

January 21, 2022

Ontario Energy Board
2300 Yonge Street, 27th Floor
Toronto, ON M4P 1E4
Attn: Ms. N. Marconi
Acting Registrar

Dear Ms. Marconi:

Re: **EB-2021-0117 Connecting Devices**
Comments on proposed amendments to the Distribution System Code

Thank you for the opportunity to comment on the Ontario Energy Board's (OEB) proposed amendments to its Distribution System Code (DSC) that deal with connecting devices to distribution grids. The Electricity Distributors Association's (EDA) members reviewed the proposed amendments as set out in the OEB's December 20, 2021 Notice of Revised Proposal to Amend the Distribution System Code and the supporting/ancillary documents for their ability to serve their customers safely and reliably on an ongoing basis. Local Distribution Companies (LDCs) are preparing for a future where Distributed Energy Resources (DERs) are commonplace, widely deployed, and used to provide benefits to individual customers, groups of customers, and/or the grid. They may be capable of substituting for LDC-provided benefits or they may complement them. While our comments below focus on the areas where LDCs seek greater clarity, they have been prepared without the benefit of an overarching framework.

Information on System Restrictions

We propose that the OEB provide greater clarity of the LDCs' assumed operating conditions to identify restricted feeders.

LDCs routinely conduct switching operations to reroute power flows for a variety of purposes to manage outages, system constraints, to provide customers with requested outages, and so on. To be responsive to customers' needs, it will be helpful for LDCs to learn if they are to identify restricted feeders using 'business as usual' switch positions or if they are to depict the dynamic nature of LDC operations where switching operations are used to manage a range of operating conditions.

In the case where the LDC does, we seek to learn whether LDCs that do not have any restricted feeders are expected to post publicly that none of their feeders are restricted.

Timelines

We propose that the OEB clarify:

- how LDCs are to prioritize applications for connection
- the process by which an LDC may seek relief from the mandatory timelines
- the timelines that an LDC is to achieve when a small device seeks to connect and the LDC must prepare a Connection Impact Assessment (CIA)
- the required timeline if more than one utility is engaged.

We propose that the OEB either affirm that applications for connection are to continue to be processed on a first-come-first-served basis or address how LDCs are to prioritize processing applications. LDCs are preparing for a possible unprecedented number of applications for connection which could range from the simple, where the LDC may be able to rely on past practices, to the complex or first-of-kind.

We seek to learn the OEB's position on the steps that an LDC should take if it is unable to achieve the timelines authorized in the DSC, whether on a one-time or an ongoing basis or if the OEB will authorize a longer coming into force period applicable to timing provisions. The EDA seeks to understand if the OEB may provide some flexibility for LDCs regarding the timelines set out in the DSC or if LDCs will need to apply to the OEB for a licence amendment if they are unable to comply. As is described in our September 2021 comments (attached as Appendix A), Ontario's LDCs are at different stages of development with respect to the evolution of their systems, controls, and experience and expertise in connecting devices, other than pure loads. If the OEB does not provide flexibility on achieving timelines, the LDC's only option will be to seek a formal licence amendment. We do not consider it advisable for LDCs and the OEB to use their scarce resources to adjudicate potentially numerous licence amendment applications – especially if the adjudicative process could prolong a delay in connecting a customer's device.

We seek clarity on the applicable timelines if the LDC must prepare a CIA to be able to responsibly connect a small device, i.e. a device that is:

- ≤ 500 kW and connected on distribution system voltage < 15 kV or
- ≤ 1 MW and connected on distribution system voltage ≥ 15 kV

LDCs anticipate that they will connect a variety of devices under a wide range of technical and operational conditions. They note that, while it may be appealing to simplify the rules on connecting small devices, such simplifications may be inappropriate. For example, consider an LDC connecting a small device to a point on its system where there are either existing or

emerging technical challenges such that a CIA is necessary. The DSC, as currently written, does not provide adequate time for the LDC to complete the needed CIA for a small device. As discussed in our September 2021 comments, this is an example of a situation where a simplification is not universally applicable.

We seek to understand the timeline that will apply to an LDC that is embedded in another LDC's service area that is to connect a small device that – despite its size – triggers the need for a CIA. The embedded LDC will need its host LDC's support to correctly complete the CIA, the LDC will not be able to complete it on their own. Embedded LDCs anticipate that they will be able to work well with their host LDC to coordinate the preparation of the required CIA and note that it will be helpful to understand how the host LDC, which is to support preparing CIAs for several devices in more than one service area, is to proceed. We propose that the OEB consider amendments to address this situation so that the affected customers will know the process to be used and they can anticipate timelines accurately. We also propose that the OEB clarify which party is ultimately accountable to the customer (e.g., if delays occur).

Definitions

We propose that the OEB reconsider its definition of a DER. We are concerned that the OEB's current definition is inappropriately broad and so all-encompassing as to apply to every customer and every device – even loads. We do not believe that this is the OEB's intended outcome and propose that the OEB either:

- Provide a definition that focusses on a DER's ability to provide a benefit to a customer or customers and/or the distribution system and/or the 'bulk' system; or
- explain the suitability of this definition.

For convenience, we provide the OEB authorized definition of a DER, as set out in the DERCP, below:

Distributed Energy Resource (DER) means, for the purposes of the DERCP, an electricity source or load that is connected to a distribution system, typically through a connection on the customer-side of an ownership demarcation point. Sources generate electricity (e.g., a generation facility, including an energy storage facility when discharging), while loads do not generate electricity (e.g., an energy storage facility when charging).

Several of our members noted a potential issue with the OEB's definition of a constrained feeder. They referenced that feeders and stations can be constrained for a variety of reasons and that short circuit capacity is one of several measures that may cause a feeder or a station to be constrained such that a device that can inject energy and power into the system cannot be connected. We look forward to engaging with the OEB as our members communicate additional, relevant information to customers about the nature of constraints. We note that the OEB supports LDCs providing additional information on system constraints. We expect that over

time customers will identify the type of constraint information that is relevant and valuable to them.

Cost responsibility

Our members are well aware of the limitations associated with consulting on proposed Code amendments: they focus on the need for the amendments, whether the amendments are expected to result in benefits that exceed the costs, and other such matters. Code amendments do not address the consequential impact to the LDC's costs or its rates; those consequences are addressed through applications for relief through rates. As was discussed in our September 2021 comments, LDCs will incur a range of costs to connect and host DERs. All LDCs will benefit from learning the OEB's plan for identifying which costs are eligible for recovery – whether through rates, contributions, or funding mechanisms – and for how costs are to be allocated (e.g., whether to a specific customer class or socialized).

If LDCs are to socialize the recovery of these investments and costs then they can be expected to file Incremental Capital Module applications. Because technological innovation is proceeding at an unprecedented pace it is not reasonable to expect that an LDC will be able to accurately identify and scope the number, size, complexity, timing, and location of the DERs that will be deployed through its service area. For this reason, LDCs likely cannot accurately address the need to invest capital in their Distribution System Plans (which would permit the LDC to file an Advanced Capital Module application) or their rates applications. The ICM is an available and suitable mechanism for seeking recovery through an authorized rate rider.

We repeat one of our proposals from our September 2021 comments: we wish to learn which provisions of part 3 of the DSC apply to DERs (e.g., the rules on financial guarantees).

In the future, we propose that the OEB address issues such as:

- the allocation of cost responsibility of the investments and expenses that LDCs will incur to connect and host DERs – whether upfront, ongoing, and/or one-time.
- Providing policy guidance on how LDCs are to quantify the Contribution to be collected from a storage device (e.g., whether the storage device is to be treated as a device that withdraws energy (i.e., a load) or as a device that injects energy (i.e., a generator))
- As we proposed in our September 2021 comments, the OEB should provide policy guidance on whether LDCs may apply standby rates or backup charges to DERs.

Many LDCs have not been authorized to charge either standby rates or backup charges. They look forward to the OEB providing a policy on these rates and charges that will address whether costs are to be socialized, that clarifies the issue of due or undue cross-subsidization and clarifies how the LDC will be kept financially whole. While the issue of standby rates or backup charges is not in scope for the current amendments, the sooner this guidance is available the

sooner that LDCs will be able to use it to improve the quantification of the contributions that are to be remitted by DERs when connecting to the LDC's distribution system. We must note that if DERs are not to be charged for distribution service on an ongoing basis this will eliminate a potential future revenue stream and put upward pressure on the quantified contribution. At this time, we lack the ability to understand whether this could result in a barrier to entry, either generally or for a class of DERs.

Preparing for the DERCP to evolve

We propose that the OEB set out its preferred approach to evolving the DERCP so that it will align with technological developments and market conditions.

The DERCP is a new regulatory instrument created by the OEB. It is neither an order nor a Code. The process for amending or revising the DERCP is unknown at this time. We propose that the OEB remove this uncertainty by documenting its preferred approach (e.g., identify the parties that will be engaged, any applicable criteria, provide forward guidance on the applicable principles and priorities, identify the engaged decision-maker, set out the review or appeal process that will be made available to stakeholders) so that customers can be assured that the DERCP provides appropriate and balanced protection of the affected interests.

We made several other comments and proposals in our September 2021 letter. We look forward to learning how the OEB will address transitional issues, cost recovery issues, and other matters so that LDCs can continue to safely and reliably serve their customers. Not unreasonably, we anticipate that the OEB will repeatedly consult with the industry so that its regulatory instruments continue to be relevant, up to date, and provide the appropriate level of protection.

Thank you again for the opportunity to comment on these proposed amendments. If you have any questions or need any clarifications please do not hesitate to contact Kathi Farmer, the EDA's Senior Regulatory Affairs Advisor at kfarmer@eda-on.ca or 416.659.1546.

Sincerely,



Teresa Sarkesian
President and Chief Executive Officer

Appendix A to January 21, 2022 comments

September 16, 2021

Ontario Energy Board
2300 Yonge Street, 27th Floor
Toronto, ON M4P 1E4
Attn: Ms. C. Long
Registrar

Dear Ms. Long:

Re: **EB-2021-0117 Connecting Devices**
Comments on proposed amendments to the Distribution System Code

Thank you for the opportunity to comment on the Ontario Energy Board's (OEB) proposed amendments to its Distribution System Code (DSC) that deal with connecting devices to distribution grids. The Electricity Distributors Association (EDA) is very pleased by the degree of alignment between the proposed amendments and our Best Practice Guide (e.g., enhancing the transparency of the connections process, promoting connection processes that rely on enhanced tools and resources, that the LDC provide a useful depiction of constrained feeders, that connections be categorized depending on whether the device is exporting or non-exporting) and trust that it will serve the sector and their customers well going forward. Our specific comments below focus on areas where we seek greater clarity or where there are opportunities for greater alignment with our best practices guide, which was extensively reviewed by DER proponents and our members prior to its release.

Local distribution companies (LDC) have long standing experience in connecting conventional pure load customers. Increasingly, they are connecting innovative technologies that, among other things, are capable of providing services to customers. Collaboration between the LDC and the customer – whether load customer or distributed energy resource (DER) - seeking to connect to the LDC's infrastructure is expected to continue. Our members will be actively engaged in connecting customers, both loads and DERs, and will continue to be responsible for ensuring that the grid is stable, operates safely and can provide an appropriate level of reliability and quality for a fair price.

The OEB's August 5, 2021, Notice of Proposal to amend the DSC identifies the following four issues:

1. The need for standardization and clarity of definitions, terminology and regulatory rules in respect of distributed energy resources
2. The need for clear rules regarding cost responsibility for connection of DERs to ensure fairness to DER customers and all other customers of the distributor
3. The need for detailed and comprehensive timelines for the connection process to ensure the timelines and responsibilities are well understood
4. Appropriate standardization of connection technical requirements

The OEB also described that it was guided by its legislative objectives; these are reproduced below:

1. To inform consumers and protect their interests with respect to prices and that adequate, reliability and quality of electricity service.
2. To promote economic efficiency and cost effectiveness in the generation, transmission, distribution, sale and demand management of electricity and to facilitate the maintenance of financially viable electricity industry.
3. To promote electricity conservation and demand management in a manner consistent with the policies of the Government of Ontario, including having regard to the consumer's economic circumstances.
4. To facilitate innovation in the electricity sector.

Whether our members are connecting loads, DERs or innovative technologies, they are managing in real time the transformation of their respective distribution grids – and of the industry - while serving customers safely and reliably. Like many other jurisdictions, Ontario's electricity sector is transitioning from one that was centrally planned (e.g., that typically deployed large scale devices) to one that hosts a range of devices owned and operated by a multitude of proponents. Our members are all at different stages of preparedness and have deployed differing foundational infrastructure (e.g., control infrastructure, monitoring devices, automated power flow management, processes and procedures to support customers exploring new technologies, and human resources to operate the system under all conditions including contingencies and emergencies). Each LDC has achieved a level of sophistication and maturity with respect to system operations and managing the variety of devices connected to their grids. The nature and extent of foundational infrastructure that is required by an LDC varies with the complexity and number of devices connected to it now and that will, or may, connect in the future. Similarly, the utilization of the existing distribution system provides the context of the distributor's assessment of a proposed connection and while some simplifications will be appropriate in some circumstances – they may not be universally appropriate.

In reviewing the proposed amendments, we neither found nor were able to discern the OEB's overarching framework on connecting DERs and other innovative technologies. Rather, the proposed amendments appear to be specific and while they do not appear to conflict with the OEB's Framework for Energy Innovation, that process is in its early stages and there are many

unknowns to be addressed and resolved. This file engages many stakeholders, and a wide range of issues and interfaces or intersects with other proceedings such as the OEB's Connections Working Group, the IESO's Transmission-Distribution Interoperability initiative and the IESO's DER Roadmap, to name just a few. Coordination between and among these related initiatives is expected to yield a better end-product and better outcomes for customers and device proponents.

We look forward to the OEB providing a coordinated overarching regulatory policy framework for connecting devices and at the earliest possible opportunity. We note that until such a framework is provided there will be an ongoing risk of inappropriate decision making or inconsistent outcomes (e.g., that risks may be assessed differently, that risks that one agency presents as diversifiable another agency may present as non-diversifiable). To use a simple analogy, if a customer provides five builders with the same bill of materials there will always be a risk that each builder will construct a building and that none of the five buildings will be sustainable, fit for purpose or meet the customer's expectations.

Our comments are organized as follows:

- Technical issues
- Process issues
- Communications issues
- Finance issues
- Regulatory issues
- Other issues

We note that many of these issues overlap. Our comments provide recommendations and indicate where clarity and additional detail is expected to be helpful to DER proponents, customers and the LDC; they are summarized at Appendix A.

Technical issues

In this section we discuss the technical issues that our members have identified including:

- Information requirements
- System restrictions with a focus on restricted feeder(s)
- Capacity issues
- SCADA
- Issues of the 'first come, first served' approach
- Transfer Switch Technical Requirements

Information requirements

Our members question the merits of permitting micro-embedded generation facilities to use the connection agreement provided at Appendix E of the DSC. While this form of connection agreement can simplify the treatment of generators <10kW, it does not provide the LDC with the ability to gather technical information that would normally be provided as a Single Line Diagram (SLD), inverter data sheet or to support the LDC in performing a system impact analysis

that may be required for technical reasons. Each of these documents contributes to the LDC's ability to ensure that the grid will be stable, operate safely and reliably for all. The utilization of the existing distribution system provides the LDC with context when assessing how to connect a micro generator and identifying whether the LDC needs information in addition to that required by the form of connection agreement provided at Appendix E. While this connection agreement may be appropriate in many situations, it cannot be assumed to be universally appropriate. For this reason, we propose that the LDC have discretion to request the information needed to ensure grid stability, safety and reliability for all and under all circumstances.

In addition, we propose that the sample protection philosophy's SLD be augmented to include impedance and note that this change will achieve compliance with CSA C22.9 No. 9 – 2020 "Interconnection of distributed resources and electricity supply systems".

System restrictions with a focus on restricted feeder(s)

The OEB's proposed definition of restricted feeder focusses on short circuit capacity, one commonly experienced constraint. We note that other constraints (e.g., thermal limits) can also be expected to create restrictions. On the issue of short circuit capacity, our members stated that they do not consider allowing a feeder's capacity to diminish to 0 any point in time to be good utility management. Accordingly, we propose that the OEB consider allowing LDCs to augment the OEB's definition of restricted feeder to more accurately depict the conditions under which a feeder is capacity constrained (e.g., if the driver of the constraint is due to a condition on either the host LDC's or transmitter's grid) or to adopt a value different from 0 or both.

Feeder restrictions are little different from capacity issues: they can be addressed in a number of ways, where some may be 'shallow' (i.e., not requiring extensive system changes) while others may be 'deep' (i.e., requiring more extensive system changes). The OEB should contemplate how 'deep' restrictions that may be attributable to another party are to be resolved and over what time period (e.g., how the LDC should proceed if the root cause of the restriction on the LDC's feeder is at station that the LDC is not directly connected to, if there are multiple root causes that combine to create the feeder restriction). LDCs assume that they will be expected to engage with the affected upstream entity, whether a host LDC or a transmitter, to explore how capacity can be provided and at what cost. LDCs further assume that this timing and cost information is to be made available to the DER proponent to support their decision making (e.g., sizing, timing, location).

Whether a feeder is restricted from connecting a device may depend on the size of device that seeks to attach. Accordingly, we propose that the OEB provide process maps or flow charts of the main process, as is documented in the Distributed Energy Resources Connection Procedures (DERCP) that contemplates scenarios that may arise for size related reasons.

We also propose that the OEB incorporate subprocesses and ancillary processes (e.g., the processes to invoke if a DER disconnects from the LDC's grid which could impact system constraints, the provision of transfer trip protection to the devices that continue to be served

by that portion of the distribution system, affect the ownership of transfer trip protection infrastructure) that LDCs may commonly encounter. This additional detail will support LDCs' decision-making using a common tool, to the extent that it is appropriate, rather than through a variety of methods and according to dissimilar objectives. Using these decision-making tools is expected to clarify how the LDC is to proceed under scenarios such as if a 'large' device (relative to the capacity of the affected portion of the distribution system) is to be attached or if the LDC may incur unusual costs to complete the CIA. In this scenario there is a risk that connecting the 'large' device will require extensive engineering that could ripple through and affect the LDC's processing of subsequent requests to attach, perhaps from smaller devices that may not require extensive engineering or may not trigger and need to alter the existing infrastructure. LDCs will benefit from clear expectations of the quality of the constraint data that is to be provided. While a device is connected at a specific point the distribution system operates dynamically (e.g., power may be rerouted to manage load growth/change, for new connections, maintenance activities, to temporarily re-balance lines) where some conditions are temporary, some will persist for a longer period and will eventually be reversed, and others will be permanent.

This raises questions of accuracy and timeliness. We seek to learn whether LDCs are to convey the duration of dynamic conditions or if they are to present constraints on a "business as usual" basis, and if they are to use "business as usual", how LDCs are to explain this standard to DER proponents who need good information on the conditions under which their device can be used to generate revenues. Correctly depicting a feeder's status as constrained may depend on operating conditions (e.g., whether electric vehicles (EVs) are connected and either charging or discharging – where the duration of the restriction could alter rapidly as the connected EVs disconnect and possibly charge or discharge at another point on the system) and it may be desirable for the LDC to describe any operating assumptions (e.g., that the LDC cannot permit a storage device to charge during peak demand periods). For these reasons, there is a need for clarity, and it may be appropriate for the customer or DER proponent to contact the LDC.

List of Restricted Feeders

Customers and DER proponents seek accurate and timely information of which feeder is capacity constrained. Distribution systems are electrically dynamic, and LDCs assume that a temporarily constrained feeder (e.g., as a result of temporary power flow rerouting to permit safe operating conditions for maintenance or renewal work) is not to be shown as a constrained feeder. LDCs anticipate that they will be able to improve their restricted feeder data if they have electrical visibility of the infrastructure upstream of the affected feeder (e.g., if the LDC's station breakers are appropriately sized and coordinated with the transmission systems fault current levels). LDCs anticipate that they may need to co-ordinate and share information with their host LDC, the transmitter or both. Finally, if LDCs must increase the capacity of their system to connect a proponent's device, they question whether they will be expected to 'reserve' that capacity for that proponent and that the output of the connected device(s) will be managed such that capacity reservations are not exceeded.

While the OEB seeks a list of restricted feeders, LDCs are aware that Hydro One Networks' 'heat map' has been well received by customers and DER proponents. We seek to learn the OEB's position on Hydro One's tools and whether it is advisable for LDCs to strive to replicate or emulate them as they are valued by customers.

SCADA

We suggest that the OEB be flexible with respect to the timelines that LDCs are to achieve, so that the LDC can accurately analyze and prepare for the impact of a connecting device on the operation of its SCADA infrastructure. LDCs rely on a range of SCADA devices that use a range of technologies (e.g., analog) of varying levels of sophistication and according to different philosophies (e.g., whether to strategically monitor or to universally monitor). Each LDC could need different periods of time to appropriately plan, engineer, test and commission the appropriate interface to its SCADA system and any changes that may be required, especially if the LDC has deployed generations of SCADA technology/gear in the field. The design and testing of the interface between a deployed device and the LDC's SCADA system must be done carefully for the SCADA infrastructure to operate correctly and reliably the first time and for the foreseeable future. However, as the number of connected devices grows it will become increasingly important that control systems, like SCADA, operate correctly under all circumstances.

Applications are to be dealt with on a 'first come first served' basis

It is proposed that the OEB provide process maps or flow charts that depict its expectation of the decision-making process(es) that LDCs will commonly use and that anticipate, and ideally will avoid, inappropriate outcomes (e.g., of a proponent's willingness to 'queue squat'). For example, LDCs see merit in continuing to apply the 6-month time limit to avoid having projects that are not progressing creating an intended or unintended barrier to other projects.

Transfer Switch Technical Requirements

The OEB's proposed amendment to 6.2.1 states: "When connected in parallel with the distribution system, an emergency backup generation facility must have a transfer switch that isolates it from the distribution system within 100 milliseconds." We are concerned that it is inappropriate for the DSC to mandate transfer switching times. Should future technological change alter, or international standards affect transfer switch times there will be a risk that the DSC will 'lag'. We suggest that the OEB consider permitting the LDC the discretion to determine the appropriate transfer switch time that reflects the device's capabilities and is appropriate given the context of the distributor's infrastructure.

Process issues

In this section we discuss the process issues that our members have identified including:

- Proposed prescribed timelines
- Process maps and flow charts

Proposed prescribed timelines

We see the benefit of consistent timelines, as they are expected to improve certainty and consistency. However, if not all LDCs are capable of achieving the prescribed timelines (e.g., if they are not all equally prepared, equipped, experienced) then there is a risk that all participants will be frustrated. Equally, the prescribed timelines may be sensible if there are relatively few applications – and no matter how well the LDC is prepared they may be wholly inappropriate if there is an unprecedented level of applications. As is noted elsewhere in these comments, each LDC's preparedness and investment in the supporting foundational infrastructure varies.

LDCs may need flexibility to vary from the OEB's proposed prescribed timelines under circumstances such as:

- the LDC needs to engage contractor(s) to perform the required planning, engineering, evaluation, specification or enabling foundational work
- If the LDC that is performing a connection for the first time ever (e.g., of a technology, of a size of device, at a technically problematic location, when advancing a previously planned rebuild)
- If multiple entities are engaged – e.g., the LDC, its host LDC, the transmitter
- If the LDC receives more requests for connections than it is scaled to process simultaneously

This need for flexibility could be encountered at any stage of the connection process. Consider, for example, the LDC that discovers while performing the Connection Impact Assessment (CIA) a need for the installation of gear at a station or a transformer that a host LDC uses to provide service to another hosted LDC. In this situation, both the host and hosted LDC could be required to analyze the connection again – perhaps simultaneously rather than in sequential order. Regardless of the specifics of the situation, there is a risk that the prescribed time will not be sufficient for either the host LDC or the hosted LDC.

Process maps and flow charts

We propose that the OEB provide a process map or flow chart of all the activities that LDCs are to perform when DERs seek to connect to their distribution system. This depiction is expected to clarify opportunities and risks under a range of foreseeable circumstances (e.g., the distributor's responsibilities and duties if the proponent is unable to provide a complete and correct information package after the LDC has provided the proposed three free assessments). It is expected to be capable of being revised and updated as the OEB further simplifies or otherwise alters this process.

Communications issues

In this section we discuss the communications issues that our members have identified including:

- Information sharing on engaged infrastructure
- Definition of person for three free Preliminary Consultation Reports in a calendar year

- How to represent constrained feeders
- Providing flexibility to gather additional necessary information

Information sharing on engaged infrastructure

We seek guidance on how to provide customers and DER proponents with information on which feeder serves them, under normal operating conditions, and of how to provide geographically accurate information on the distribution infrastructure that is typically utilized to provide the customer, site or a proponent's contemplated device with distribution service.

Definition of person for three free Preliminary Consultation Reports in a calendar year

We seek clarity on the definition of person (e.g., to whom the LDC provides a preliminary consultation report); whether it is an individual (e.g., the primary contact or a corporate entity or if a specific site that is proposed by a corporate entity).

How to represent constrained feeders

As is discussed at page 4 of these comments, providing an accurate list of restricted feeders on a timely basis introduces complexity because distribution systems are electrically dynamic. We note that previously, many distribution systems were designed as radial systems and that increasingly they are designed as networked systems. Networked systems provide the LDC with the ability to reroute power flows that provides consumers with a greater level of reliability than is typically achievable with a radial system. This ability to reroute power means that whether a feeder is restricted or not depends on operating conditions. We seek additional guidance from the OEB on the advisability of alternative representations (e.g., heat maps) and of how to provide representative data. Should the OEB see merit in a heat map representation, some of them currently possess the modelling capability (e.g., access to data, an accurate operating model of their distribution system) while others may not.

Providing flexibility to gather additional necessary information

We see the advantages of the OEB's proposed data gathering forms, specifically that they eliminate the variability across LDCs of the data sought to analyze and connect a comparable device. LDCs seek further flexibility to gather the data needed for the specifics of the location, device or the distribution infrastructure that will be used to provide distribution service, whether it is identified on the proposed form or is idiosyncratic to that LDC or is simply required at a greater level of detail and granularity. We also propose that the OEB review and refresh the forms from time to time and consider adapting other data gathering approaches.

Finance issues

In this section we discuss the financial issues that our members have identified including:

- Recovery of transitional costs, up front costs, one-time costs, incremental costs, new ongoing costs
- Standardized costing
- Capital contributions

Recovery of transitional costs, up front costs, one-time costs, incremental costs, new ongoing costs

LDCs acknowledge the importance of doing the technical analysis correctly, accurately and well. They are equally concerned with how to ensure that costs to provide the required technical analysis are recovered appropriately, whether socialized through rates, recovered through specific service charges or recovered through time and materials charges.

The transition to hosting DERs in their service areas will give rise to a variety of costs. Some costs will be transitional (e.g., system modelling, control infrastructure, customer care, revisions to the Conditions of Service or the development of templated contracts) while others will be incurred on an ongoing basis. We seek to learn how the OEB will administer their recovery (e.g., whether by rate rider, through the future disposition of an OEB authorized deferral account).

The timing of transitional costs and the costs related to foundational infrastructure will require careful management. While these investments must be made in advance of a customer needing to use the enabled systems or infrastructure, spending should not occur too far in advance of the customer using the enabled systems or infrastructure.

The proposed amendments identify that LDCs are to:

- provide information on their restricted feeders and to refresh that information at least four times a year
- provide up to three assessments free of charge (whether the latter will replace or be in addition to the meetings that are now provided free of charge is unclear).

LDCs foresee that they will incur incremental costs to be able to fulfill these amendments and look forward to learning how those costs – whether one time, set-up, ongoing and so on - are to be recovered, and whether they will be considered ongoing costs incurred to provide service and accordingly be eligible for recovery through rates. LDCs seek as much clarity as possible as to whether the free Preliminary Consultation Reports pertain to a specific site or a specific project so that they can responsibly interface with the proponent and neither party will have any misunderstanding of the service that is to be provided free of charge (please see the discussion under Communications Issues that appears at page 8). As is discussed elsewhere in these comments, there is a real possibility that LDCs will need to analyze a connection more than once and that both the host LDC and hosted LDC will incur these costs.

Our members understand the benefit of meeting with proponents and assessing their applications. However, they are wary that some proponents may act less than responsibly by not providing accurate or quality information when it is required by the LDC. We foresee that it will be desirable for the OEB to express that proponents are to engage with the LDC responsibly and make ‘best efforts’ to provide complete and accurate information and at the earliest possible time. This approach is expected to minimize the work that the LDC must perform and potentially repeat and is expected to keep costs to the proponents down, if costs are recovered

through Specific Service Charges or on a time and materials basis, or to keep down the costs that are recoverable through rates.

Standardized costing

We also seek to learn whether the OEB will standardize the costing of the preparation of CIAs, Capital Cost Recovery Agreements, assessments and so on. Any effort to standardize costing may be best presented as guidelines (e.g., so that LDCs are not hindered in accessing the necessary information). LDCs currently rely on different mechanisms (e.g., time and materials-based recovery) and wonder whether proponents may consider this variability as a barrier when they are identifying where to locate devices.

Capital Contributions

The OEB's proposed amendments contemplate the repurposing of the capital contribution rules that apply to pure load customers. We seek to learn whether the OEB intends to repurpose all of the ancillary rules (e.g., of deposits, warranty periods, true up for future attaching customers or loads) and if so of the analysis that OEB staff has conducted that demonstrates the appropriateness of doing so. We also seek to learn the OEB's thinking on how LDCs are to proceed if a proponent fails financially or terminates the connection process early and note that this is an example of a scenario that could be included on a process map or flow chart depiction of the activities to be performed.

A key feature of the calculation of the capital contribution to be made by a load customer is the quantification of revenues to be remitted to the LDC. All LDCs seek to learn the OEB's thinking on whether they will be able to charge DERs for distribution service (e.g., bundled or specific unbundled services). In future, they anticipate learning about how to treat payments from the LDC to a DER that may provide service(s) to the LDC (e.g., ride through, reactive power management). Clarity on these matters will assist in computing the Capital Contribution and any required deposit correctly the first time.

When calculating a capital contribution, the LDC is to include the incremental maintenance costs. We propose that the OEB clearly identify which party is responsible for which maintenance activities and the associated costs. This will support LDCs in correctly computing the capital contribution that will be required of the proponent. Maintenance activities are undertaken so that distribution service can be provided at an appropriate level of quality on an ongoing basis and so that planned asset lives can be achieved, both of which are benefits to connected customers and DER proponents – they need to be identified, assigned and the associated costs recovered in a disciplined manner.

Regulatory Issues

In this section we discuss the regulatory issues that our members have identified including:

- charging for Stand By service, back up service or for reserving capacity
- Issues with the proposed prescribed timelines
- Regulatory reporting requirements

Charging for Stand By service, Back Up service or for Reserving Capacity

LDCs propose that the OEB address whether LDCs will be authorized to charge for the provision of Stand By service, back up service or for reserving capacity and do so at the earliest opportunity. These services may be valuable to DER proponents and could impact a proponents decision making about which LDCs they prioritize working with.

Issues with the Proposed Prescribed Timelines

As is discussed under Process Issues, LDCs see the advantages of prescribed timelines and are uncertain of whether they can fulfill the OEB's proposed prescribed timelines under all circumstances and, in particular, as of the date that the DSC is amended. Our members expressed that if there is a 'trickle' of applications to connect devices and if the LDC has direct and relevant hands on experience and appropriate foundational infrastructure, and the project does not raise intricate SCADA issues then – all other things being equal – it should be possible for the LDC to achieve the proposed prescribed timelines. However, if there is a 'flood' of applications - especially to an LDC that lacks experience or did not accurately anticipate the scale of interest – then it will be questionable whether the LDC can comply. For these reasons, we propose that the OEB consider amending the timelines to make them permissive, or to require that they be fulfilled on a best efforts basis, or to permit the LDC to negotiate different timelines with the customer or DER proponent, or to render the prescribed timelines in a manner similar to how some Service Quality Indicators are stated (e.g., the LDC shall comply with the prescribed timeline when processing at least x% of requests to connect).

Regulatory Reporting Requirements

LDCs wish to learn as early as possible the OEB's expected reporting obligations and, in particular, to understand both the OEB's motivation for collecting such data and its intended utility. LDCs expect that the reporting obligations will be 'fit for purpose' and economically efficient (i.e., that the cost incurred to collect and report the data will not exceed the value of the data).

Other issues

LDCs will benefit from clarity as to with which parties they are expected to conduct business (e.g., whether a load customer, a proponent whose device provides commodity supply, a proponent whose device will provide an aspect of distribution service) and of the preliminary steps that the LDC should be prepared to take before commencing to conduct business (e.g., whether they should seek financial security? require that the proponent produce a valid OEB licence?).

We anticipate that, when LDCs enter into business arrangements with DER proponents, they may acquire and store the proponent's commercially sensitive or proprietary information. We seek to learn whether LDCs should take additional steps or provide enhanced protection of this information.

The DERCP clarifies that the proponents may request a more accurate cost estimate. We are concerned that this may not be possible in all circumstances, as the connection process can discover circumstances that may result in material cost impacts.

Our members look forward to transforming the infrastructure that is deployed in the field to provide safe, reliable service to customers and connected devices. Several requests for additional detail, process depictions using process maps or flow charts, clarification of implications of the proposed amendments and regulatory guidance have been requested and we look forward to the OEB's continuing work on this file and its periodic review and refresh of its guidance.

Thank you again for the opportunity to comment on these proposed amendments. If you have any questions on these comments or require any clarification, please do not hesitate to contact Kathi farmer, the EDA's Senior Regulatory Affairs Advisor at kfarmer@eda-on.ca or at 416.659.1546.

Sincerely,

A handwritten signature in black ink, appearing to read "Teresa Sarkesian", with a stylized, flowing script.

Teresa Sarkesian
President and Chief Executive Officer

EB-2021-0117
Appendix A
to
the EDA's September 16, 2021 Comments

Below is a list of the recommendations and requests for additional clarity/detail.

Recommendations

- that the OEB's Connections Working Group, the IESO's Transmission-Distribution Interoperability initiative and the IESO's DER Roadmap, among others, be appropriately coordinated
- that proponents are to work with the LDC on a best efforts basis
- that LDCs have discretion to request technical information in addition to that required through the proposed mandatory information gathering forms and through the connection agreement provided at Appendix E of the DSC that is to be used when a micro-embedded generation facility seeks to connect
- that the sample protection philosophy's SLD be augmented to include impedance
- that LDCs be permitted to augment the OEB's definition of restricted feeder to more accurately depict the conditions under which a feeder is capacity constrained
- that LDCs be permitted to describe assume operating conditions
- that the OEB not mandate the period in which a transfer trip must isolate a backup generation facility
- that the OEB not require LDCs to fulfill the prescribed timelines on a mandatory basis
- that the OEB clearly address the steps that LDCs should take when protecting proponent's information and whether the LDC should provide enhanced information protection
- that the OEB reflect that providing a more accurate cost estimate may not be possible in all circumstances
- that the OEB address whether LDCs will be able to charge DERs for distribution service(s) (e.g., for the provision of Stand By service and/or back up service, for reserving capacity)
- that the OEB set out how costs to connect DERs and other innovative technologies are to be recovered (e.g., transitional costs, one-time costs, costs related to the enabling of foundational infrastructure, customer care costs, costs to provide constrained feeder information, costs to provide assessments free of charge)

Requests for additional clarity/detail

- augmented flow charts that include sub processes and ancillary processes and that address situations that commonly occur

- clarify the processes that are to be used when that LDCs engages with an upstream entity and of how the LDC is to share any timing and/or cost information discovered through such an engagement
- how LDCs are to present information on system constraints (e.g., if the LDC is to communicate dynamic conditions, if system constraints are to be presented on a “business as usual” basis, if a constraint that is attributable to upstream infrastructure of another party is to be documented) and whether the LDC can provide alternative representations (e.g., heat map)
- How to provide customers and DER proponents with information on the feeder that serves them (e.g., under normal operating conditions, geographically accurate information)
- Clarify the person who is to be provided with up to three free preliminary Consultation Reports
- Whether LDCs will be expected to replicate or emulate Hydro One’s tools
- Whether the LDC will be expected to ‘reserve’ capacity for a party
- whether the OEB will standardize the costing of the preparation of required analysis and documents (e.g., CIAs, CCRAs, technical assessments)
- whether other aspects of the administration of Capital Contributions (e.g., deposits, warranty periods, true up for future attaching customers or loads) will be repurposed
- which party is responsible for which maintenance activities and the associated level of cost responsibility
- the OEB’s reporting obligations