thereof) in order to establish its claim for any input tax credit or rebate in respect of any GST incurred by either the OPA or THESL in connection with the Contract. The Consultant shall co-operate to the reasonable extent necessary in providing such documentation to the OPA or to THESL on a timely basis.
- (h) **Contractual Currency.** Unless otherwise specified in Schedule A, all payments hereunder will be made in Canadian dollars.

4. Term and Termination

- (a) **Term.** The term of the Contract will commence on the Effective Date and terminate on April 30, 2009.
- (b) **Termination by either Buyer.** Each of the OPA and THESL shall be entitled at any time to deliver to the Consultant a written notice that the Consultant is in default of its obligations (a "Notice of Default"), which Notice of Default shall apply only to such Buyer that delivered the notice, and not to the other Buyer. The Notice of Default shall set out the nature of the default and, if curable within a reasonable time in the sole discretion of such Buyer, a date by which the default is to be cured, which in any event shall not be longer than 30 days. If the default is not curable, at any time following the cure period specified in the Notice of Default, and if the default is curable, at any time following the cure period specified in the Notice of Default if the default was not cured by such time, such Buyer ("Terminating Buyer") may deliver a notice to the Consultant with a copy to the other Buyer terminating the Contract with respect to the Terminating Buyer only.
- (c) **Termination by Consultant.** The Consultant shall be entitled at any time to deliver to either Buyer a written notice that such Buyer ("Defaulting Buyer") is in default of its payment obligations hereunder (a "Notice of Payment Default"), which notice shall specify all relevant particulars of the payment obligation in respect of which the Defaulting Buyer is in default. Provided that the invoice is not the subject of a dispute, the Consultant shall be entitled to terminate the Contract with respect to the Defaulting Buyer on 30 days written notice to the Defaulting Buyer with a copy to the other Buyer, if such payment is not paid to the Consultant on or before the 15th day following the date of the Notice of Payment Default.
- (d) **Continuance with respect to Remaining Buyer.** If this Contract has been terminated with respect to a Terminating Buyer under Section 4(b) or a Defaulting Buyer with respect to Section 4(c), the other, remaining Buyer and the Consultant agree that this Contract will be amended to delete all references to and rights and obligations of the Terminating Buyer or the Defaulting Buyer, but will otherwise continue unamended and in full force and effect with respect to the remaining Buyer and the Consultant.

- (e) **Payments on Termination.** Unless otherwise agreed between the Consultant and the OPA or THESL, upon termination the Terminating Buyer or the Defaulting Buyer will be obligated to pay the Consultant only for its portion of the Fees (50 %) for Work rendered and expenses incurred prior to the expiry of the notice period, and after expiry of the notice period only the remaining Buyer will be obligated to pay the Consultant only for the portion of the Fees (50%) payable by it for Work rendered and expenses incurred pursuant to Section 3(b) of this Agreement.
- (f) **Limitation of Liability.** Save and except for any liability arising out of a breach of the terms of section 2(e) (Laws, Regulations and Codes), section 6(b) (Workplace Safety and Insurance) and section 8 (Compliance with Privacy Laws and Confidentiality), the total liability of Consultant, its parents, subsidiaries, affiliates, officers, employees or agents, to either or both Buyers for all claims of any kind arising under this Agreement, whether in contract, tort or otherwise, shall be limited to the total Fees paid to Consultant under this Agreement. In the case of liability arising out of a breach of the terms of section 2(e) (Laws, Regulations and Codes), section 6(b) (Workplace Safety and Insurance) and section 8 (Compliance with Privacy Laws and Confidentiality), the total liability of Consultant, its parents, subsidiaries, affiliates, officers, employees or agents, to each Buyer shall be limited to \$500,000.

5. Relationship of the Parties

- (a) **No Ability to Bind.** No party to this Contract will have the authority to bind any other party or to assume or create any obligation or responsibility expressed or implied on the part of any other party, or in its name, nor will it represent to anyone that it has such power or authority. In particular, the Consultant agrees and acknowledges that neither THESL nor the OPA has the authority to bind the other.
- (b) **Independent Business Relationship.**
- (i) The Consultant agrees that the relationship with each of the Buyers is an independent business relationship and in no way does the Contract contemplate or create an relationship of principal and agent, or an employment relationship or any other type of relationship, nor does it entitle the Consultant to any benefits of employment including, without limitation, membership in health benefits and pension programs provided to employees at either of the Buyers. Nor does this agreement create any partnership or joint venture with either or both of the Buyers.
 - (ii) As an independent contractor, the Consultant is responsible for any and all payments with respect to his, her or its income and other taxes, insured health benefits coverage, Workplace Safety and Insurance, Canada Pension Plan, Employment Insurance premiums and costs, and any other costs that may apply.
 - (iii) The Consultant agrees to indemnify each Buyer, its affiliates, and their respective officers, directors, employees and agents (hereinafter, the Buyer's "Representatives") and save them harmless from and against any and all liabilities and claims, including payments, fines, penalties, interest and any other financial costs in any way arising out of any actual or alleged failure of such Buyer to deduct, withhold or contribute any amount in respect of its payments to the Consultant. Without limiting the generality hereof, such liabilities and claims shall include federal and/or provincial income taxes, pension plan contributions, employment insurance premiums, Workplace Safety and Insurance premiums and contributions under any federal or provincial income security program.

6. Insurance

- (a) **Maintain Insurance.** The Consultant will (i) obtain and maintain insurance covering such risks and in such amount as a prudent business owner would maintain including without limitation, where

applicable, broad form commercial general liability insurance and errors and omissions insurance, (ii) obtain cross liability and severability of interest clauses in favour of each Buyer if so requested by any Buyer; (iii) provide evidence of insurance and of the clauses referred to in (i) and (ii) hereof to a Buyer upon request; and (iv) indemnify and save the Buyers and their respective Representatives harmless in respect of any failure by it to do any or all of the foregoing. Under no circumstances will the Buyers be liable to the Consultant or any employee thereof for any failure of the Consultant to obtain any insurance necessary or desirable in relation to the subject matter of the Contract. Without limitation to the foregoing, the Consultant will have insurance in a minimum amount equal to the maximum aggregate amount payable to the Consultant under the Contract.

(b) **Workplace Safety and Insurance Act.** If the Consultant is subject to the Workplace Safety and Insurance Act ("WISA"), it shall, upon request of the OPA or THESL, submit a valid clearance certificate of WSA coverage to the OPA or THESL prior to the commencement date of the Agreement. In addition, the Consultant covenants and agrees to pay when due, and to ensure that each of its subcontractors pays when due, all amounts required to be paid by it/its subcontractors, from time to time during the term of this Contract. The Consultant will indemnify and save the Buyers and their respective Representatives harmless in respect of any failure by it to do any or all of the foregoing.

7. Proprietary Rights

- (a) **Existing Intellectual Property.** Each party will retain all rights to methodology, knowledge, and data brought to the Work and used therein, including without limitation any work performed or reports prepared by the Consultant for any of the Buyers prior to the effective date of this Agreement. No rights to proprietary interests existing prior to the start of the Work are passed hereunder other than rights to use same as provided for herein. The Consultant will not knowingly incorporate into the Work any data, software or hardware the use of which by the OPA or THESL would violate the proprietary rights of third parties.
- (b) **Newly Created Intellectual Property.** All title and beneficial ownership interests to all intellectual property, including copyright, of any form, including, without limitation, discoveries (patented or otherwise), software, data (hard copied and machine readable) or processes, conceived, designed, written, produced, developed or reduced to practice in the course of the Work will vest in and remain with the Buyers jointly. Furthermore, the Consultant agrees to waive any moral rights that it has, and/or cause its employees to waive any moral rights they may have, in the Work. The Consultant will not do any act which may compromise or diminish the Buyers' interests as aforesaid.
- (c) **License to Use.** The Consultant grants to each of the OPA and THESL a separate non-exclusive paid up license to use, copy, reproduce and distribute publicly any pre-existing data, intellectual property and other proprietary items ("**Consultant's Pre-existing Data**") incorporated into the Work by the Consultant hereunder and explanation of the methodology used to produce such Work, in whole or in part. Provided, however, that any such copies, reproductions or distributions of the Consultant's Pre-Existing Data contain reasonable reservations of proprietary rights in favour of the Consultant (which may be included in a general reservation, but will contain the same order of legal protection as the Consultant uses when distributing such data or property to third parties) or provided the use of same does not reveal information proprietary to the Consultant. The Consultant may require that all Consultant's Pre-Existing Data that is copied, reproduced or distributed the Buyers bear the Consultant's copyright notice and a warning to third parties not to duplicate, republish or modify such Consultant's Pre-Existing Data without Consultant's permission.

8. Compliance with Privacy Laws and Confidentiality

- (a) **Personal Information and Privacy Laws.** In this section, "Personal Information" means any information about an identifiable individual, which before or after the date of the Contract, is exchanged, disclosed, transferred, stored, warehoused, accessed, processed, handled or in any way made available to the Consultant, including without limitation all Personal Information provided by THESL to the Consultant about THESL customers. "Privacy Laws" includes the *Personal Information*

Protection and Electronic Documents Act (Canada), Freedom of Information and Protection of Privacy (Ontario), Municipal Freedom of Information and Protection of Privacy (Ontario) and the provisions of any other applicable municipal, provincial or federal or other laws, regulations, decisions, orders, judgments and rulings or regulatory requirements applicable to either party to the Contract from time to time that address the collection, use, transfer or disclosure of Personal Information.

- (b) **Compliance with Privacy Laws.** The Consultant agrees to comply with all Privacy Laws applicable to either it, the OPA or THESL in relation to Personal Information and shall refrain from taking any action that could cause the OPA or THESL to be in non-compliance with any such Privacy Laws. Without limiting the generality of the foregoing, the Consultant agrees to comply with the Privacy Rules attached in Schedule B hereto and further agrees to name a person (or persons) to be responsible for ensuring compliance with the obligations of this section and shall advise the Buyers of the name of such individual and any replacement(s).
- (c) The Consultant and THESL agree and acknowledge that all Personal Information provided in relation to this Contract relates only to THESL customers and is provided solely by THESL to the Consultant without copy to the OPA. THESL and the Consultant each covenant that it will not provide the OPA with any Personal Information or communicate (in any form) any Personal Information to the OPA, whether as part of the Work, the underlying analysis or drafts thereof.
- (d) The Consultant shall ensure that the Work does not contain any Personal Information.
- (e) **Confidentiality**
 - (i) The Consultant agrees to keep confidential and not to divulge or communicate to any person or use for a purpose other than delivering the Work required under this contract without the Buyers' prior written consent, any proprietary information, trade secrets or other secret or confidential, technical or commercially sensitive information belonging to the OPA or THESL or their respective officers, stakeholders and/or third parties (the "Confidential Information"), whenever received by the Consultant and in whatever capacity. For the purposes of this clause, and by way of illustration and not limitation, information is *prima facie* secret and confidential if it relates to the OPA's, THESL's or their respective stakeholders or Representatives and/or third party contractors: power system planning information, business methods and strategies; production and delivery capabilities; clients and details of their particular requirements; costings, profit margins, and other financial information of any nature; marketing strategies and tactics; current activities and current and future plans relating to any or all of: development; production or sales/supply, including the timing of all or any such matters; development of new products, services or methods; production, operation or design secrets; raw materials; research and development; inventions; formulae and formulations; methods of treatment, processing, manufacture, construction, production, process and any confidential controls including quality controls.
 - (ii) The Consultant shall limit the disclosure of the Confidential Information to only those of its employees who have a need to know it and who have been specifically authorized to have such disclosure. Upon request by either Buyer, the Consultant shall return all of the Confidential Information once the Consultant has completed its Work under this Contract and shall not retain any copies of the Confidential Information, except for automatically generated computer back-up or archival copies generated in the ordinary course of Consultant's information systems procedures, provided that Consultant makes no further use of such copies.
 - (iii) These restrictions will continue to apply after the termination of this Contract, without limit in time but will cease to apply to information which enters the public domain otherwise than through unauthorized disclosure by the Consultant.

9. Buyer-Owned Equipment

- (a) **Use of Equipment; Title.** Equipment authorized by a Buyer or both Buyers for purchase by the Consultant (at the expense of the Buyer(s)) or supplied to the Consultant by a Buyer or both Buyer(s), shall be used solely by the Consultant in the performance of the Work unless prior written approval is obtained from such Buyer(s). Title to such equipment will remain with the Buyer(s) who provided it. When in the Consultant's possession, the Consultant will ensure the equipment will be clearly identified as the property of the Buyer(s) who provided it. The Consultant will be responsible for safeguarding such equipment while in its custody and control or in that of any of its personnel or Consultants, agents or contractors, maintaining a system of inventory control acceptable to such Buyer(s), acting reasonably. The Buyer(s) will have reasonable access to the premises of the Consultant for the purpose of verifying the Consultant's records relating to the equipment and for auditing inventories of such equipment.
- (b) **Return of Equipment.** Following completion of the work or termination of the Contract, the Consultant will, unless otherwise directed, deliver to, or make all such equipment immediately available for pick up by, the Buyer(s) who provided it. The Consultant shall be liable for the repair, refurbishment or replacement of any and all such Buyer-owned equipment that becomes damaged or lost while in the custody or control of the Consultant. At the Buyer(s)'s request and expense, the Consultant will maintain insurance, in which the Consultant and the Buyer(s) will be named jointly as insured, covering the full replacement value of all such equipment against the risk of loss or damage.

10. Offshore Consultants; Non-residents

- (a) **Permits, etc.** If applicable, the Consultant is responsible for applying, at its own expense, to Immigration Canada for admission of personnel into Canada and for obtaining work permits where required.
- (b) **Withholding Tax.** All payments made by the Buyers to non-residents of Canada will be made net of any required taxes or withholdings.

11. Force Majeure.

If the performance of the Contract, or any obligations thereunder, is materially prevented, restricted, or interfered with by reason of: fire, flood, earthquake, explosion, or other casualty or accident or act of God; strikes or labour disputes; inability to procure or obtain delivery of parts, supplies, power or software from suppliers; failure, delay, interruption or other adverse impact caused by telecommunications carriers, internet service providers, and other intermediaries; war or other violence; any law, order proclamation, regulation, ordinance, demand or requirement of any governmental authority; or any other act or condition whatsoever beyond the reasonable control of the affected party (a "Force Majeure"), the party so materially affected, upon giving prompt notice to the other party, will be excused from such performance to the extent of the material delay caused by such prevention, restriction or interference; provided, however, that the party so affected will take all reasonable steps to avoid or remove such Force Majeure and will resume performance hereunder with dispatch whenever such causes are removed.

12. Accounts and Right to Audit

The Consultant will keep proper accounts and records of the work in form and detail satisfactory to the Buyers. Such accounts and records, including invoices, receipts, time cards and vouchers will at all reasonable times be open to audit, inspection and copying by Buyers. Accounts and records will be preserved and kept available for audit until the expiration of two years from the date of completion of the Work or termination of this Contract.

13. Miscellaneous

- (a) **Entire Agreement.** The Contract constitutes the entire agreement and understanding of the parties with respect to its subject matter and supersedes all oral communication and prior writings with respect thereto. There are no warranties, conditions, or representations, express or implied, and there are no agreements in connection with such subject matter except as specifically set forth or referred to in the Contract. No reliance may be placed on any warranty, representation, opinion, advice or assertion of fact made either prior to, contemporaneous with, or after entering into this Contract, or any amendment or supplement thereto, by any party hereto or its directors, officers, employees or agents, to any other party hereto or its directors, officers, employees or agents, except to the extent that the same has been reduced to writing and included as a term of the Contract, and none of the parties hereto has been induced to enter into the Contract or any amendment or supplement by reason of any such warranty, representation, opinion, advice or assertion of fact.
- (b) **Amendments.** No amendment, modification or waiver in respect of the Contract will be effective unless in writing (including a writing evidenced by a facsimile transmission) and executed by each of the parties.
- (c) **No Waiver of Rights.** A failure or delay in exercising any right, power or privilege in respect of the Contract will not be presumed to operate as a waiver, and a single or partial exercise of any right, power or privilege will not be presumed to preclude any subsequent or further exercise, of that right, power or privilege or the exercise of any other right, power or privilege.
- (d) **Further Assurances.** Each of the parties shall, from time to time, on written request of the other party, do all such further acts and execute and deliver or cause to be done, executed and delivered all such further things as may be reasonably required in order to fully perform and to more effectively implement the terms of the Contract.
- (e) **Headings.** The headings used in the Contract are for convenience of reference only and are not to affect the construction of or be taken into consideration in interpreting the Contract.
- (f) **Severability.** If any provisions of the Contract will for any reason be held illegal or unenforceable, such provision will be deemed separable from the remaining provisions of the Contract and will in no way affect or impair the validity or the enforceability of the remaining provisions of the Contract.

14. Governing Law

The Contract shall be governed by, and interpreted in accordance with, the laws of the Province of Ontario including the laws of Canada as applicable therein and each party irrevocably and unconditionally submits to the non-exclusive jurisdiction of the courts of such province and all courts competent to here appeals therefrom.

15. Notices

- (a) **Effectiveness.** Any notice or other communication in respect of the Contract may be given in any manner described below to the address or number or in accordance with the email details set forth below:

If to the OPA:

Ontario Power Authority
20 Adelaide Street West, Ste. 1600
Toronto, Ontario M5H 1T1

Attention: Bing Young
Director, Transmission Integration

Telephone : 416-969-6410
Facsimile : 416-967-1947
Email : bing.young@powerauthority.on.ca

If to THESL:

Toronto Hydro-Electric System Limited
500 Commissioners St.
Toronto, Ontario M4M 3N7

Attention: Devinder (Dave) Jutla
Manager, Capacity Planning, Asset Management

Telephone : 416-542-2953
Facsimile : 416-542-2630
Email : DJutla@torontohydro.com

If to the Consultant:

Navigant Consulting Inc.
1 Adelaide Street East, Suite 2601
Toronto, Ontario M5C 2V9

Attention: Todd Williams
Director

Telephone : 647-288-5204
Facsimile : 416-777-2441
Email : twilliams@navigantconsulting.com

(b) Notices given pursuant to Section 15(a) will be deemed effective only against the party to whom it is delivered, and only as indicated:

- (i) if in writing and delivered by person or by courier, on the date it is delivered;
- (ii) if sent by facsimile transmission, on the date it is received by a responsible employee of the recipient in legible form (it being agreed that the burden of proving receipt will be on the sender and will not be met by a transmission report generated by the sender's facsimile machine);
- (iii) if sent by certified or registered mail or the equivalent (return receipt requested), on the date it is delivered or delivery is attempted; or
- (iv) if sent by e-mail, on the date it is delivered.

(c) **Invoices.** Notwithstanding the foregoing invoices may be delivered by mail only and will be effective upon actual receipt by the OPA or THESL.


(d) **Change of Details.** Either party, may by notice to the other, change the address, facsimile number or email details at which notices or other communications are to be given to it.

16. Execution of Contract

- (a) **Counterparts.** The Contract may be executed in one or more counterparts, each of which will be deemed to be an original copy of the Contract and all of which, when taken together, will be deemed to constitute one and the same agreement.
- (b) **Facsimile.** The exchange of copies of the Contract and of signature pages by facsimile or e-mail (in web browser compatible format) transmission shall constitute effective execution and delivery of the Contract as to the parties and may be used in lieu of the original Contract for all purposes.
- (c) **Signatures.** Signatures of the parties transmitted by facsimile or e-mail (in web browser compatible format) shall be deemed to be their original signatures for any purposes whatsoever.

IN WITNESS WHEREOF the parties hereto execute the Contract under the hands of their respective proper officers duly authorized on their behalf, with effect from the date specified on the first page of this document.

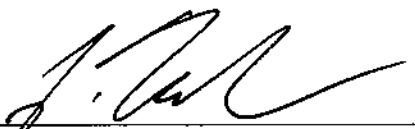
ONTARIO POWER AUTHORITY

By: 
Name: Amir Shalaby
Title: Vice-President, Power System Planning

TORONTO HYDRO ELECTRIC SYSTEM LIMITED

By: _____
Name: Ivano Labricciosa
Title: Vice-President, Asset Management

NAVIGANT CONSULTING INC.

By: 
Name: Todd Williams
Title: Director

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ONTARIO POWER AUTHORITY

**TORONTO HYDRO ELECTRIC SYSTEM
LIMITED**

By: _____

Name: Amir Shalaby
Title: Vice-President, Power System
Planning

By: _____

Name: Ivano Labricciosa
Title: Vice-President, Asset
Management

NAVIGANT CONSULTING INC.

By: _____

Name: Todd Williams
Title: Director

SCHEDULE A
to the
DISTRIBUTED GENERATION CONSULTING SERVICES AGREEMENT

Made as of September 10, 2008

Between
ONTARIO POWER AUTHORITY ("OPA")
and
TORONTO HYDRO ELECTRIC SYSTEM LIMITED ("THESL")
and
NAVIGANT CONSULTING INC. ("Consultant")

The OPA and THESL require consulting services to investigate and assess the distributed generation ("DG") potential and opportunities in the City of Toronto with a specific focus in the central and downtown areas of Toronto. The objectives of this project are to 1) identify and characterize the various distributed generation technologies that would be available for deployment in central and downtown Toronto, 2) understand and describe the possible supply contingency events facing THESL and its local network configuration and constraints vis-à-vis DG, 3) develop viable scenarios for distributed generation deployment that would mitigate the impact of the potential contingency events and that can operate within THESL's network constraints and 4) determine the cost-effectiveness of these alternative scenarios. The Work will take into account THESL's customer base, infrastructure and experience with distributed generation, the OPA's various generation initiatives (such as RESOP and CESOP), and government and regulatory policies affecting distributed generation.

The Consultant shall perform the following Work:

1 Work, Services and Deliverables

1.0 Task No. 1: Investigate and review the feasible DG technologies for central and downtown Toronto

- 1.1 The Consultant's Work shall start with a comprehensive review of the various available distributed generation technologies and the performance characteristics of these various technologies. This review will include:**
 - 1.1.1 The Consultant will plan, facilitate and document a two to three hour kick-off meeting with the THESL and OPA project team to discuss the engagement expectations, objectives, approach, schedule, team and roles.**
 - 1.1.2 Review the use and extent of DG in urban areas other than Toronto. What are the main technologies being used in those urban areas? Where there are significant levels of DG penetration, what are the main drivers (capacity, security, system vs. local requirements)? Do these urban areas share common characteristics with Toronto? What has been the experience of other jurisdictions with respect to planning approach and criteria, system performance and availability of DG resources?**
 - 1.1.3 The Consultant will profile commercial and near commercial distributed generation technologies available. This will include a description of the technology, typical system size and capital cost, operating cost, efficiency**

(thermal and electrical as appropriate), availability, key electrical parameters, space requirements, operations and maintenance requirements, environmental performance, reliability, target customer segments and key benefits provided.

- 1.1.4 The Consultant will provide a characterization of the commercial status of the technologies, current operating experience, reliability and the commercial potential. The characterization will also identify each technology's electrical performance with respect to key THESL's operational constraints, such as short-circuit capacity, power quality and ampacity.
- 1.1.5 Identify and assess the range of feasible DG technologies suitable for central and downtown Toronto applications with respect to the current level of generation and reliability needs discussed above.
- 1.1.6 Comment on why other technologies may not be feasible. This could include, but are not limited to, considerations of technology maturity, industry experience, commercial potential, fuel supply suitability and performance requirements.
- 1.2 The DG technologies reviewed should include, but are not limited to:
 - solar photo voltaic ("PV") – including the potential from roof top buildings;
 - co-generation ("Co-Gen") – including potential use of third party steam assets and district energy opportunities;
 - small gas or bio-fuel generators (<10MW);
 - use of existing emergency back up generators;
 - wind turbines;
 - energy storage options (flow batteries, lead acid, Ni Cad, NaS, etc)
 - fuel cells (PEM, SOFC, MCFC – low temperature, and high temperature options)
 - heat recovery technologies (organic rankine cycle technologies) and
 - Geothermal facilities.
- 1.3 The Consultant will utilize their extensive database of actual projects including availability data in performing their review. The Consultant will also, when appropriate, make reference to the *Evaluation of Costs of New Entry* report dated February 21, 2007 that the Consultant completed for the OPA. This information will be updated and refined based on discussions with suppliers and developers, and other recent Consultant projects.
- 1.4 Review the capability and performance of the suitable technologies and sizes. The review should also consider such aspects as capacity factors, efficiency/heat rates, availability, and other benefits.
- 1.5 The Consultant's characterization of the various distributed generation technologies will also identify each technology's electrical performance with respect to key THESL's operational constraints, such as short-circuit capacity, power quality and ampacity. These constraints will be compared to the constraints in other urban areas where DG has been deployed.
- 1.6 For each technology, the Consultant will identify ranges for potential short circuit duty, which varies widely by DG technologies; those which employ synchronous generators produce the highest fault current, which continue until the fault is cleared or DG is tripped.
- 2.0 **Task No. 2: Identify Technical and Approval Issues for DG in Central and Downtown Toronto**
 - 2.1 The Consultant will work with the OPA and THESL, and with external stakeholders to gain a full understanding of the capacity and system reliability requirements that are driving the need for the distributed generation solution.
 - 2.2 The Consultant will fully explore and understand the dynamic and probabilistic nature of the supply contingencies distributed generation could mitigate, and key physical and operational characteristics of THESL's delivery system that will impact distribution generation technologies, siting and penetration rates. The supply contingencies, system constraints and their implications for distributed generation requirements will be summarized in a brief document for THESL's and the OPA's review. This document will be revised as necessary to ensure it accurately reflects – at the appropriate level of detail

– the specific supply “gap” that distributed generation could fill and how this distributed generation must be deployed given the constraints on THESL’s system. Results presented in this document will serve as the foundation for the Consultant’s subsequent analytical efforts.

- 2.3 For the technologies deemed more applicable/suitable, assess and identify the distribution and transmission system technical issues associated with the levels and timing of DG being considered. Technical issues must include, but are not limited to:
 - impacts on the distribution and transmission system (short circuit, power quality, reverse power flow and other equipment impacts);
 - DG performance issues such as availability during peak periods and for continuous operation under emergencies, voltage regulation, low voltage ride-through, operation safety and black start capability;
 - operation coordination with distribution, transmission and the Independent Electricity System Operator (IESO) operators; and
 - connection issues including additional communication and control facilities and enhancements.
- 2.4 Review and identify key environmental approval and performance issues (eg. greenhouse gases, other emissions, noise, diesel conversion) for the technologies being considered. Comment also on whether such issues pertain to sizing of DG (ie. are there economies of scale from an environmental perspective).
- 2.5 Review and identify other key federal, provincial and municipal regulations and approval issues for the technologies being considered. Comment on how these issues may affect development lead times, extent of deployment of DG or impose operational restrictions.
 - 2.5.1 The Consultant will identify policies that serve to discourage constraint or delay certain DG technologies. The Consultant will contact appropriate people within the Ministry of Environment and the City of Toronto’s Planning Department to further explore the policies that impact DG and any plans for the future
- 2.6 Comment and summarize the technical, performance and approvals advantages and disadvantages of the DG technologies deemed more suitable for central and downtown Toronto applications.
 - 2.6.1 **Workshop #1.** The Consultant will plan, facilitate and document a workshop with the THESL and OPA project team to summarize the Consultant’s analysis of the various DG technologies for possible deployment and review and describe the supply contingencies that distributed generation technologies could mitigate and the key system constraints to be considered in an aggressive distributed generation deployment.
 - 2.6.2 **Stakeholder Consultation Session #1.** With input from each of THESL and OPA, the Consultant will plan, deliver and facilitate a stakeholder consultation session summarizing the key finding from Tasks 1 and 2 to ensure stakeholders (as determined by the OPA and THESL) are kept apprised of the high level technical opportunities and constraints for DG in Central and Downtown Toronto. THESL and OPA will be responsible for invitations, logistics and costs associated with this session. For clarity, the Consultant shall not invoice either Buyer, and the Buyers shall not be obligated to pay the Consultant, for any additional fees, mark-ups reimbursements or other payments in connection with such sessions.

3.0 Task No. 3: Estimate the Potential of DG in Central and Downtown Toronto

- 3.1 Based on the review of feasible technologies and the understanding of the key technical and approvals issues, estimate the realizable levels of DG potential for central and downtown Toronto. In doing so, the Consultant will focus on determining the total market size (in MW) that each distributed generation technology could provide based on non-economical considerations (e.g., peak capacity, total production, insolation). The Consultant will also assess the capacity value of the technology that THESL should assume for the technology and reliability of supply. Estimates of lead times to achieve the

identified levels are to be included. In developing a DG plan it will be important to identify the right technologies in the right places and with the right capacities. The Consultant will provide evidence that such projects can be sited.

- 3.2 Estimates should be provided for three DG penetration scenarios: conservative, most probable and aggressive, reflecting combinations of distributed generation technologies and corresponding penetration rates that could mitigate THESL's supply contingencies. The key assumptions underlying these scenarios – such as level of incentives available and key policies / program that either encourage or constrain DG – will be developed jointly with THESL and the OPA. Each scenario will include details related to the expected deployment of each DG technology by customer type and location (including TS service area). As a visual aid in understanding and communicating the DG penetrations expected in each of the scenarios, the Consultant will explore linking DG penetration rates by segment with geographic information related to customer type and density by postal code (or by feeder as available from THESL GIS).

- 3.2.1 **Workshop #2.** The Consultant will plan, facilitate and document a half-day workshop with the THESL and OPA project team to review the three DG scenarios developed.

- 3.3 Estimates should consider OPA programs, other government incentives and supportive activities of various organizations and interest groups who promote the use of DG. The Consultant will identify these various programs and policies and meet with their providers / decision-makers to assess current participation rates and any program / policy changes being contemplated. This approach will require input from a representative sample of major businesses to determine what incentives and a threshold value of return on their investment would generate a serious interest in long term distributed generation projects.

- 3.4 In order to test the ability of the system to integrate each of the various types of capacity, the Consultant may assume that the entire target DG capacity of 300 MW is realized exclusively by a single DG technology (or closely related DG technologies with essentially similar characteristics as seen from the network) with capacity distributed uniformly across Central and Downtown Toronto. For any DG technologies that have negative implications at the 300 MW capacity level, the Consultant will progressively reduce the total capacity or concentrate the capacity until the network implications are mitigated or can be mitigated at a reasonable cost.

- 3.5 Building on this analysis, the Consultant will then explore how combinations of the “reasonable” deployment strategies for various DG technologies would address THESL's contingency requirements and how they would impact the network.

- 3.6 The results of the above analysis will be integrated to yield various possible best fits or optimal deployment scenarios that both address THESL's contingency requirements and have limited negative network implication (or have limited costs associated with addressing such implications).

- 3.6.1 **Workshop #3.** The Consultant will plan, facilitate and document a workshop with the THESL and OPA project team to summarize our analysis of the “best fit” deployment of DG (combination of location, capacity and technology) and the resultant implications for the THESL network and supply contingencies to be addressed. This workshop will ensure that the NCI team fully understands the dynamic and complex “needs” distributed generation could address before developing deployment scenarios reflective of THESL's customer mix in the next subtask

- 3.7 Estimates should identify what the DG technology makeup might be, where the opportunities are from a geographic perspective and where such groups or pockets of DG would connect. Ideally, estimates of DG potential would be provided by transformer station service area.

- 3.7.1 The Consultant will profile the key customer market segments in central and downtown Toronto, including single-family residential (new and existing construction), multifamily residential (new and existing construction),

communities/municipalities, commercial, institutional, and industrial. The profile of each segment will include the total number of customers, average electricity and natural gas consumption, gas service availability, roof space, major energy uses, and key attributes/needs of energy services.

- 3.8 Estimates should include proof of surveying and market intelligence at an appropriate level, in order to support the assessments. For example, this could include interviews with potential developers and hosts to estimate the availability of commercial/industrial sites or opportunities for co-gen and district heating.

3.8.1 The Consultant will profile the key customer market segments in central and downtown Toronto, including single-family residential (new and existing construction), multifamily residential (new and existing construction), communities/municipalities, commercial, institutional, and industrial. The profile of each segment will include the total number of customers, average electricity and natural gas consumption, gas service availability, roof space, major energy uses, and key attributes/needs of energy services.

3.8.2 The Consultant will perform 50 to 75 interview with customers and other organizations from the various segments to better understand their willingness and ability to pursue the applicable DG technologies and their perspective on required paybacks, etc. As appropriate, the interviews may also explore customer's or developer's willingness to play an indirect role in enabling DG as a thermal host in a cogeneration or district energy facility. The types of customers and organizations expected to be interviewed are the following:

- Large industrial facilities (such as Rogers Sugar)
- Large property owners and managers (Such as Oxford, Brookfield, Bell Canada, etc.)
- Retail developers (such as RioCan)
- Municipal government and government agencies (such as Toronto Transit Commission, Toronto Community Housing Corporation and Enwave)
- Provincial government and agencies (such as Ontario Realty Corporation)
- Condominium developers and corporations
- Federal government and agencies

3.8.3 Subject to the terms of section 8 of the Agreement, the Consultant will also conduct a short, 15-minute telephone survey with 400 residential customers in Central and Downtown Toronto to better understand residential DG technology opportunities.

- 3.9 Estimates should consider to an appropriate level the availability of land, access to fuel sources and community acceptance for certain technologies. For example, some types of DG may not be suitable in largely residential areas.

3.10 Comment on whether or how smart grid initiatives currently being contemplated may affect the DG potential with regards to technologies and location.

3.11 The Consultant will develop a forecast of the expected distributed generation penetration by technology through 2020 absent additional programs and/or policy / regulatory changes. The forecast generated through this task will then serve as the "base case" upon which the various distributed generation scenarios developed in subsequent tasks will be layered.

4.0 Task No. 4: Provide Cost Estimates for the Range of DG Technologies and Scenarios

- 4.1 Based on the investigations and assessments performed in Tasks 1 through 3, provide cost estimates for the range of feasible technologies specific to central and downtown Toronto applications.

- 4.1.1 The Consultant will identify the system-wide financial impacts for each of the scenarios based on the mix of DG technologies within each scenario. The Consultant proposes to use the avoided costs provided by the OPA in the IPSP (or updated values provided by the OPA for the purposes of this study dependent upon approval of the IPSP by the OEB)
- 4.2 Provide a total cost estimate for the three DG penetration level scenarios. Include Lost-Benefits cost. Lost-Benefits cost is the cost of not producing as a result of the electricity not consumed.
- 4.3 Perform Total Resource Costs (TRC) Tests for the individual distributed generation initiatives and the overall solution for the three scenarios.
- 4.4 Costs estimates should be supported with current reviews and direct discussions with manufacturers, existing equipment owners and potential developers regarding the range of DG technologies and scale of deployments contemplated.
 - 4.4.1 **Stakeholder Consultation Session #2.** With input from each of THESL and OPA, the Consultant will plan, deliver and facilitate a stakeholder consultation session summarizing the key findings from Tasks 3 and 4 to ensure stakeholders (as determined by the OPA and THESL) are kept apprised of the high level market opportunities and costs for DG in Central and Downtown Toronto. THESL and OPA will be responsible for invitations, logistics and costs associated with this session. For clarity, the Consultant shall not invoice either Buyer, and the Buyers shall not be obligated to pay the Consultant, for any additional fees, mark-ups reimbursements or other payments in connection with such sessions.
- 4.5 Based on feedback from Stakeholder Consultation Session #2, Consultant will revise and refine the scenarios and update our financial and qualitative analysis.
- 5.0 **Task No. 5: Provide Suggestion or Recommendations for Next Steps in Developing a DG Plan**
 - 5.1 Identify what issues or questions, if any, remain unanswered by this study and comment on what further studies or investigations may be required.
 - 5.2 Comment on the scope of work required to develop more refined cost estimates.
 - 5.3 Comment on existing barriers and additional incentives that may be required to facilitate the DG levels contemplated.
 - 5.4 Comment on the procurement mechanisms and approaches that may be adopted to ensure the appropriate DG technology and levels are sited in the locations that provide the most benefit. Possible procurement and business models which might be explored include:
 - THESL owned DG
 - THESL converting customers' back-up gensets to natural gas in return for dispatch and control of the units (similar to Portland General and Madison Gas and Electric programs)
 - Combination DG/demand response programs to maximize physical assurance for DG
 - THESL owned PV on customer rooftops, and
 - Ratebasing distribution upgrades to accommodate DG (similar to ConEd treatment)
 - 5.5 Comment on whether there are emerging technologies that have potential for Toronto and that need to be monitored further.
 - 5.6 The profile of business models will include a definition of the distributed generation system owner, operator, typical capital financing arrangements, typical sales and marketing channels, and other unique characteristics of the business model. The Consultant will also flag emerging DG technologies that could play a key role in address the local needs for ongoing monitoring.

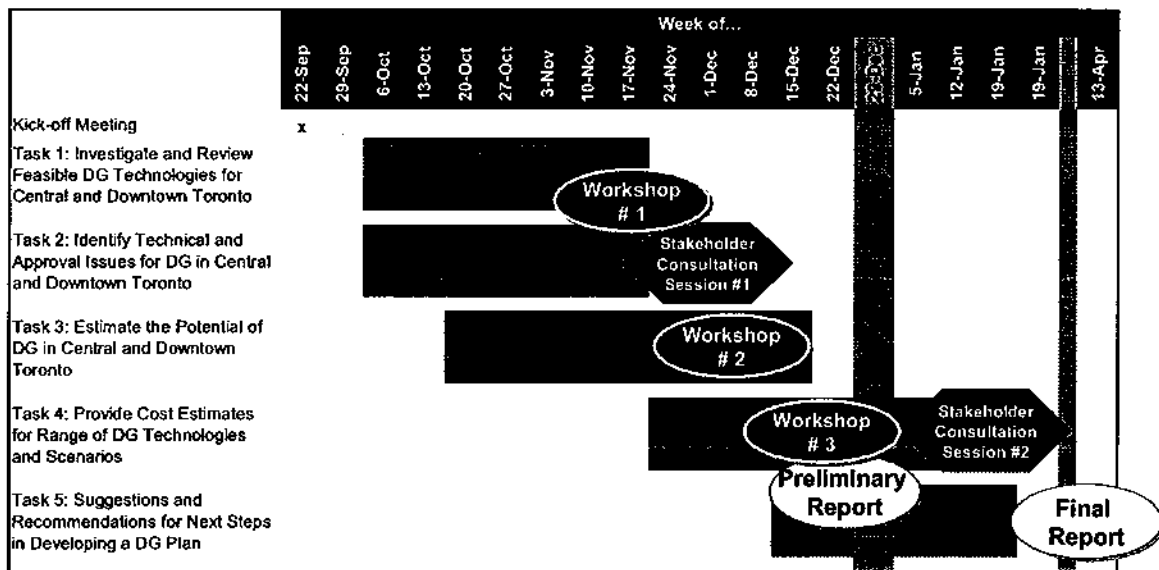
6.0 Task No. 6: Clarification to Scope and Tasks

The following describes additional key focused efforts to be performed by the Consultant. These points are to be used to clarify the scope and/or technique suggested in tasks no. 1 through 5 above.

- 6.1 During the Investigation and review of feasible DG technologies for central and downtown Toronto (Task 1), an evaluation of short-circuit and electrical performance is required. More specifically, for each different DG technology, what impact on short-circuit levels does it have. Furthermore, what short-circuit mitigation strategies are present using different DG technologies and at what magnitude.
- 6.2 Furthermore, when considering task 1 on feasible DG technologies electrical performance, an understanding of the ability of the DG technology to provide emergency and/or continuous operation should be considered in relation to the possible refurbishment work at the major Transmission sites within Central and Downtown Toronto.
- 6.3 Further to task 2, the following issues will be given particular attention given the situation in Toronto:
 - A. Physical Assurance
 - B. Timing for DG Installations
 - C. Impact of Large Penetration of DG on the Distribution System
- 6.4 When estimating the Potential of DG in Central and Downtown Toronto (Task 3), it is requested that for different TS service areas the following be determined
 - A. What level of potential is there for DG in each TS service area
 - B. Which DG technologies and/or combination is most applicable for each TS service area
 - C. Which is the level of market potential (based on key customer market segments) for each TS service area
- 6.5 When considering task 5, the Consultant shall develop a preliminary set of incentives, policy changes, and business models that could help DG technologies overcome barriers. Procurement and business models to explore include but are not limited to:
 - A. Ratebasing distribution upgrades.
 - B. THESL owned DG.
 - C. THESL converting customers' back up gensets to natural gas.

7.0 Schedule

- 7.1 The schedule for the contract shall be based on the figure shown below. As noted above, the Work shall include a kick-off meeting, 3 tasks, 3 workshops and 1 stakeholder consultation session before the completion of the preliminary report. The last two tasks and second stakeholder session will be completed prior to the provision of the final report.



1 and 2. Each presentation will essentially serve as an interim deliverable and content for the preliminary report. Consultant will meet before and after each workshop with the THESL and OPA project manager to prepare and debrief. Consultant will also conduct individual and small group meetings with key staff across THESL (e.g., network operations and engineering staff) and with the OPA as necessary throughout the project.

- 9.3 **Preliminary Report:** After Workshop #3 and the substantial completion of Task 4, Consultant will develop a preliminary report for the THESL and OPA project team no later than December 19, 2008. The report will clearly explain all of the analyses performed, contain references for all of the information used and provide details of the conditions and assumptions used to estimate the level of DG and associated costs and benefits for the various scenarios considered.
- 9.4 **Final Report:** After completion of the second Stakeholder Consultation Session to be held before January 31, 2009 and after two review meetings with THESL and the OPA, the Consultant will develop and modify the preliminary report as appropriate and finalize the report, produce a comprehensive final report covering all the Sub-Tasks 1.0-6.0 described in Work, Services and/or Deliverables of Schedule A. The report will explain clearly all the analyses performed, and provide references for all the information used. These references must be creditable, reliable and verifiable when required by the Buyers. Consultant will provide the final report by April 20, 2009.
- 9.5 **Executive Summary:** Consultant will also develop a short executive summary presentation for the use of THESL and the OPA in explaining the study findings to stakeholders. Consultant's Representatives shall also be available to present the results of the project in up to four (4) different subsequent meetings, or to testify at regulatory hearings as required by the OPA and THESL on an as needed basis.
- 9.6 **Additional:** Consultant's experts shall also be available to defend and explain the Consultant's study findings as an expert on an "as-needed" basis.
- 9.7 Without limiting the generality of the foregoing, the following dates shall apply:

Review Preliminary Results:	November 15, 2008
Submit Preliminary Report:	December 19, 2008
Submit Final Report:	April 20, 2009

These dates may be adjusted subject to agreement by all parties.

SCHEDULE B

PRIVACY RULES

- (a) **Compliance with Privacy Laws.** The Consultant shall comply with all Privacy Laws with respect to any Personal Information it collects, uses or discloses in connection with this Agreement, and shall indemnify and hold harmless the Buyers and their respective Representatives from and against any and all claims, demands, suits, losses, damages, causes of action, fines or judgements (including related expenses and legal fees) that they may incur related to or arising from any non-compliance therewith. This provision shall survive termination of this Agreement
- (b) **Continuation of Privacy Laws.** The Consultant shall at all times comply strictly with this Agreement in such manner as to ensure that its acts or omissions do not knowingly result in THESL or the OPA being in violation of any applicable Privacy Laws. The Consultant shall immediately advise the Buyers if it believes that any practice or procedure in which it is engaging contravenes applicable Privacy Laws, or if the Consultant or any of its Representatives receives or learns of any complaint or allegation to that effect. If either Buyer determines that a practice or procedure would result in violation of applicable Privacy Laws, then the parties may by mutual agreement amend this Agreement to vary or eliminate such practice or procedure.
- (c) **No Disclosure of Personal Information.** Except as expressly permitted herein, the Consultant shall not, without the prior written consent of THESL, and notice to the OPA, (i) disclose any of the Personal Information to any affiliated or unaffiliated third party, or (ii) transmit or provide access to the Personal Information to any of the Consultant's personnel who are not directly involved in the matters pertaining to this Agreement, or to any facility, outside Ontario.
- (d) **Complaints.** Any privacy related requests or complaints received by the Consultant in relation to this Agreement shall be immediately referred to THESL's Authorized Representative, as identified in this Agreement, with notice to the OPA. If the Consultant receives any inquiry or complaint relating to Personal Information that has been collected, used or disclosed by it under this Agreement, the Consultant shall immediately notify the Buyers thereof in such form and manner, and with such particulars, as the Buyers may reasonably request. The Consultant agrees to cooperate with THESL to comply with any access requests for Personal Information, and to amend Personal Information as required by Privacy Laws, only upon receiving instructions to do so from THESL, its personnel or other individual to whom the Personal Information relates.
- (e) **Audit of Privacy Practices.** Either Buyer may on reasonable notice, audit the Personal Information practices of the Consultant and may specifically audit the Consultant's compliance with Privacy Laws. Neither Buyer shall have any duty to conduct such an audit and shall not incur any liability or obligation by reason of doing or not doing so.
- (f) **Security Measures.** All of the Personal Information shall be stored in a secure physical and electronic environment meeting or exceeding then-current industry standards and satisfactory to THESL in its sole discretion. Promptly upon notice from THESL, the Consultant will undertake, at its sole cost and expense, to remedy any security deficiency or improvement reasonably requested by THESL.
- (g) **Notification of Unauthorized Activities.** The Consultant shall promptly notify the Buyers in writing upon becoming aware of the loss, theft, or unauthorized access, disclosure, copying, use or modification of any Personal Information.
- (h) **Limitations of Access.** The Consultant, as applicable, shall:

- (i) ensure that only such of their respective employees and agents as have a need to know the Personal Information for the performance of this Agreement have access to the Personal Information;
 - (ii) ensure that each person who has such access (a "User") is familiar with the privacy obligations under the Agreement;
 - (iii) ensure that upon termination or expiry of this Agreement, each User's ability to access Personal Information is terminated, any and all Personal Information in the possession of any such User is returned or, at THESL's option, destroyed (provided THESL is provided with a certificate from an officer of the Consultant attesting to such destruction), and such User is reminded of the continuing obligation of confidentiality with respect to all Personal Information;
- (i) **Termination.** In the event that the Consultant is not in compliance with any Privacy Law, then either Buyer shall be able to terminate this Agreement immediately and without further notice to the Consultant, without prejudice to any other rights or remedies the terminating party is entitled to at law or in equity.
- (j) **Return of Personal Information.** In the event of any termination of this Agreement, the Consultant shall forthwith return to THESL, as directed, all the Personal Information held by the Consultant pursuant to this Agreement, or, at THESL's option, destroy such Personal Information as directed.
- (k) **Survival.** The obligations in this SCHEDULE "B" shall survive the expiration or termination of this Agreement.

INTERROGATORIES OF POLLUTION PROBE

1 **INTERROGATORY 2:**

2 **Reference(s):** **Exhibit Q1, Tab 4, Schedules 1-1, 1-2, & 1-3**

3

4 In this proceeding, Toronto Hydro filed copies of three sets of materials by Navigant
5 Consulting, Inc. regarding distributed generation in Toronto. Did Navigant Consulting,
6 Inc. prepare any other related reports or materials for Toronto Hydro and/or the Ontario
7 Power Authority (e.g. an Analyst's Report, other additional or more detailed
8 reports/materials, etc.)? If yes, please provide copies of these materials.

9

10 **RESPONSE:**

11 All materials prepared by Navigant Consulting Inc. for THESL regarding distributed
12 generation are contained in the reports filed in Exhibit Q1, Tab 4 Schedules 1-1, 1-2, and
13 1-3. These reports integrate and update material previously provided by Navigant
14 Consulting Inc. at workshops conducted with industry stakeholder groups in Toronto on
15 February 25, 2009 and April 17, 2009. The filed reports are the most complete record of
16 Navigant Consulting's analysis and findings.

17

18 THESL is not in a position to comment on what additional materials, if any, Navigant
19 Consulting Inc. prepared for the Ontario Power Authority.

INTERROGATORIES OF POLLUTION PROBE

1 **INTERROGATORY 3:**

2 **Reference(s):** **Exhibit Q1, Tab 4, Schedule 1-3**

3
4 Page 116 of Schedule 1-3 includes a graph showing the evaluated costs of various
5 distributed generation technologies. However, according to pages 108 and 110, the costs
6 for the various CHP technologies appear to be calculated based on the assumption that
7 they would not be properly sized to match their minimum thermal loads. Please re-
8 calculate these costs and reproduce the graph on page 116 assuming that the CHP
9 technologies are instead properly sized to meet their minimum thermal loads. Please
10 provide all of the key input assumptions for your revised cost calculations for each of the
11 CHP technologies

12
13 **RESPONSE:**

14 Neither Navigant Consulting nor THESL accept the premise of Pollution Probe's
15 question, which is that the units in question are not properly sized for purposes of the
16 analysis.

17
18 The sizing assumptions for the CHP technologies are given on page 81 of the report
19 provided in Exhibit Q1, Tab 4, Schedule 1-3. The thermal energy duration curves for
20 four buildings provided on this page were used to inform Navigant Consulting's sizing
21 assumptions. Both the sizing and cost methodology were presented to industry
22 stakeholder groups in workshops conducted by Navigant Consulting in Toronto on
23 February 25, 2009 and April 17, 2009.

INTERROGATORIES OF POLLUTION PROBE

INTERROGATORY 4:

Reference(s): none

- a) Please provide City of Toronto street maps that clearly show the boundaries for each area in Toronto where there are Toronto Hydro distribution system constraints that limit the amount of natural gas-fired combined heat and power (CHP) generation capacity that can be attached to Toronto Hydro's distribution system.
- b) For each constrained area, please state the maximum quantity (MW) of natural gas-fired CHP that can currently be added to the Toronto Hydro distribution system in that area.
- c) For each constrained area, please describe in detail Toronto Hydro's proposed actions and budgets to reduce these constraints in that area.
- d) For each constrained area, please state the maximum quantity of natural gas-fired CHP that will be able to be added to the Toronto Hydro distribution system in that area by:
- i. December 31, 2010;
 - ii. December 31, 2011;
 - iii. December 31, 2012;
 - iv. December 31, 2013;
 - v. December 31, 2014; and
 - vi. December 31, 2015.

RESPONSE:

- a) The distribution system has limits to generation as it has limits to the loads it serves. Just as it is not possible to set a specific limit for residential load customers separately from consideration of the total load limit of all customers served from a

INTERROGATORIES OF POLLUTION PROBE

1 station/feeder, so it is not possible to set the limit for natural gas-fired generation
2 separately from the limit of all generation sources on a station/feeder. The limits of
3 all generation sources are not available on a City street basis. The question cannot be
4 answered with reasonable effort within the required timeframe.

5
6 THESL is actively working on determining the limits to generation in a manner that
7 will comply with the Regulations of the Green Energy Act. The results will be
8 published and updated regularly on THESL's website, www.torontohydro.com. This
9 will assist all project proponents, both renewable and non-renewable in finding
10 suitable sites for their facilities. The reporting method, set out in the Regulations,
11 will provide the information on a station bus and feeder level instead of on a street
12 basis. This method will be used by all electric utilities in Ontario and is superior to a
13 map based report for urban utilities as urban utilities frequently have multiple feeders
14 (each with its own limits) on the same street.

15

16 b) Please see the reply to a)

17

18 c) Please see the reply to a)

19

20 d) Please see the reply to a)

INTERROGATORIES OF POLLUTION PROBE

1 **INTERROGATORY 5:**

2 **Reference(s):** none

3

4 Please provide detailed estimates and breakdowns of all of the additional costs required
5 to connect the following proposed CHP facilities to Toronto Hydro's distribution system:

- 6 a) total of 5.7 MW of CHP at Sunnybrook Hospital;
7 b) total of 20 MW of CHP located on the site of the Toronto General Hospital's parking
8 garage on Elizabeth Street;
9 c) total of 6 MW of CHP at the north-east corner of Victoria and Queen Streets; and
10 d) total of 6 MW of CHP at 246 & 252 Sackville Street.

11

12 If some of these costs would be covered by planned infrastructure/capital improvements,
13 please note that as appropriate as well as when these improvements are expected to be
14 implemented.

15

16 **RESPONSE:**

17 The analysis cannot be conducted based on the information provided and in any case
18 could not be completed with reasonable effort within the required timeline.

INTERROGATORIES OF POLLUTION PROBE

1 **INTERROGATORY 6:**

2 **Reference(s):** none

3

4 Is it Toronto Hydro's position that new CHP facilities should reimburse Toronto Hydro
5 for 100% of the costs of connecting such facilities to the Toronto Hydro distribution grid?
6 If not, please clearly describe Toronto Hydro's position on this issue and its supporting
7 rationale.

8

9 **RESPONSE:**

10 This question does not pertain to any approved issue. Furthermore, THESL does not set
11 policy in this area; rather, it is prescribed by way of OEB Code.

INTERROGATORIES OF POLLUTION PROBE

1 INTERROGATORY 7:

2 **Reference(s):** **EB-2009-0077, *Notice of Amendment To A Code: Amendments***
3 ***To The Distribution System dated October 21, 2009***
4

5 On October 21, 2009, the Board amended its *Distribution System Code* with respect to
6 how the costs of connecting a new renewable generating facility to an electric LDC's
7 system would be shared between the generating facility and the LDC. Specifically,
8 according to page 2 of the *Notice of Amendment*:

- 9 • cost responsibility for “expansions” would be assigned as follows:
 - 10 o where the expansion is in a Board-approved plan or is otherwise
 - 11 approved or mandated by the Board, the distributor would be
 - 12 responsible for all costs of the expansion; and
 - 13 o in all other cases, the distributor would be responsible for the costs of
 - 14 the expansion up to a “renewable energy expansion cost cap” (\$90,000
 - 15 per MW of capacity on the connecting generator), and the generator
 - 16 would be responsible for all costs above that amount; and
 - 17 • the distributor would bear all of the costs of “renewable enabling
 - 18 improvements”.
- 19

20 Would Toronto Hydro be opposed to a directive from the Board to apply the same or
21 similar cost-sharing principles to new natural gas-fired CHP facilities in its service
22 territory? If so, please fully explain why.
23

24 **RESPONSE:**

25 This question does not pertain to Issue 1.1 or any other approved issue.

INTERROGATORIES OF POLLUTION PROBE

1 **INTERROGATORY 8:**

2 **Reference(s):** none

3
4 According to page 49 of the Board's EB-2008-0272 *Decision With Reasons* dated May
5 28, 2009 regarding Hydro One's 2009-10 transmission rate application:

6 Pollution Probe submitted that the Board should order Hydro One to
7 complete a detailed preliminary plan and budget within the next 6 months,
8 to eliminate Toronto's short-circuit constraints to allow more distributed
9 generation. In Pollution Probe's view, this project is necessary in order to
10 allow expansion of distributed generation, and to avoid the need for a
11 "Third Line".

12
13 Hydro One replied that it is in the process of producing a plan and
14 priorities for dealing with the short circuit issues in Toronto and will have
15 it completed by the end of 2009. Hydro One submitted that this is the
16 earliest by which this work can be achieved.

17
18 Has Toronto Hydro requested Hydro One to remove the short circuit constraints at the
19 Leaside, Hearn, and/or Manby Transformer Stations as soon as possible? If so, please
20 provide copies of all of the correspondence between Toronto Hydro and Hydro One on
21 this issue. If not, please explain why not.

22
23 **RESPONSE:**

24 THESL has not made a formal request to HONI regarding distributed generation short
25 circuit constraints for Leaside TS, Manby TS or Hearn SS. THESL was aware that
26 HONI and the Ontario Power Authority have been actively exploring this issue and

INTERROGATORIES OF POLLUTION PROBE

- 1 THESL was assured that it would be consulted once details were available. Therefore, no
- 2 formal request was necessary.

INTERROGATORIES OF POLLUTION PROBE

INTERROGATORY 9:

Reference(s): Exhibit Q1, Tab 4, Schedule 1-1, pages 2 & 4

According to page 2:

Central and Downtown Toronto faces a number of potential electricity system reliability challenges in the 2015-2017 timeframe including the need for additional area supply capacity, infrastructure renewal, and supply diversity to mitigate against low probability but high impact events.

One option to increase Toronto's security of supply would be to build a new third transmission line to serve downtown and central Toronto. On the other hand, as Navigant Consulting, Inc. notes at page 4, installing 300 MW of widespread distributed generation in central and downtown Toronto "could defer the need for a major transmission upgrade and other upgrades that would otherwise be necessary to meet peak demand."

- a) Please describe and quantify the financial value of the transmission and distribution upgrade savings from installing up to 300 MW of distributed generation in downtown and central Toronto to avoid the need for the proposed Third Line.
- b) Please describe Toronto Hydro's strategies and plans to avoid the need for the proposed Third Line.

RESPONSE:

- a) By "Third Line" it is assumed that the intervener is referring to a new transmission line into downtown Toronto coming from a source separate and distinct from the existing two sources into downtown Toronto. The Ontario Power Authority's ("OPA") key role is to plan for long-term reliability and adequacy of Ontario's

INTERROGATORIES OF POLLUTION PROBE

1 electricity system. THESL is not in a position to comment on transmission options or
2 on avoided transmission costs as these are not THESL assets and is it not THESL's
3 role to examine and evaluate them. THESL also cannot, without more details about a
4 Third Line, perform any analyses regarding distribution impacts.

5
6 The Navigant Consulting study, conducted in collaboration with the Ontario Power
7 Authority, was the first step towards developing an integrated plan for the central and
8 downtown Toronto area. The study provides valuable input into the technical
9 potential, short circuit issues and costs of distributed generation. Further work is
10 required by THESL, Hydro One Networks Inc., and the Ontario Power Authority, to
11 develop the other parts of an integrated solution – distribution, transmission and
12 conservation investments.

13
14 b) THESL has no strategies or plans to avoid the need for a Third Line. The need for a
15 Third Line would involve, for example, issues such transmission system reliability,
16 short circuit withstand capability and transmission operational flexibility. Many of
17 these issues are not within THESL's jurisdiction or control.