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SUBMITTED ELECTRONICALLY VIA ERO WEBSITE

November 22, 2020

Matthew Edwards
Conservation and Energy Efficiency Branch
Ontario Ministry of Energy, Northern Development and Mines
77 Grenville Street
5th floor
Toronto, ON M7A 2C1

RE: Regulatory proposal for province-wide implementation of Green Button, ERO Number 019-2564

Dear Mr. Edwards:

On behalf of the Advance Energy Management Alliance (“AEMA”), the following are comments regarding regulatory proposal for province-wide implementation of Green Button, ERO Number 019-2564.

AEMA is a North American trade association whose members include distributed energy resources, demand response (“DR”), and advanced energy management service and technology providers, as well as some of Ontario’s largest consumer resources, who support advanced energy management solutions due to the electricity cost savings those solutions provide to their businesses. These comments represent the views of the organization as a whole, not those of any individual company member.

AEMA customers credit their energy management processes as one reason they are able to stay competitive in Ontario and throughout the rest of Canada. We are in agreement with the government’s efforts to update and modernize Green Button in Ontario and strongly support the proposal to mandate implementation of Green Button Connect My Data (“CMD”) uniformly across the province. We view implementation of Green Button CMD as a critical tool to supporting objectives such customer engagement and choice and energy bill management.

We are also supportive of the Mission:data submission (attached) and echo the areas for improvement and clarification, namely:

- 1) **CMD Certification.** We support certification of CMD implementations since it is a basic principle in ensuring technical consistency and is needed to realize the full benefits of

CMD and reducing transaction costs. However, additional information is required specifically for multi-site commercial and institutional customers. Usage information alone is not enough for energy management applications. We urge the government to consider adding the following information to the CDM regulation such as premise address, customer account number and billing history. As the province continues to develop demand-side flexibility and improves wholesale and retail market access (such as non-wires alternatives), we recommend the Ministry include in CMD any information necessary to determine eligibility to participate in such programs and markets.

- 2) **Centralized CMD Implementation.** The Ministry should promote centralized CMD implementations, particularly for small and medium Local Distribution Companies (“LDCs”) in order to reduce costs and permit all Ontarians to access energy-saving technologies. AEMA supports Mission:data’s recommendation that the Ministry encourage and provide incentives to LDCs to use a centralized implementation. By contracting out CMD implementation to a single entity, it ensures that customers served by smaller LDCs are able to access the same energy management products and services as those in Toronto or Ottawa. This can be achieved when the marginal cost to a third party of providing CMD-based services approaches zero. Costs to the LDC are also likely to decrease through leveraging a single CMD vendor.
- 3) **The Residential Customer.** The residential demand response opportunity continues to be untapped in Ontario. It is important to empower residential DR aggregators with the information they need to cost-effectively operate. DR aggregators need information necessary to determine their customers’ eligibility for, or to participate in, wholesale market. Beyond usage information, residential customer data is also necessary for enrollment in market programs (record of installation, premise ID, account number, zone etc.). For example, a residential customer may be ineligible for DR if they have opted into a peak demand rate, or if they are already participating in a DR program of some sort. Customers do not always know whether they are eligible, and they look to energy management providers to pre-qualify them for certain appropriate offerings. By including DR eligibility information in CMD, residential customers across the province could easily and electronically grant access to their chosen DR aggregator, who can then identify the most cost-effective and applicable programs to their customers. Without simple, standardized, electronic access to this information, demand response providers will not be able to cost-effectively participate in markets and thereby reduce energy costs to all consumers.
- 4) **Green Button Limitations.** It should be noted that while Green Button is an appropriate tool for allowing data exchange, it should not be a blocker when it comes to customers enrolling in market-based programs. Green Button should not be viewed as a demand response enrollment tool. If customers are required to access Green Button directly in order to register them for a program, aggregators will lose significant numbers of interested customers. Many customers have not yet signed up for an online account with their utility, do not easily remember their user ID or password, or are confused or fatigued by the excessive number of pages and “clicks” required to complete their

registration. As a result, Green Button CMD is not the most practical solution for customer enrollment in a scenario where customers provide consent for release of their data to third party service providers (the CMD use case) for the purpose of demand response programs. A more appropriate solution provides the customer a seamless flow for enrollment wholly contained within the aggregator's customer experience. The aggregator should be able to access the customer data, through Green Button, without requiring the customer to interface with the Green Button portal.

- 5) **Other Policy Matters in the Regulation, Such as Third-Party Eligibility Criteria, Terms of Use, Enforcement, and Accountability of Utility Operations.** As outlined in the Mission:data submission, it is critical that a whole of system approach be undertaken that considers eligibility of third parties at the Ministry level to ensure consistently applied criteria and ensuring utilities have the necessary tools and information to optimally operate their systems.

In addition to the above-mentioned recommendations for consideration, we urge the Ministry to consider the following:

- 1) **Extensions:** The proposal to permit the granting of extensions to the implementation deadline may have the effect of creating loopholes to the timely roll-out of Green Button CMB. We suggest that the length of time for any extension should be capped at one year, or that the OEB establish conditions to any extension, namely that any utility who requests an extension must provide some other means of ongoing, programmatic access to data in the interim.
- 2) **Opportunity to Comment on Draft Regulatory Language:** While the postings contain plain language descriptions of the proposed changes, draft regulatory language for the proposed amendments is not included. The opportunity to comment on draft regulatory language is common to most regulation amendments. The absence of draft regulatory language and the details it provides makes it difficult for stakeholders to provide substantive feedback on regulatory proposals, especially when dealing with a matter as technical and complex as net metering configurations and contractual provisions.

We request that the Ministry allow stakeholders an opportunity to comment on the draft regulatory amendment language regarding the Green Button initiative before the Ministry incorporates them as final regulations. This would allow stakeholders to assess the proposed changes in detail and ensure critical issues are not overlooked and misinterpreted.

In conclusion, AEMA supports the regulatory proposal to implement Green Button CMD. To be efficient and effective from a cost perspective, it is important that the above-mentioned issues be addressed. We would welcome the opportunity to continue to work with the Ministry and utilities to provide our perspective and lessons learnt from other jurisdictions. Please do not hesitate to contact me (Katherine@aem-alliance.org or Sarah Griffiths, Chair,

Canada Chapter (sarah.griffiths@enel.com) or Rachel Ingram, Director, AEMA
(rachel.ingram@rodanenergy.com).

Sincerely,

A handwritten signature in black ink, appearing to read "Katherine Hamilton". The signature is fluid and cursive, with a long horizontal flourish at the end.

Katherine Hamilton
Executive Director
Advanced Energy Management Alliance



November 20, 2020

Ontario Ministry of Energy, Northern Development and Mines
900 Bay Street, 4th Floor
Hearst Block
Toronto ON M7A 2E1
Canada
Submitted via Environmental Registry of Ontario

RE: **Comments regarding implementation of Green Button Connect My Data - Support**

Dear Ministry of Energy, Northern Development and Mines (ENDM):

Mission:data Coalition applauds ENDM's Green Button initiative. The Ministry's proposal to empower utility customers of all types with innovative digital services will help customers of all types better manage their energy usage and bills. We strongly support the proposal to mandate implementation of Green Button Connect My Data (CMD) uniformly across the province. In addition to our endorsement, we offer our constructive feedback on certain details of the proposal as well as recent lessons learned from other jurisdictions in the United States.

By way of background, Mission:data is a national coalition of 30 technology companies in North America delivering data-enabled services that focus on providing direct energy and carbon savings to all utility consumers (residential, commercial, industrial and institutional customers). These services range from detailed energy usage analysis and energy feedback technologies to demand response and device control. Our members are the leading innovators in the industry, representing over \$1 billion per year in sales of advanced energy management. For more information, please visit www.missiondata.io.

1. CMD Certification Alone is Insufficient

We strongly support mandatory certification of CMD implementations because technical consistency is essential to realizing the benefits of CMD and reducing transaction costs. However, certification alone is insufficient for several reasons. First, the Green Button Alliance's current certification tests do not require the provision of utility account information, billing information, or information necessary for demand response. Energy usage (in kilowatt-hours or therms) is required by certification today, but usage data alone is insufficient for numerous energy management applications. For example, account information such as premise addresses is especially important for multi-site commercial or institutional customers. Without addresses, it is impossible for an energy management company to automatically determine *where* energy was used. If the energy management company must contact the commercial customer to manually receive address information from multiple sites, the efficiency promised by CMD will not be delivered. This was a lesson learned from Illinois, where Commonwealth Edison, the state's largest utility, implemented CMD but only provided kilowatt-hours of energy usage data.

In addition to premise addresses, it is important for energy management firms to have access to a customer's account number and billing history. Small businesses and property owners often use inefficient, paper-based processes for reconciling utility bills, searching for overcharges, and managing overall utility costs. For these customers, access to detailed, machine-readable bill data means that it will become easier to monitor and pay their bills, save money, access new services and track their carbon footprint. The Ministry should require account and billing history as part of its CMD regulation because CMD certification alone will not ensure that customers receive the full benefits of CMD.

Finally, it is important to empower residential demand response (DR) aggregators with the information they need to cost-effectively operate. DR aggregators need information to determine their customers' eligibility for, or to participate in, the wholesale market. For example, a residential customer may be ineligible for demand response if they have opted in to a peak demand rate, or if they are already participating in a DR program of some sort. Customers do not always know whether they are eligible, and they look to energy management providers to pre-qualify them for appropriate offerings. By including DR eligibility information in CMD, residential customers across the province could easily and electronically grant access to their chosen DR aggregator, who can then identify the most cost-effective and applicable programs to their customers. Without simple, standardized, electronic access to this information, demand response providers won't be able to cost-effectively participate in wholesale markets and thereby reduce energy costs to all consumers.

We have summarized all of the above recommendations in Attachment 1 under “#1, Data Types.”

2. The Ministry Should Promote Centralized CMD Implementations, Particularly for Small and Medium Local Distribution Companies (LDCs) in Order to Reduce Costs and Allow All Ontarians to Access Energy-Saving Technologies

If every LDC in Ontario were to offer its own CMD implementation, it is not only possible but likely that technical differences between implementations will emerge. This means that energy management firms will need to write some amount of custom software for each LDC. To be sure, CMD certification helps in this area, but it does not eliminate the costs incurred by third parties associated with each CMD implementation. Generally speaking, energy management software applications incur costs on a per-CMD basis to maintain ongoing electronic connections. Therefore, reducing the number of distinct CMD implementations in Ontario is paramount.

Startups and emerging companies will invest in supporting the largest LDCs' CMD implementations, but they are unlikely to support the small and medium LDCs because these fixed costs can only be allocated over smaller potential customer bases. To address this challenge, Mission:DATA strongly recommends that the Ministry encourage and incentivize LDCs to use a centralized implementation. By contracting out CMD implementation to a single entity, it ensures that customers served by smaller LDCs are able to access the same energy management products and services as those in Toronto or Ottawa. This can be achieved when the marginal cost to a third party of providing CMD-based services approaches zero. In addition, costs to smaller LDCs are also likely to be much lower by joining forces and using a single CMD vendor.

3. The Ministry Should Address Other Policy Matters in the Regulation, Such as Third Party Eligibility Criteria, Terms Of Use, Enforcement, and Accountability of Utility Operations

In our experience across the U.S., mandates for CMD alone have been insufficient to ensure positive outcomes and achieve energy management goals. For example, New York mandated CMD for its utilities with smart meters, but the New York Public Service Commission did not specify the eligibility criteria of third parties who wish to use CMD. Lacking guidance from regulators, the state's utilities unilaterally created their own eligibility criteria that were extremely onerous for third parties and have delayed widespread data-sharing for several years. For example, the utilities required expensive cybersecurity audits, \$10 million in cybersecurity breach insurance coverage, and numerous other costly terms. The energy management industry has challenged these requirements and asked for stronger Commission oversight in this area, but there was damage done to the market as a whole, with only three (3) energy management companies registered to use CMD offered by Consolidated Edison, the state's largest utility, and relatively low utilization by customers.

It is also important that the Ministry have the tools and information to ensure that LDCs operate their information technology (IT) systems at a high level of performance. Lessons learned from other jurisdictions include unfortunate outages of CMD implementations that were costly and shook the confidence of the market. For example, Smart Meter Texas (SMT), which is run by Texas's four largest distribution utilities, experienced system outages and slow response times to technical service requests, hindering utilization. When SMT was first released in 2014, it went offline for two weeks inexplicably. There was no "uptime" guarantee from SMT, and no clear accountability structure in place and no penalty for under-performance. The Ministry should mandate a required uptime percentage, such as 99.9%, which is typical for many IT systems.

4. User Experience is Critical to CMD's Success

Finally, one of the key lessons learned from the U.S. is that the user experience is critical to CMD's success and lowering energy costs to consumers. If the data-sharing process is cumbersome, requires multiple steps, or requires creating an online account at the LDC's website, it will result in disappointing utilization rates. The negative impacts of a poor customer experience are neither minor nor hypothetical. The demand response firm EnergyHub quantified the impact of streamlining the online process for customers signing up for their service. EnergyHub found dramatically different rates of consumer participation— 3% vs. 42% – among eligible customers when the enrollment forms were electronic, dramatically simplified and consumers could instantly sign up.¹ For this reason, we propose several principles in Attachment 1, #6 ("Streamlined User Experience") to ensure that customers have not just a theoretical right to share their energy information, but a practical right that is as convenient as other online transactions in their daily lives. We further recommend that demand response aggregators be permitted to facilitate enrollment of their customers without requiring the customer to login to their LDC's website.

We have summarized all of our recommendations in Attachment 1. These recommendations are based upon our experience in other jurisdictions, predominantly in the U.S.

¹ Optimizing the demand response program enrollment process. White paper by EnergyHub, Inc. dated April, 2016. Available at <https://www.energyhub.com/optimizing-demand-response-enrollment>.

For more information about the basis of our recommendations, please see Mission:data's whitepapers available here: <http://www.missiondata.io/reports/>

In conclusion, Mission:data stands ready to assist the Ministry in implementation of Green Button CMD across the province. We look forward to working with you and thank you for the opportunity to provide comments.

Sincerely,

Michael Murray, President
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Seattle, WA 98107
United States
(510) 910-2281

Attachment 1: Detailed recommendations of Mission:data Coalition

ATTACHMENT 1 – DETAILED RECOMMENDATIONS

1. **Data Types**. The following data types should be available via Green Button Connect My Data (“CMD”):
 - a. Historical energy usage (kWh of electricity and therms of gas) over 24-48 months, at whatever time interval collected by the meter
 - b. Ongoing energy usage (kWh of electricity and therms of gas), available as quickly as possible after being collected, with the “quality” of reading marked
 - c. Historical and ongoing line items on bills (and associated quantities) over 24-48 months
 - d. Account number(s)
 - e. Meter number(s), if applicable
 - f. Premise address(es)
 - g. What rate the customer is on (by meter or premise, if applicable)
 - h. Any information necessary to determine eligibility for, or participate in, a demand response, energy efficiency or renewable energy program
2. **Standards and Implementation Architecture**. LDCs including gas utilities should:
 - a. Provide CMD to all customer types
 - b. Certify CMD implementations every 2-3 years
 - c. Provide customer information from (1) above using the “Retail Customer” schema
 - d. Provide a consistent customer authorization experience among all LDCs
 - e. Incentivize and encourage a centralized implementation (not necessarily centralized data storage), particularly among small and medium LDCs; and a customer served by multiple utilities can grant an authorization once
3. **Eligibility Criteria of Third Parties**. LDCs should be required to provide customer data to any third party who meets these criteria:
 - a. provides contact information;
 - b. demonstrates technical interoperability with CMD;
 - c. accepts certain terms and conditions, to be approved by the Ministry;
 - d. not be on the Ministry’s list of “banned” or prohibited third parties
4. **Terms of Use**. The Ministry should establish province-wide terms of use for third parties that:

- a. are reasonable and appropriate, balancing the interests of third parties using the platform and customer privacy and security;
 - b. are open and non-discriminatory, meaning that any third party agreeing to the terms and conditions is entitled to receive customer data upon customer consent;
 - c. permit third parties to use information technology (“IT”) vendors to interact with CMD platforms; and
 - d. should not be changed or modified by LDCs.
5. **Authorization Language and Format.** The LDCs’ web-based authorization forms should be submitted for Ministry approval and should:
- a. succinctly describe the information to be shared;
 - b. display the third party’s name and the purpose for which it seeks customer information;
 - c. use icons and clickable links in order to hide larger blocks of text from the initial presentation, while making larger blocks of text accessible should a customer want to learn more; and
 - d. be consistent among all LDCs.
6. **Streamlined User Experience.** The LDCs should provide a user experience for customers that:
- a. adheres to OAuth 2.0 and best practices;
 - b. requires the minimum number of “clicks” of a customer, including one click for authorization (after authentication has been completed);
 - c. supports alternative methods of authenticating customers who do not have, or do not want, an online account with the LDC;
 - d. is no more onerous for customers than the process a LDC requires for a similar online transaction;
 - e. is consistent across all LDCs in Ontario, in order to simplify customer education efforts; and
 - f. supports the option of demand response aggregators to facilitate enrollment of their customers without requiring logging in to the LDC’s website (i.e., the customer can enroll entirely from the aggregator’s website and user experience, without going to the LDC’s website).
7. **Tools and Information for Third Parties.** LDCs should provide:
- a. an online technical support ticketing system for third parties that have questions or detect errors in the platform;
 - b. a testing environment and a production environment to assist with on-boarding third parties;

- c. publicly-available, web-based methods for third parties to register and to provide thorough technical documentation, including API samples, updated at least monthly; and
 - d. the ability for a third party to register multiple times with the platform to accommodate different products or services from the same entity.
8. **Revocation of a Data-Sharing Authorization.**
- a. Any customer should be able to quickly and easily view, manage and revoke their authorizations at any time on a LDC's website;
 - b. A third party may revoke an authorization, such as in cases if the third party discontinues a product or service; and
 - c. A LDC may not revoke any authorization.
9. **Enforcement.** A LDC with a reasonable suspicion of wrongdoing shall notify the Ministry, who has 21 days to gather information and resolve the issue. Punishment of third parties may include suspension or termination.
10. **Accountability of Platform Operations.** LDCs shall provide:
- a. Web-based reporting of performance metrics, including
 - i. Number of customers and web page views
 - ii. Number and type of errors generated
 - iii. Data delivery time (in seconds)
 - iv. Web page loading times (in milliseconds)
 - b. A service-level agreement ("SLA") with these attributes:
 - i. 99.5% uptime guarantee
 - ii. Meet timetables for acknowledgment and resolution of technical issues
 - iii. Data delivery within 90 seconds
11. **LDC Liability.** LDCs should not be liable for misuse of customer data provided that:
- a. The LDC has operated the CMD platform prudently, and
 - b. Has followed the enforcement procedures described above.