Data centre regulation in Ontario

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In Ontario, Canada's most populous province, the development and connection process for data centres is driven by Ontario-specific electricity rules and institutions. Grid access and connection obligations are governed primarily by the *Electricity Act, 1998*,[1] the Ontario Energy Board's (OEB) Transmission System Code[2] (TSC) and Distribution System Code[3] (DSC), and the Independent Electricity System Operator's (IESO) connection approval and market participation requirements.

Recent policy initiatives, such as Bill 40, signal increasing scrutiny of large "specified load facilities" and the potential for proponents to fulfill additional provincial requirements before seeking to connect.

For proponents considering a data centre project in Ontario, a practical first step is to pose a threshold question:[4] *will the facility be transmission-connected (typically >50 kV) or distribution-connected (<50 kV)?*

The answer largely determines the process that will follow. The checklist below highlights the key considerations relevant to data centre proponents in Ontario:

Checklist for a transmission-connected data centre (IESO-controlled grid)

1. Select a candidate connection area and engage early with the transmitter and the IESO to confirm which connection assessment and approval (CAA) processes apply, expected study scope, and realistic in-service dates.
2. Initiate and complete the key connection studies typically on the critical path for large loads: an IESO System Impact Assessment (SIA) and a transmitter-led Connection/Customer Impact Assessment (CIA). These studies identify any potential network upgrades and technical requirements.
3. Plan for cost responsibility and security/financial arrangements for network upgrades and connection assets, including timing risks and potential OEB leave-to-construct applications if upstream reinforcements are required.
4. Negotiate and execute the core connection documentation, including connection agreements and related construction/operating arrangements, in accordance with the TSC and IESO requirements.

5. Complete IESO market/program registration and authorization steps that can apply to entities connecting to the IESO-controlled grid, including organization registration, authorization and required roles, even where the facility is primarily a load.
6. Confirm whether evolving provincial policy could impose additional prerequisites for “specified load facilities”, such as data centres meeting criteria set out in regulation under Bill 40-type authorities, as will be addressed later in this insight.

Checklist for a distribution-connected data centre (LDC connection under the DSC)

1. Identify the relevant local distribution company (LDC) licenced to distribute electricity for the proposed site[5] and confirm available capacity, preferred connection voltage, and any local expansion constraints.
2. Submit the LDC’s connection application and progress through the DSC-governed connection process, including the LDC’s technical review, any required expansion design, and the connection agreement.
3. Address cost responsibility for distribution expansions and connection assets under the DSC, including allocating costs between the customer and the distributor. Reflect these in project economics and schedules.
4. Where the distribution connection has bulk-system implications, confirm whether IESO/transmitter studies (*e.g.*, SIA/CIA) are also required.
5. Plan for metering, settlement and rate class considerations, including whether a new or modified rate class could be proposed for large data centre loads and any applicable distributor conditions of service.
6. As with transmission connections, monitor emerging provincial requirements applicable to large data centres, *e.g.*, “specified load facility” prerequisites, that could affect connection timing and approvals.

Strict confidentiality over new investments, early connection queue searches prior to committing to site acquisition and development and ongoing diligence and monitoring is strongly encouraged to mitigate the risk of third parties submitting connection study applications (even without the site owner’s authorization or consent) to secure a spot in the queue ahead of a proponent in an effort to extract negotiated concessions in return for dropping their application.

Bill 40

On Dec. 11, 2025, legislative amendments to the *Electricity Act, 1998*[6] came into force that contemplate changes to prioritize and approve connection requests from data centre projects deemed to serve the province's economic interests.

Much of the substantive detail is expected to be addressed in forthcoming regulations, including the criteria for defining a “data centre” for these purposes. Materials posted to the Environmental Registry suggest that the factors to be considered in prioritizing data centre connection requests may include: electrical connection size, assessments of community economic benefits, data sovereignty considerations, approval timelines, impacts on the grid, costs to utilities and ratepayers, and whether the establishment of a new rate class would be appropriate.

At this stage, it remains unclear how this contemplated prioritization will operate in in practice: whether timelines will be shortened, whether data centres will receive differentiated treatment in system planning, how preferred sites will be signalled, and whether priority will extend to system upgrade construction.

IESO system planning

The IESO is responsible for planning and preparing the electricity system to meet future needs, including electricity demand forecasting in Ontario.[7] In its July 2025 paper, "IESO Demand & Conservation Planning Technical Paper: Large Step Loads",[8] the IESO characterizes data centers as "large step loads", defined as loads exceeding 20 MW that connect in large blocks over short timeframes.

The IESO further categorizes data centers into three types:

1. Enterprise data centres - data centres dedicated to large cloud providers, which include Amazon, Google, and Microsoft.
2. Colocation data centres - data centres where the owner leases server space to multiple businesses, known as offtakers.
3. Hyperscale data centres - data centres which contain at least 5,000 server racks and 10,000 square feet of floor space.

As construction timelines are typically measured in months rather than years, and server capacity can be increased rapidly as demand materializes, electricity system impacts can emerge quickly. Ontario's planning frameworks are adapting to accommodate both the scale and pace of these developments.

The OEB appears to be anticipating these impacts with the creation of the Centralized Capacity Information Map,[9] which provides data about the province's electrical grid capacity for both load and DER connections. This can guide data centre proponents in evaluating and selecting potential sites.

Impact assessments

For new or modified generation and load facilities with a capacity greater than 10 MW connecting to the IESO controlled grid, proponents are required to complete both an IESO System Impact Assessment[10] (SIA) and a transmitter led Connection Impact Assessment (CIA).[11]

The SIA and CIA processes can take more than 12 months to complete and require payment of associated assessment fees. Whether SIA/CIA timelines for data centres can be accelerated remains unclear. And prioritizing these projects will likely extend wait times for others.

Market renewal

On May 1, 2025, Locational Marginal Prices (LMPs) replaced the Hourly Ontario Energy Price (HOEP).[12] LMPs represent the value of electricity at specific locations in Ontario's power system, whereas HOEP was a uniform rate. Market Renewal was designed to

encourage efficient resource dispatch and investment in areas where electricity is needed most.

The use of location based electricity pricing in Ontario means that the introduction of a large data centre load in a particular area may have adverse pricing implications for other customers served from the same part of the system. Moreover, market renewal could pose challenges for data center proponents to accurately forecast electricity prices, typically one of their largest input costs, when evaluating project economics.

IESO technical requirements

On May 14, 2026 the IESO posted its draft technical requirements for large computational loads connecting to the Ontario system, commonly associated with data centres (the Technical Requirements).[13] This draft consolidates existing technical requirements for general load facilities and introduces new requirements to address potential adverse impacts on system reliability caused by the associated behaviours of large computational loads.[14]

The IESO indicates that connection applicants for large computational load projects should follow the established "IESO Connection Assessments and Approval Process"[15].[16] Projects must comply with all applicable requirements set out in the IESO Market Rules, the TSC, the DSC, and other reliability standards referenced in the Technical Requirements.[17]

In addition, connection applicants must also provide additional project data, such as a project development plan, primary equipment data, load composition, and voltage and frequency operating ranges.[18] The draft standards also introduce interconnection technical requirements tailored to address specific load behaviours of large computational loads, to maintain the reliability of the integrated power system.[19]

Collectively, the addition of these new technical requirements increases the compliance and disclosure burden on proponents captured within the 'large computational load' category. The IESO notes that these requirements may evolve as its understanding of these loads develops.

The IESO will host a public engagement webinar on July 23, 2026, to present the new technical requirements and provide an overview of stakeholder feedback collected throughout the drafting process.

IESO Project Committee

In response to forecasted energy demand growth across Ontario, and as part of Ontario's Integrated Energy Plan (IEP),[20] the IESO has established the Major Projects Identification Committee (MPIC) process to support the early identification of major projects and strengthen forecasting and system planning.

Data centres are expected to account for 13 per cent of new electricity demand in Ontario by 2035[21], and MPICs are designed to serve as an early warning system to identify large projects that may drive significant new demand.

How the process works:

1. Major Project Originators submit project information to the IESO.
2. The IESO reviews submissions.
3. Major Project Originators and the IESO work together to verify project details.
4. Entities that have relevant information pertaining to projects, including but not limited to, provincial ministries or agencies, local distribution companies, municipalities (individually or collectively, **Major Project Validators**) review submissions, sharing relevant information and updates.
5. A major projects list is finalized annually and incorporated into electricity system plans and forecasts.[22]

Conclusion

In Ontario, connecting a data centre to power extends beyond commercial procurement. Proponents must traverse a regulated connection pathway, involving different gatekeepers and timelines depending on whether the project is transmission- or distribution-connected. In both cases, early site screening should focus on:

i. realistic capacity and in-service timing,
ii. the likely need for (and duration of) SIA/CIA-type impact studies and associated upgrade scope, and
iii. cost responsibility and financial security for connection and reinforcement work.

Proponents are best positioned by building an Ontario-specific connection workplan early: identify the right counterparty (transmitter vs. LDC), confirm applicable studies and approvals, map upgrade and permitting lead times, and monitor whether "specified load facility" prerequisites will apply as regulations emerge.

Footnotes

[1] *Electricity Act, 1998, S.O. 1998, c. 15, Sched*. A

[2] Transmission System Code, Last Revised March 31, 2025

[3] Distribution System Code, Last Revised May 1, 2026

[4] Section 1.2 of the DSC and section 2.0.22 of the TSC “distribute”, with respect to electricity, means to convey electricity at voltages of 50 kilovolts or less.

[5] As of April 30, 2026 Ontario has 57 electricity distributors regulated by the OEB. A full list is available here.

[6] *Electricity Act*, 1998, S.O. 1998, c. 15, Sched. A

[7] *Electricity Act* s. 6(1).

[8] IESO Demand & Conservation Planning Technical Paper: Large Step Loads Spotlight on data centres and electric vehicle supply chain July 2025

[9] OEB, Centralized Capacity Information Map

[10] IESO Market Rules Chapter 1.4, Connection Assessment and Approval, s 5.

[11] IESO, Overview of the Connection Process

[12] IESO, Ontario Market Prices

[13] IESO, Technical Requirements for Large Computational Loads Now Posted

[14] IESO, Technical Requirements for Large Computational Loads Connecting to the Ontario Power System s. 1

[15] IESO, Overview of the Connection Process

[16] IESO, Technical Requirements for Large Computational Loads Connecting to the Ontario Power System s. 3

[17] IESO, Technical Requirements for Large Computational Loads Connecting to the Ontario Power System s. 4

[18] IESO, Technical Requirements for Large Computational Loads Connecting to the Ontario Power System s. 5

[19] IESO, Technical Requirements for Large Computational Loads Connecting to the Ontario Power System s. 6

[20] Government of Ontario, Integrated Energy Planning

[21] Government of Ontario, Powering Ontario's Economy and People's Lives

[22] IESO, Major Projects Identification Committees (MPIC) Process

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