



Stakeholder Submission to the Ontario Energy Board

DSO Capabilities Consultation (EB-2025-0060)

Submitted by: Gary Michor, CEO, Screaming Power Inc.

Contact : gmichor@screamingpower.com

Date: October 19, 2025

Dear OEB,

Thank you for inviting Screaming Power to the DSO Stakeholder process. This letter is a reply to the meeting on Oct 14th to gain stakeholder input on the following questions.

- Are the proposed roadmap elements appropriate?
- Do the roadmap elements adequately reflect the sector's current state and Ontario's needs and priorities? If not, how should the elements be changed?
- How could the roadmap elements be modified or clarified to improve the strategy for developing and implementing DSO capabilities in Ontario?

Executive Summary

Screaming Power Inc. commends the Ontario Energy Board (OEB) for initiating the Distribution System Operator (DSO) Capabilities Consultation and emphasizes the urgent need to prioritize data communications, standardization, and consumer consent within the DSO roadmap. Drawing on over two decades of experience in energy data standards and regulatory innovation, Screaming Power identifies critical gaps in the current strategy, particularly the absence of a dedicated workstream for secure, interoperable, and scalable data infrastructure. The submission outlines key recommendations, including the adoption of modern protocols, formal testing, onboarding and certification processes, regulatory updates to the Retail Settlement and Affiliate Relationships Codes, and alignment with cybersecurity standards. It stresses that immediate action is essential to avoid market fragmentation, protect consumer interests, and leverage existing expertise before it is lost. With proper organization and funding, Ontario can establish a resilient and inclusive DSO framework within 6–12 months, unlocking innovation and ensuring long-term energy market competitiveness.



Introduction

Screaming Power Inc. appreciates the opportunity to provide comments on the Ontario Energy Board's Distribution System Operator (DSO) Capabilities Consultation. As a long-standing advocate for digital innovation and consumer empowerment in the energy sector, we believe the success of Ontario's DSO framework hinges on the immediate prioritization of data communications and standardization. This includes secure, interoperable, and consent-oriented infrastructure that enables seamless coordination between ratepayers, technology implementers, DERs, utilities, DSOs, system innovators and market operators.

Background

Screaming Power Inc., under the leadership of CEO Gary Michor, has played a pivotal role in shaping Ontario's energy data standards for over two decades. Mr. Michor began his career in the late 1990s supporting the integration of independent generators into the IESO's competitive market structure. In the early 2000s, Screaming Power led the development of the Ontario Energy Board's Electronic Business Transaction (EBT) standard, working directly with utilities, retailers, and market participants (including vendors) to create and certify data exchange solutions. Mr. Michor also contributed to the implementation of FERC's e-Tariff standard across U.S. market operators including SPP, PJM, ISO-NE, and NYISO. Screaming Power has led over 30 implementations of meter data stores and CIS platforms across Ontario and internationally, including the Caribbean. In the last several years, the company supported the Ministry of Energy in developing Green Button regulations, co-chaired the OEB's Green Button Working Group to build "best practices" and, focusing on secure, consumer-authorized data exchange. With deep expertise in protocol translation, and analytics, and the Ontario data infrastructure, Screaming Power offers a unique perspective on modernizing legacy standards and building new ones to support a scalable, secure, and interoperable DSO infrastructure.

High Level Feedback

After reviewing the background materials, stakeholder submissions, and recent meeting discussions, it is clear that a critical foundational element is missing from the current roadmap and strategic vision: data communications, authorization, and standardization. These components are not just technical details—they are the backbone of a functional DSO framework and have historically been the root cause of market inefficiencies and failures when neglected. Without a dedicated and immediate focus on these areas, Ontario



risks repeating past mistakes in data sharing and undermining the effectiveness of its DSO strategy.

Screaming Power strongly recommends that the OEB establish a distinct and urgent workstream focused on data standards, testing, and communications infrastructure. This workstream must be prioritized to ensure that all stakeholders, from consumers to DSOs and DER providers, can operate within a secure, interoperable, and consent-oriented framework that supports innovation, competition, future change, and consumer protection. The absence of this foundational workstream is a strategic gap that must be addressed immediately to avoid long-term fragmentation and inefficiency.

1. The Urgency of Data Communications and Standardization

Ontario's transition to a DSO-enabled energy system requires seamless coordination between DERs, DSOs, the IESO, and consumers (who own the data) at and behind the meter. Utilities are data custodians of the existing bill and meter data and must obtain customer consent before sharing data with third parties, including Utility affiliates and DSOs. This is especially important in the existing times of AI which is evolving at a staggering pace never seen before.

The IESO's Communication Assessment highlights the complexity and volume of data traffic needed to support real-time dispatch, telemetry, and forecasting. Although focused on DSO to market operator connectivity, this assessment underlines barriers to market entry and operations. The market operator will not be spared scrutiny of failures to think beyond its own needs as seen lately at [PJM](#).

Many utilities (if not all) throughout North America struggle to extract large datasets from legacy systems and cannot meet real-time data flow requirements. Without immediate investment and testing of standardized protocols and shared digital platforms, Ontario risks stranded costs, fragmentation, inefficiency, and monopolization of DER pilots by utilities or their affiliates that do not meet the intended goals of the market learning through these proof of concept initiatives.



2. Enabling a Fully Functional and Competitive DSO Market

Standardized data communications are foundational to enabling a competitive DSO market. Protocols like IEEE 2030.5 offer secure, scalable, and vendor-neutral solutions for DER integration. Open-source initiatives provided by entities like LF Energy are dedicated to accelerating the energy transition through collaborative software and hardware development as a neutral, community-driven platform for developing open technology, data standards, and digital infrastructure to support decarbonization, grid modernization, and electrification. Ontario must act reasonably and swiftly to meet its goals before change becomes unmanageable.

For a DSO to be effective, broader engagement is needed. Ontario must establish formal onboarding, testing and certification pathways for DSOs, DER vendors, aggregators, and consumers to reduce technical barriers and ensure interoperability. With DSO pilots already underway, the OEB must act swiftly to ensure public investments are effective and inclusive and money is not wasted.

3. The Urgent Need for Data Standards and Testing in Light of Cybersecurity Risks

Ontario has experienced a rise in cyber incidents affecting utilities, affiliates, and third-party billing and metering companies in the last year alone. We need to remind ourselves that these breaches are not just focused on our industry. We have also publicly seen breaches at cities, hospitals, and public and private institutions which have exposed vulnerabilities in data, communications, governance and readiness. The energy industry needs to understand that all of these parties may be linked to DSO in the new market setting.

Let's be clear, there is no party that can guarantee 100% elimination of risk. The OEB's Cyber Security Standard v3.0, effective October 1, 2024, mandates incident reporting to the IESO and aligns with the Ontario Cyber Security Framework (OCSF) and NIST standards. It includes Maturity Indicator Levels (MILs) to assess readiness across privacy, governance, and situational awareness. However, without parallel investment in data communication standards and testing, Ontario risks deploying insecure infrastructure that interacts with the Ontario economy in new ways. Secure, scalable, and consent-oriented data standards must be prioritized to ensure DSO capabilities are resilient and as



trustworthy as possible. We must also ensure the use of these standards is flexible enough to allow for change without the requirement of leaning on other nations. The DSO infrastructure must be enforceable by the OEB as it licenses the DSO's and regulates the Ontario marketplace.

4. Supporting Consumer Confidence and Innovation

Consumer advocacy must be central to the DSO framework. Protocols like IEEE 2030.5 include TLS encryption, digital certificates, and role-based access control, aligning with the OEB's cybersecurity mandates. Initiatives like Green Button and the EBT infrastructure already provide consumer-authorized access to energy data, enabling innovation in conservation and DER optimization. Ontario must evaluate whether these standards are sufficient for DSO needs and ensure their integration into the roadmap from the outset. We can't keep building without understanding what we have and how we can improve.

5. Concerns with XML-Based Protocols in a Modern DSO Framework

XML-based protocols, while historically used in Ontario's energy standards, pose challenges for modern DSO infrastructure. XML's verbose structure leads to large file sizes, straining bandwidth for IT systems which impedes historical and real-time data exchange.

Modern ecosystems favor lightweight formats like JSON and Protocol Buffers for their efficiency, scalability, and compatibility with cloud-native platforms. The scarcity of XML translators and readers in the world today demonstrates their end of life as a data standard in modern internet-based solutions and should serve as a clear warning for Ontario.

Lack of knowledge in XML from our newer development processes and personnel resources reduces our pool of experts, increases onboarding, testing and transaction complexity and greatly increases costs, undermining market competitiveness. Ontario must transition to modern data formats that support cybersecurity, API integration, and consumer data control and endeavor to build something that will last for years to come. We need to think of how we are going to manage our systems by leveraging our young minds rather than hanging on to our near retirement work force that are the intellectual property custodians of the past.



6. Building a Consent-Oriented Data Infrastructure

A modern DSO framework must respect consumer data rights and prioritize consent-based sharing. Legacy standards like the OEB's EBT protocols (owned by the OEB) lack real-time coordination capabilities and modern security features. Utilities today cannot provide large sets of data in real time. Ontario must adopt standards that support granular consent, secure authentication, and interoperable data exchange that reflect today's needs, not yesterday's problems. This work should include enhancing or phasing out outdated standards or building our own that supports Ontario's unique needs to reduce complexity and ensure consumers retain control over their data.

7. The Need for Simple and Flexible Data Standards in Ontario's Diverse Utility Market

Ontario's electricity market includes over 50+ LDCs, ranging from small utilities with a few thousand ratepayers to large ones serving millions. This diversity demands simple, cost-effective, and scalable data standards. Complex or rigid protocols risk excluding smaller utilities and creating continued vendor lock-in for many others. Ontario must adopt flexible, open standards that support interoperability and enable technologies like AI to evolve. A modular yet flexible approach will empower all utilities to participate meaningfully in energy transition and accelerate market-wide implementation while reducing short- and long-term costs for everyone.

8. The Need to Update the Retail Settlement Code and Affiliate Relationships Code

As Ontario moves toward implementing Distribution System Operator (DSO) capabilities, it is essential to revisit and modernize foundational regulatory instruments such as the Retail Settlement Code (RSC) and the Affiliate Relationships Code for Electricity Distributors and Transmitters. The RSC, last revised in March 2025, outlines the obligations of distributors and retailers in financial settlements and consumer data access. However, it does not contemplate the complexity introduced by DSOs, DER aggregators, and behind-the-meter services, nor does it address the nuanced data governance and consent frameworks required in a DSO-enabled environment.

Similarly, the Affiliate Relationships Code, last updated in 2010, was designed to prevent cross-subsidization and ensure fair market practices between utilities and their affiliates. Yet, it lacks provisions to manage the risks posed by utility-affiliated software and DER



service providers operating in competitive markets. The Affiliate Relationships Code does not recognize or protect innovators from the Utility. Are DSOs, funded by ratepayers and public resources, competing with private industry in ways that may distort fair market practices? Are we being transparent as to where the money goes?

Without timely updates to these codes, Ontario risks regulatory gaps that could undermine consumer protection, market fairness, Utility interpretation, regulatory instruments for compliance and the integrity of DSO implementation. The OEB must prioritize a review of these codes to align them with the realities of modern, data-driven, and decentralized electricity data systems. We must ensure that all of Ontario can take advantage of the new data intense landscape to build a stronger economy.

9. Advising the Ministry on Data Access and Accuracy Reform

As Ontario advances toward a DSO-enabled energy future, it is imperative that the Ontario Energy Board (OEB) advise the Ministry of Energy on necessary updates to existing regulations governing data access and accuracy. Regulations such as O. Reg. 393/07 (Smart Metering Entity) and O. Reg. 633/21 (Energy Data) were designed to empower consumers, use assets wisely and standardize data sharing through mechanisms like Green Button. However, these regulations have proven difficult for the OEB to enforce effectively, with some complaints regarding non-compliance remaining unresolved for over a year currently.

The complexity of DSO implementation, where data flows between multiple actors including consumers, DSOs, DERs, and market operators, requires a more robust and enforceable framework that ensures data accuracy, timely access, and consumer consent. Without clear and enforceable standards, Ontario risks undermining consumer trust and delaying innovation. The OEB must take a leadership role in recommending legislative and regulatory changes to the Ministry that reflect the realities of a decentralized, data-driven energy system.

We need to remember that systems, communications and data issues are usually found within hours and resolving these issues can take days. If the OEB can't use regulation to swiftly enforce, the market will lose, competition will leave to other markets and investment will be lost.

10. Urgency of Action Due to Declining Legacy Expertise

The topics raised in this submission require immediate and focused action. Ontario's energy sector is at a critical juncture where foundational decisions on data standards and



testing must be made swiftly to support the DSO framework. These areas demand deep legacy expertise, particularly in understanding the past, modernizing existing protocols and integrating them with emerging technologies. However, many of the professionals who originally developed and implemented these standards have retired or exited the industry, and those with the necessary knowledge are becoming increasingly scarce.

If Ontario does not act now to engage these experts, we risk losing invaluable institutional memory and technical insight that cannot be easily replaced. Timely mobilization of this expertise is essential to ensure that the DSO framework is built on a solid, interoperable, and secure foundation that supports innovation and protects consumer interests and helps our economy by using Ontario expertise.

Correlations with Other Stakeholder Feedback in the Past

Several themes in this submission align with concerns raised by other stakeholders in the past:

Data Governance and Consumer Consent - The Consumers Council of Canada and Low-Income Energy Network emphasized the need for consumer data protection, transparency, and consent-based access, echoing your call for a consent-oriented data infrastructure.

Cybersecurity and Resilience - Hydro One and Energy Storage Canada raised concerns about cybersecurity risks and the need for robust data protocols, aligning with your emphasis on the urgency of secure, scalable standards.

Legacy System Limitations - GridSmartCity and Toronto Hydro discussed the challenges of legacy infrastructure and the need for modernization, which supports your points on XML limitations and the need for flexible, modern data formats.

Regulatory Modernization - The Electricity Distributors Association (EDA) and PowerShare Group called for updates to regulatory codes and frameworks to reflect the complexity of DSO operations, mirroring your recommendations to revise the Retail Settlement Code and Affiliate Relationships Code.

Stakeholder Engagement and Onboarding - Multiple stakeholders, including Hydro Ottawa and Environmental Defence, emphasized the importance of inclusive stakeholder engagement, testing environments, and onboarding pathways, supporting your call for formal onboarding and certification facilities.



Recommendations

To ensure the success of Ontario's DSO framework, Screaming Power Inc. recommends the following actions:

- Establish a dedicated and urgent workstream focused on data communications, authorization, and standardization as a foundational priority within the DSO roadmap.
- Immediately prioritize the adoption of standardized communications protocols and data sets, including reusable and well-understood data fields that support interoperability and scalability.
- Create formal onboarding, testing, and certification facilities for DSOs, DER vendors, aggregators, and consumers to reduce technical barriers and ensure market inclusivity.
- Engage legacy experts and technical advisors to capture and apply institutional knowledge before it is lost, ensuring continuity and informed modernization of existing standards.
- Integrate existing regulatory work and standards, such as Green Button, EBT, and other regulated market protocols, into the DSO roadmap where applicable.
- Phase out legacy data standards that do not support real-time coordination, modern cybersecurity, or consent-based data sharing, and replace them with flexible, modern alternatives like JSON or Protocol Buffers.
- Review and modernize the Retail Settlement Code (RSC) and the Affiliate Relationships Code to reflect the complexity of DSO operations, DER integration, and consumer data governance.
- Advise the Ministry of Energy on updating and enforcing regulations such as O. Reg. 393/07 and O. Reg. 633/21, which currently lack enforceability today and lack clarity in the context of DSO implementation.
- Ensure all data infrastructure investments and mapping efforts align with the OEB's Cyber Security Standard v3.0, the Ontario Cyber Security Framework (OCSF), and consumer protection mandates.
- Evaluate and where possible incorporate open-source platforms (e.g., LF Energy) to accelerate innovation, reduce vendor lock-in, and support collaborative development of scalable digital infrastructure.
- Design standards and systems to be AI-ready, modular, and adaptable to future technological advancements, ensuring long-term relevance and cost-effectiveness.



Conclusion

Ontario stands at a pivotal moment in its energy transition. By prioritizing data communications and standardization as a dedicated and well-funded workstream, the province can unlock the full potential of DERs, empower consumers, and foster a competitive and innovative energy market. Screaming Power Inc. urges the Ontario Energy Board to act decisively to ensure the DSO framework is built on a foundation of secure, interoperable, and consent-oriented data infrastructure.

If this initiative is properly organized and funded, Ontario has the opportunity to complete the foundational work required to establish a positive and functional DSO framework within six to twelve months. This timeline is realistic and achievable, especially if existing expertise, regulatory groundwork, and stakeholder momentum are leveraged effectively.

However, failure to act now carries significant risks. Delayed action will likely result in fragmented systems, increased implementation costs, diminished consumer trust, and lost opportunities for innovation. These consequences could persist for decades, undermining the integrity and competitiveness of Ontario's energy market.

The decisions made today will shape the province's energy future, either enabling a resilient, inclusive, and forward-looking system, or entrenching inefficiencies that will be difficult and costly to reverse. The time to act is now, while the necessary expertise is still available and momentum is building. If we miss this window, the negative impacts on the market could last a lifetime.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "G. Michor", with a stylized flourish at the end.

Gary Michor

CEO, Screaming Power Inc.