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**File No. 41054.5**

December 17, 2024

**BY RESS**  
**registrar@oeb.ca**

Ms. Nancy Marconi  
Ontario Energy Board  
2300 Yonge Street, 27th Floor  
Toronto, ON M4P 1E4

Dear Ms. Marconi:

**Re: Essex Powerlines Corporation (“EPLC”) Cost of Service Application for 2025 Electricity Distribution Rates (“Application”)  
Ontario Energy Board (“OEB”) File No. EB-2024-0022 / EB-2024-0096  
Update to Reply Submission – 2025 PowerShare Distribution System Operator Project (“PowerShare Project”) – Capital Additions**

On December 16, 2024, the School Energy Coalition (“SEC”) filed a letter with the OEB in response to EPLC’s December 13 letter requesting that EPLC provide full details of the changes in scope and costs of the PowerShare pilot, the reasons for the changes, a copy of the draft amended Contribution Agreement, and all other relevant information. This letter is intended to provide additional context to the letter filed by EPLC on December 13, 2024.

Negotiations with the IESO on an amendment have been on going for many months as the PowerShare pilot, and resulting local energy market, has evolved. On November 25, 2024, the IESO advised EPLC verbally that it would be changing the terms of the Contribution Agreement. On November 29, 2024, the IESO provided an initial draft of the Contribution Agreement to EPLC that included changes to: (i) the end date of the Contribution Agreement; (ii) the end date of the PowerShare pilot; and (iii) a reduction in PowerShare pilot funding.

On December 16, 2024, the IESO finalized and executed an amending agreement to the Contribution Agreement that further reduces funding for PowerShare pilot (after EPLC’s letter on December 13). The amending agreement is attached hereto (“**Amending Agreement**”). As a result, EPLC is requesting:

- (a) to withdraw the entire request for 2025 PowerShare pilot capital additions, thereby resolving the Unsettled Issue from the OEB Decision and Order EB-2024-0022 / EB-2024-0096 on October 15, 2024; and
- (b) to amend, if necessary, the terms of the PowerShare DVA issued in Decision and Order EB-2024-0096 on August 29, 2024 to: (i) reduce the cap from \$350,000 to \$255,000; and (ii)

change the end date of the PowerShare DVA from March 31, 2026 to February 28, 2025. These amendments to the PowerShare DVA will align with the changes imposed by the Amending Agreement and the current forecast of energy payments under the PowerShare pilot. The proposed form of revised PowerShare DVA was attached to EPLC's December 13 letter.

EPLC will commit to providing any necessary updates to models and forecasts as part of the Draft Rate Order process. EPLC is filing a confidential copy of the Amending Agreement with the OEB in accordance with sections 4 and 5 of the *Practice Direction on Confidential Filings*.

Page	Reason for Redaction
3	EPLC is redacting any signatures in the Amending Agreement as the OEB has, on other occasions, allowed the signatures in agreements of this kind to remain confidential. <sup>1</sup>
10	<p>The redactions relate to unit pricing and/or billing rates and are presumptively confidential under section 4 of the Practice Direction. The OEB has previously granted confidential treatment for unit pricing and billing rates in agreements.<sup>2</sup></p> <p>Alternatively, the redactions are confidential technical, commercial or financial materials that EPLC has consistently treated in a confidential manner. Disclosure of this information could produce a significant loss or gain. The confidential information would disclose a detailed scope of work, along with unit pricing, that could be used by competitors to undercut or unfairly compete with the contracting parties. Further, the information could interfere with future negotiations with alternative vendors as they would have access to pricing information that was previously acceptable to EPLC.</p>

Please contact the undersigned with any questions.

Yours truly,

**BORDEN LADNER GERVAIS LLP**



Colm Boyle

<sup>1</sup> EB-2024-0022 / EB-2024-0096, Decision on Confidentiality (Essex Powerlines Corporation), October 7, 2024.

<sup>2</sup> *Ibid.*

## FIRST AMENDMENT TO GRID INNOVATION FUND CONTRIBUTION AGREEMENT

This "Amendment" is between:

Independent Electricity System Operator  
(the "IESO")

AND

ESSEX POWERLINES CORPORATION  
(the "Recipient")

### RECITALS:

- A. The IESO and the Recipient entered into a Grid Innovation Fund Contribution Agreement dated March 21, 2022, (the "Contribution Agreement") pursuant to which the Recipient is eligible to receive funding for undertaking its proposed project of a scalable market design for the activation of distributed energy resource flexibility in near real-time, with the Recipient performing as a distribution system operator (the "Project").
- B. The parties wish to amend the Contribution Agreement on the terms, and subject to the conditions, set out in this Amendment.

For value received, the parties agree as follows:

1. **Interpretation.** Unless otherwise defined in this Amendment, any capitalized terms used in herein shall have the meanings given to them in the Contribution Agreement.
2. **Amendments to the Contribution Agreement.**
  - a) Section 3(b) of the Contribution Agreement is amended by deleting the maximum Contribution amount (\$3,882,389.10) and replacing it with **\$805,498.20**.
  - b) Section 7 is amended by deleting the expiration date of the contract (March 31, 2026) and replacing it with **December 31, 2025**.
  - c) **Schedule "A"** of the Contribution Agreement is amended by deleting the "Financial Commitments (Non-IESO)" and "Project Milestones" sections in their entirety and replacing them with the revised financial commitments and project milestones set out in **Appendix A** of this Amendment.
  - d) **Schedule "C"** of the Contribution Agreement is amended by deleting the "Detailed Project Budget" set out in "Project Proposal Part B", and replacing it with **Appendix B** of this Amendment.

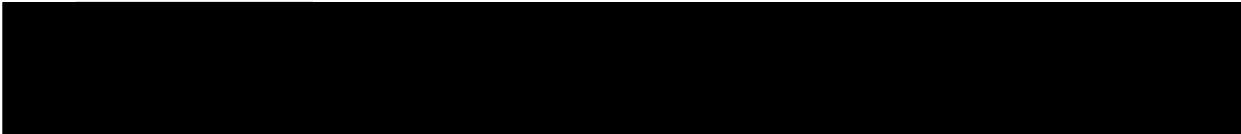
3. **Governing Law and Attornment.** This Amendment is governed by and will be construed in accordance with the laws of the Province of Ontario and the federal laws of Canada applicable therein. The IESO and the Recipient each hereby attorns to the jurisdiction of the courts of the Province of Ontario. To the extent permitted by applicable law, each party hereby waives the right to trial by jury of any such suit, action or proceeding.
4. **Enurement.** This Amendment shall enure to the benefit of, and be binding upon, the parties hereto and their respective successors and permitted assigns.
5. **Counterparts.** This Amendment may be executed in any number of counterparts, each of which will be deemed to be an original, and all of which taken together will be deemed to constitute one and the same agreement. Delivery of an executed counterpart of this Amendment by any party by electronic transmission shall be as effective as delivery of a manually executed copy of this Amendment by such party.
6. **Entire Agreement.** This Amendment, together with the Contribution Agreement, constitutes the entire agreement between the parties with respect to the subject matter contained herein, and supersedes all prior agreements, understandings, negotiations and discussions, whether written or oral.
7. **Limited Effect.** Except as expressly amended by this Amendment, all other terms and conditions of the Contribution Agreement remain in full force and effect and apply to this Amendment. This Amendment is executed by each of the **parties' duly authorized** representatives and entered into as of the date indicated below the signature of the last party to sign this Amendment.

*[signature page follows]*



INDEPENDENT ELECTRICITY SYSTEM OPERATOR

ESSEX POWERLINES CORPORATION



Chuck Farmer

Printed name

Vice President, Plng, Conserv & RA

Title

2024-12-13 | 13:18 EST

Date

JOE BARILE

Printed name

V.P. - REGULATORY / CORPORATE AFFAIRS

Title

DECEMBER 13, 2024.

Date



## APPENDIX A

### Revised Financial Commitments and Project Milestones

#### FINANCIAL COMMITMENTS

For the purpose of section 3(a)(ii) of this agreement, the following financial commitments shall be obtained:

Company Name	Approximate total contribution over full project duration			
	Cash (\$)	Cash (% of total Project)	In-kind (\$)	In-kind (% of total Project)
Essex Powerlines Corporation	\$506,376.70	26.2%	\$6,142.00	0.3%
NODES AS	\$0	0%	\$538,617.00	27.8%
Essex Energy Corporation	\$3,750	0.2%	\$45,862.50	2.4%
Utilismart Corporation	\$0	0%	\$25,000.00	1.3%
Oakville Hydro Energy Services Inc.	\$3,750	0.2%	\$0	0%
<b>Subtotal (non-IESO contribution)</b>	<b>\$513,876.70</b>	<b>26.6%</b>	<b>\$615,621.50</b>	<b>31.8%</b>
IESO Contribution	\$805,498.20	41.6%	\$0	0%
<b>Total Cash and In-kind</b>	<b>\$1,319,374.90</b>	<b>68.2%</b>	<b>\$615,621.50</b>	<b>31.8%</b>
<b>Total Project Value</b>	<b>\$1,934,996.40</b>			

#### PROJECT MILESTONES

Milestone number	Reporting Milestone	Target Completion Date (dd/mm/yyyy)	Contribution Amount
0	<p><b><i>OEB Innovation Sandbox Support</i></b></p> <p><b>Activity/Deliverable:</b> - Seek and receive regulatory guidance from the OEB's Innovation Sandbox as required</p> <p><i>Note: Milestone 0 and Milestone 1 will run concurrently</i></p>	31/05/2022	\$0
1	<p><b><i>Project Design</i></b></p> <p><b>Activities:</b></p> <ol style="list-style-type: none"> <li>1. Establish DSO market design:               <ol style="list-style-type: none"> <li>a. Develop DSO market design plan</li> <li>b. Review DSO market design plan with IESO</li> <li>c. Include Transmission-Distribution coordination protocol in market design</li> <li>d. Seek approval and confirmation of coordination protocol from IESO</li> </ol> </li> <li>2. Establish market rules and alignment with IESO/OEB:               <ol style="list-style-type: none"> <li>a. Review market rules with IESO/OEB</li> </ol> </li> <li>3. Seek confirmation of market participants:</li> </ol>	31/12/2024	\$89,639.30

	<ul style="list-style-type: none"> <li>a. Reach out to new and existing DER owners in EPLC service territory for confirmation</li> </ul> <ul style="list-style-type: none"> <li>4. Establish Risk Mitigation Strategy and Marketing Outreach Plan to recruit potential participants and confirm market participants</li> </ul> <ul style="list-style-type: none"> <li>5. Establish Baseline: <ul style="list-style-type: none"> <li>a. Data collection and analysis</li> </ul> </li> </ul> <ul style="list-style-type: none"> <li>6. Reporting: <ul style="list-style-type: none"> <li>a. Adjust final design as may be required as a result of the above tasks and produce a final design/scope document to guide market operations</li> </ul> </li> </ul> <p><b>Deliverables:</b></p> <ul style="list-style-type: none"> <li>1. Market Design for approval (including transmission-distribution coordination protocol)</li> <li>2. Report for market design and rules including the following sections: <ul style="list-style-type: none"> <li>a. Executive Summary</li> <li>b. Introduction</li> <li>c. Methodology</li> <li>d. Market design and market rules</li> <li>e. Baseline parameters for future data analysis</li> </ul> </li> <li>3. Marketing outreach / Customer Acquisition Plan</li> <li>4. Letters of support from recruited participants</li> <li>5. <b>The IESO's DER Integration Demonstration Framework</b> (excel workbook) completed as applicable to this Milestone</li> </ul> <p><i>Note 1: In the development of a transmission-distribution coordination protocol, please review IESO Market Manual 4.2, Appendix B called "Short Notice Change Criteria" which includes the timing and notification requirements for dispatch data. Take note of Table B3. Please also to review IESO Market Manual 7.3 for submission of outages.</i></p>		
2	<p><b>Software Development</b></p> <p><b>Activities:</b></p> <ul style="list-style-type: none"> <li>1. NODES Platform software upgrades: <ul style="list-style-type: none"> <li>a. Integration into simulated IESO wholesale market (including functionality adjustments, new</li> </ul> </li> </ul>	31/12/2024	Up to \$154,325.00

	<p>features, testing, platform integration, operations and support)</p> <p>b. SmartMAP integration to the NODES Platform and related adjustments (including functionality adjustments, new features, testing, operations and support, DER platform integration)</p> <p>2. SmartMAP software upgrades:</p> <p>a. Develop algorithm to recognize when flexibility is needed based on set of parameters</p> <p>b. Database (back-end) build out</p> <p>3. Validate performance capabilities prior to market launch (stress testing)</p> <p>4. DSO expertise consulting</p> <p>5. Reporting</p> <p>6. In-field Upgrades - Connection Impact Assessment</p> <p><b>Deliverables:</b></p> <p>1. A summary report on Milestone 2 including but not limited to (1) reporting on the success of software upgrades and (2) the results of stress testing and functionality testing</p> <p>2. The IESO's DER Integration Demonstration Framework (excel workbook) completed as applicable to this Milestone</p> <p>3. Clear evidence of specific activities completed, and a detailed, itemized breakdown of costs incurred relating to the activity titled <i>"Integration into simulated IESO wholesale market (including functionality adjustments, new features, testing, platform integration, operations and support)"</i></p> <p>4. Clear evidence of specific activities completed, and a detailed, itemized breakdown of costs incurred relating to the activity titled <i>"Connection Impact Assessment"</i></p>		
3	<p><b>Project Implementation – Phase 1</b></p> <p><b>Activities:</b></p> <p>1. Market demonstration with confirmed market participants:</p> <p>a. Operate DSO market, Phase 1</p> <p>2. In-field upgrades</p> <p>3. Validate performance capabilities prior to market participation by DERs (test functionality)</p>	28/02/2025	<p>Up to \$561,533.90</p> <p>*255,000 of this payment is based on 1700 MW of cumulative capacity traded</p>



	<p>4. SmartMAP software upgrades</p> <ol style="list-style-type: none"> <li>Develop algorithm to send buy signal and integrate into NODES Platform</li> <li>Develop user interface</li> </ol> <p>5. NODES Platform software upgrades:</p> <ol style="list-style-type: none"> <li>SmartMAP integration to the NODES Platform and related adjustments (including functionality adjustments, new features, testing, operations and support, DER platform integration) DSO expertise consulting</li> </ol> <p>6. Data collection and analysis</p> <p>7. Reporting</p> <p><b>Deliverables:</b></p> <ol style="list-style-type: none"> <li>Summary of DSO market activities and associated costs for the duration of Phase 1, including: <ol style="list-style-type: none"> <li>Detailed breakdown of payments to DER participants including but not limited to (a) payments to each DER for each long-flex contract and for (b) every individual short-flex activation</li> <li>For each LongFlex tender: a copy the <b>Recipient's issue of LongFlex tender(s)</b> and a summary of the capacity secured including the name of each participant, the amount of capacity reserved (MW), the corresponding obligation period(s) when the capacity is required to be available, and the corresponding availability payment(s)</li> <li>For each ShortFlex activation: date of activation, name of DER activated, MW value that was activated, the price (\$) that the activation occurred, the duration of the activation (minutes) and the corresponding EPLC need (MW)</li> </ol> </li> <li>AODA Information and Communications Standards, WCAG 2.0 Compliant Accessible Final Report, that includes (at a minimum): <ol style="list-style-type: none"> <li>Summary of market activities for the duration of Phase 1, including: <ol style="list-style-type: none"> <li>For each LongFlex tender: a copy the <b>Recipient's issue of LongFlex tender(s)</b> and a summary of the capacity secured including the name of each participant, the amount of capacity reserved (MW), the corresponding obligation period(s)</li> </ol> </li> </ol> </li> </ol>		<p>across the duration of Milestone 3, running Phase 1 of the market pilot (see Application Part B, Budget tab). This funding may be reduced accordingly and proportionally if cumulative traded capacity is reduced.</p> <p>Detailed accounting of payments made to local electricity market participants is required. IESO guidance to be sought.</p>
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	<p>when the capacity is required to be available, and the corresponding availability payment(s).</p> <p>(ii) For each ShortFlex activation: date of activation, name of DER activated, MW value that was activated, the price (\$) that the activation occurred, the duration of the activation (minutes) and the corresponding EPLC need (MW)</p> <p>b) Detailed breakdown of payments to DER participants including but not limited to payments to each DER for each long-flex contract and for each individual short-flex activation</p> <p>c) Summary of the amount of flexibility created (capacity and activation / long flex and short flex), quantifiable outcomes, learnings from sequential market design approach, learnings from Tx-Dx coordination approach, barriers encountered, non-wires alternatives value to Essex Powerlines (\$)</p> <p>d) Regulatory learnings including: quantitative benefit-cost analysis based on (1) the benefits of the services procured during Phase 1 to alleviate capacity needs identified in Leamington (393M27 and 23M24 feeders), and (2) cost of the services procured during Phase 1 of the pilot; costs or savings to EPLC ratepayers resulting from the pilot; assessment of costs to EPLC associated with its contract with NODES; value of this solution as a NWA for EPLC</p> <p>e) Commentary of the challenges recruiting participants for the local electricity market, the drivers of these challenges, and how these challenges may be overcome in the future</p> <p>3. The IESO's DER Integration Demonstration Framework (excel workbook) completed as applicable to this Milestone</p>		
TOTAL			Up to \$805,498.20



**APPENDIX B**  
**Revised Detailed Project Budget**

(attached)



## 2. Detailed Project Budget

Project Name: DSO Pilot Project

Organization Name: Essex Powerlines Corporation

**PLEASE NOTE:**

- 1) Please refer to spreadsheet titled "2. Budget\_ Example" for example content to demonstrate format.
- 2) The "Rate/Cost/ X" Unit" must match the value in the "Total Contribution (All Funders)" column.
- 3) Units specifically directed otherwise, do not include ISO services (such as MM) plan review as an in-kind contribution.
- 4) Please refer to the final page of the Application Guide on ISO Grid Innovation Fund webpage for more information on eligible expenses.
- 5) Final project relative value must represent a minimum of 10% of Fund grant.
- 6) Eligible labour costs are capped at a maximum [REDACTED]
- 7) In-kind and non-cash contributions consist of available, substantiated cash and non-cash contributions to the project that contribute substantially to the completion of the project.
- 8) ~~Unavoidable~~ Remove Mistakes as required

Click red triangles on cells for important notes that will help you accurately complete this template

Milestone 1 Summary																															
												\$	179,278.00	\$	89,639.00	\$	53,497.50	\$	6,142.00	\$	30,000.00	\$	-	\$	-	\$	-	\$	-	\$	179,278.00

Milestone 2 Summary																													
												\$	308,650.00	\$	154,325.00	\$	51,750.00	\$	51,750.00	\$	10,325.00	\$	3,750.00	\$	25,000.00	\$	3,750.00	\$	308,650.00

Milestone 3 Summary																									
												\$	1,447,172.00	\$	661,473.00	\$	401,813.00	\$	456,172.00	\$	27.00	\$	25,802.00	\$	1,447,172.00

50% of original item, 50% split to 3.5.2

90% of original items, 20% sold to 3.B.1, 70% sold to 4.B.1

New Barn Area

50% of original item, split from 2.1.2

50% of original item, will form 3.4.1.