



Subject: Tillsonburg Battery Energy Storage

Report Number: HYD 25-002

Department: Hydro Operations

Submitted by: Graig Pettit, General Manager of Hydro Services, and
Scott Tegler, Fire Chief

Meeting Type: Council Meeting

Meeting Date: Monday, December 8, 2025

RECOMMENDATION

THAT Council receives report HYD 25-002 titled “Tillsonburg Battery Energy Storage” as information.

BACKGROUND

At their meeting held on November 10, 2025, Council heard a delegation from Skyline Energy regarding a proposed battery energy storage system. The following motion was passed:

Resolution # 2025-412

Moved By: Councillor Spencer

Seconded By: Deputy Mayor Beres

A. THAT council receive the delegation from Matt Kennedy and Bo Castellan, Skyline Energy regarding a battery energy storage system as information;

B. THAT Skyline Energy provide public presentation and consultation;

C. That staff provide report and analysis for comment including Fire Chief and THI;

D. THAT Skyline Energy provide Council with more IESO data and information on existing systems; and

E. THAT the Tillsonburg Hydro Inc. Board of Directors receive this information for comment.

Carried

Tillsonburg Hydro Inc. Board of Directors reviewed the delegation materials and passed the following recommendation for Council’s consideration:

THAT the Tillsonburg Hydro Inc. Board of Directors recognizes that the proposed Battery Energy Storage System Project (BESS) from Skyline Energy could help temporarily alleviate capacity constraint issues in the short-term, however, the

Board encourages Council to satisfy themselves in isolation of other factors including but not limited to: public safety, environmental contaminants, and noise.

DISCUSSION

To provide Council with updated information regarding:

1. The proposed Battery Energy Storage System (BESS) in Tillsonburg;
2. The capacity constraints currently affecting the Tillsonburg Transformer Station (TS);
3. The Fire safety risks to both the public and local Fire Department; and
4. The financial impacts of the BESS on Tillsonburg Hydro Inc. (THI);

THI is currently facing a transformer station capacity constraint that will either halt future community growth or require unprecedented rate increases for customers. To address these challenges—along with operational and regulatory deficiencies—THI has negotiated a collaboration with EARTH Corporation, through which THI would become a shareholder in EARTH.

The Town of Tillsonburg, as shareholder, has approved a Letter of Intent outlining the general terms, conditions, and valuation for the merger. THI has also retained legal counsel to develop a Share Purchase Agreement that is fair to both the Town and EARTH Corporation. A key objective of the merger is to distribute the cost of a new transformer station across a larger customer base, thereby minimizing future customer rate impacts.

Skyline Energy has proposed submitting an Independent Electricity System Operator (IESO) application for a 30-MW battery storage facility located on Hwy 3 in Tillsonburg at presentations made on October 14th and November 10th. Council has raised questions regarding how this facility may affect THI—specifically whether the BESS could alleviate capacity constraints, become a barrier to future industrial development and comment in conjunction with The Tillsonburg Fire Chief on the fire safety impacts of the proposed storage facility.

Capacity Impacts

A BESS of the size proposed would delay, but not eliminate, the need for a transformer station expansion. Based upon expected load forecasts and reasonable assumptions from the IESO's Regional planning process it is anticipated that transformer station capacity will reach its long-term rating in 2026 and that planning would begin immediately to increase capacity in the region. The proposed BESS will definitely delay the need for increased transmission for a few years however, it will only improve the timeline and reduce the urgency for required upgrades.

Fire Safety

Battery Energy Storage Systems are increasingly used to support grid reliability and capacity. As with other industrial and utility installations (e.g., fertilizer facilities, transfer stations, transformer stations), BESS sites carry fire-safety considerations that must be managed through established standards and procedures.

The Ontario Association of Fire Chiefs published guidance for solar generation and battery storage facilities in 2014/15, updated in 2022/23. The handbook addresses battery types, safety requirements, and fire-suppression methodologies.

Skyline has indicated it will use **Lithium Iron Phosphate (LFP)** batteries, which are significantly more stable and safer than other lithium-ion chemistries. The proposed system includes:

- Built-in thermal and fire-protection features within each container
- Automated fire-suppression systems
- 24/7 monitoring and alarms
- Automatic shutdown if any unit exceeds normal temperature thresholds

Skyline has committed to implementing all fire-safety measures required by the Tillsonburg Fire Chief to ensure risks are appropriately mitigated and first responders remain safe.

The fire-safety guidance outlines the four principal components of lithium-ion battery incident response:

1. System isolation and shutdown
2. Hazard confinement and exposure protection
3. Fire suppression
4. Ventilation

With these controls in place, risks could be effectively managed using established best-practice fire-safety procedures. The proponent needs to ensure and demonstrate that all the appropriate measures have been put in place to ensure that public safety, and environmental concerns are appropriately addressed and that Fire Services are equipped with all of the necessary training and equipment required at no additional cost.

Constraining capacity for new industrial

Council raised concerns about whether the BESS's after-hours charging (10 p.m. – 6 a.m.) could limit available off-peak capacity for future industrial customers.

At present, significant new industrial customers cannot connect to the grid regardless of the BESS because the Tillsonburg TS is already at or near capacity. New connections require either:

- A new transformer station, or
- The reduced peak demand provided by the BESS.

Therefore, without either the BESS or a new station, new industrial development cannot proceed—making after-hours capacity constraints irrelevant for prospective customers. For **existing industrial customers** seeking to expand operations or initiate 24/7 production, THI reviewed feeder loading between 10 p.m. and 6 a.m. (the BESS charging period):

- In 2025, the peak load on the relevant feeder was **2,425 kW**.
- The feeder’s total capacity is **approximately 33,000 kW**.
- The BESS would draw a maximum of **15,000 kW** from this feeder, with the remainder drawn from a second similarly loaded feeder.

Historical data from 2023 and 2024 show average overnight peaks of approximately **2,500 kW**, with occasional higher anomalies.

MAX NIGHTLY KW 2023-2025				
TIME OF DAY	NIGHT			
Max of kW	Column Labels			
Row Labels	2023	2024	2025	Grand Total
Jan	1,687.1	1,872.7	1,888.5	1,888.5
Feb	10,773.3	9,398.4	1,865.4	10,773.3
Mar	12,222.9	1,829.4	1,849.3	12,222.9
Apr	11,800.7	1,782.3	1,867.1	11,800.7
May	10,073.7	1,773.7	1,689.2	10,073.7
Jun	1,944.3	2,142.2	2,424.7	2,424.7
Jul	2,014.4	2,194.5	2,366.2	2,366.2
Aug	1,873.5	2,216.4	2,406.9	2,406.9
Sep	1,989.2	1,700.8	1,968.9	1,989.2
Oct	1,713.8	1,730.8	1,956.9	1,956.9
Nov	1,702.5	1,644.2	1,770.9	1,770.9
Dec	1,738.2	1,741.8		1,741.8
Grand Total	12,222.9	9,398.4	2,424.7	12,222.9
Average	4,961.1	2,502.3	2,004.9	5,118.0

Given this loading, there is **ample overnight capacity** to support both the BESS and expanded industrial demand. If needed, THI can:

- Connect industrial expansions to alternate feeders, or
- Require the BESS to adjust its charging profile or curtail load as necessary.

CONSULTATION

Tillsonburg Hydro Board of Directors

FINANCIAL IMPACT/FUNDING SOURCE

THI Revenues from BESS Connection

The BESS would operate as a THI customer and generate approximately \$202,000 per year in distribution revenue.

This additional revenue would persist for roughly two years following construction, after which it would be incorporated into rate rebasing and spread across the updated customer and demand and at that point would no longer provide a net financial benefit.

Town of Tillsonburg Revenues from BESS Connection

The battery units and concrete slab foundations they sit on are exempt from taxation, but the land would be taxable. The vacant land these units would be built on is currently under the Commercial tax class. If there happens to be other structures on-site supporting the battery equipment those structures would be taxable.

Since projects such as the proposed BESS are mostly exempt from property tax, the facility proponent will make payments to the Town of \$1,000 per MW of installed capacity annually. The Town would therefore receive \$30,000 annually under the current proposal for 20 years.

The \$30,000 is negotiable, and Council could request a different amount.

Under the IESO LT-2c-1 procurement framework, a BESS developer is required to post and maintain a significant performance security with the IESO for the entire term of commercial operation. This security is specifically designed to protect the public interest and ensure that all contractual obligations—including remediation and decommissioning—are met. Should the developer or project entity enter bankruptcy or otherwise fail to perform, the municipality is not left exposed. The Town can call upon the IESO, which holds the performance security, to access those funds to ensure that the developer's obligations are fulfilled. This includes completing all site decommissioning and environmental remediation requirements, ensuring that the project site is restored appropriately even in the event of a proponent default.

CORPORATE GOALS

How does this report support the corporate goals identified in the Community Strategic Plan?

- Lifestyle and amenities
- Customer service, communication and engagement
- Business attraction, retention and expansion
- Community growth
- Connectivity and transportation
- Not Applicable

Does this report relate to a specific strategic direction or project identified in the Community Strategic Plan? Please indicate section number and/or any priority projects identified in the plan.

Goal – N/A

Strategic Direction – N/A

Priority Project – N/A

ATTACHMENTS

Appendix A – Public input regarding proposal