EXTERNAL



Smart Metering Entity (SME) <u>Time-of-Use Mandate Progress Report</u> Through December 31, 2010

Issue 5.0 - January 20, 2011

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1. Introduction

1.1 Purpose

The purpose of this report is to provide a monthly update to the Ontario Energy Board on the Smart Metering Entity's readiness and performance and the progress in respect to distributor integration with the Meter Data Management and Repository (MDM/R). This report includes information and status updates on:

- The Smart Metering Entity (SME) and the MDM/R Readiness Any issues relevant to the ability of the SME and the MDM/R to support MDM/R enrolment and TOU implementation, such as resourcing, software operation, and processing performance.
- Distributor (LDC¹) Readiness Integrating with the MDM/R is a prerequisite to enable LDCs to execute their individual TOU rollout strategies and contribute to Ontario's provincial targets for total customers on time-of-use (TOU) rates. This report includes information regarding LDC progress against their project plans, testing activities and MDM/R enrolment activities both achieved and projected.

1.2 How to Use this Document

This report presents information and status updates on SME and MDM/R readiness (in Section 2) and distributor readiness and MDM/R enrolment progress (in Section 3). More information about the provincial Smart Metering Initiative, the MDM/R and the implementation of Time-of-Use rates is available on the websites of the Ministry of Energy (<u>http://www.mei.gov.on.ca/</u>), the Ontario Energy Board (<u>http://www.oeb.gov.on.ca/OEB/Industry</u>) and the IESO/SME (<u>http://www.smi-ieso.ca/</u>).

SME and MDM/R readiness will include updates on implementation and testing for new MDM/R software, processing performance, status of resourcing and training programs, and any other issues that may affect the implementation of mandatory TOU.

Distributor readiness and MDM/R enrolment progress will be communicated using a series of tables, some summarizing aggregate results and others detailing by individual LDC. The tables provided in the report are:

- MDM/R Cutover Targets Outlook
- MDM/R Enrolled Meter Counts by Distributor
- Distributor Testing Activities with the MDM/R (Three Month Outlook)
- MDM/R Enrolment Wave Calendar (2010 2011)

Each table is accompanied by a description of its contents and how to interpret it. The information contained in three of the tables is interrelated and these relationships are described below.

¹ LDCs in Ontario (meaning each Local Distribution Company or "distributor" as defined in the Ontario Energy Board Act, 1998)

- The MDM/R Enrolment Wave Calendar contains detailed schedules for the planned enrolment testing and cutover to production that each LDC has provided to the SME. The Wave Calendar includes updates received from LDCs verbally and through project plan submissions. If an LDC's self-certification for enrolment testing has been accepted by the SME, this is also indicated on the MDM/R Enrolment Wave Calendar. Verbally provided milestone information, while shown in the calendar, is not included in any of the other tables. The information in this table can be further refined based on the SME's assessment of an organisation's readiness. The basis for such refinements can include our interactions with the LDC's project team, along with observed levels of testing activity in the MDM/R testing environments.
- MDM/R Cutover Targets uses the actual number of LDCs enrolled in the MDM/R production environment and the number of meters that they have each enrolled at the end of each month. It projects forward the number of LDCs that will be enrolled in subsequent time periods based on the MDM/R Enrolment Wave Calendar.
- The Distributor Testing Activities with the MDM/R (Three Month Outlook) projects those LDCs that will be in System Integration Testing, Qualification Testing and Cutover activities over the next three months from the MDM/R Enrolment Wave Calendar.

2. SME and MDM/R Readiness – Relevant Issues

2.1 MDM/R Operation and Software Testing

The Smart Metering Entity (SME) continues to experience stable operation in the MDM/R production environment under Release 6.3 (R6.3) of the EnergyIP software solution. Where risks have been identified we feel that they are manageable. Where production incidents have occurred, recoveries have been executed and remediation and monitoring steps taken. While the growth of meters enrolled in the MDM/R over the last six months has been dramatic, the expected growth in the next six months is even higher. Therefore, more stringent performance testing will be required in the coming months to assure the MDM/R will continue to support the ramp up to full provincial volumes. Despite these challenges that lie ahead, we remain confident that we can continue to adequately support distributor enrolment and the implementation of TOU billing under the Board's TOU mandate.

Overall, LDC regression and enrolment testing under R 7.0 has gone well with the exception of a recently identified defect that needs to be addressed before the promotion of R7.0 can proceed. The EnergyIP software vendor has developed a fix for this defect and the IESO, IBM and LDCs will need to test it before a new deployment schedule can be established. The testing will be completed expeditiously to support the implementation of R7.0 in production as soon as possible.

The MDM/R is processing meter read data for one-third of the province and providing TOU billing data for more than one million customers. It is now an integral part of the meter-to-bill process for many LDCs and therefore its reliable operation is the SME's highest priority. Remaining on R6.3 for the time being until an effective resolution can be found enables the SME to fulfill our most important obligation to our users and will ensure the system continues to work effectively for all LDCs.

2.2 **Processing Performance**

The MDM/R continues to process meter read data at processing rates that support the current volume of smart meters reporting daily data to production. In December, 100% of meter read data were processed according to contracted service levels. By the end of December, the MDM/R was processing daily meter read data from over 1.6M meters.

In December, 100% of the meter master data updates, including enrolment of new smart meters into the MDM/R, processed via the synchronization interface were processed within the contracted service levels. Synchronization files that are submitted to enroll large numbers of new smart meters in production (typically greater than 15,000) continue to be scheduled in advance with the SME for coordination purposes. This is necessary only for the initial ramp up of large numbers of smart meters and will not be needed once full production volumes have been reached.

2.3 Resourcing

The SME continues to make resources available to LDCs in support of their time of use implementation plans. There were no significant resource changes in December.

2.4 Training

The SME continues to adjust our training and workshop session offerings to meet the needs of the LDCs. Training sessions on the use of the MDM/R's graphical user interface (GUI) are conducted both on-site at our facilities and at LDC facilities. Please refer to the SME website (<u>http://www.smi-ieso.ca/training</u>) for more details on training and the training calendar for the first half of 2011.

2.5 Additional Risks and Issues

Measurement Canada

In December, the IESO contracted for the development and delivery of software to support the 2011 Measurement Canada solution requirements within the required timeframes, and for software to enable early LDC testing of the new billing interface.

In late December, the IESO distributed the first draft of the high-level target deployment schedule for the 2011 Measurement Canada Solution. While the schedule is aggressive, the IESO has taken several steps to mitigate the risk of delivering to this schedule. These risk mitigation measures include:

- Close collaboration with the software vendor in the development of the 2011 Measurement Canada Solution requirements and high-level design.
- The IESO will participate in a detailed design walkthrough prior to the completion of the design phase of the software development lifecycle.
- The IESO has committed to provide the test scenarios and the test cases to the software vendor for use in their quality assurance program for the 2011 Measurement Canada Solution.

A Meeting of the Cumulative Register Read Working Group (CRRWG) is scheduled for mid-January to have a final review of the 2011 Measurement Canada solution requirements and to present the rollout schedule to the working group members. This session will complete the work of the CRRWG, with all future activities being handled through other existing forums.

The IESO agreed to provide Measurement Canada with sample meter data so they could get a better quantitative understanding of how the various AMI technologies in the province behave with respect to differences between interval data, cumulative register reads and TOU billing quantities. The gathering of this data is underway with delivery to Measurement Canada targeted for early March.

Distributor Enrolment Schedules

The Smart Metering Entity (SME) is actively engaged with the distributors to facilitate their Enrolment process and to help them meet their TOU mandated dates.

At the end of 2010 there were a total of 15 LDCs in production. An additional 5 are scheduled to cutover in early January bringing the total to 20 LDCs in production on R6.3 with 2.2M meters enrolled. In light of the delay in the R7.0 deployment, some of the LDCs who are completing enrolment testing and are scheduled for cutover in early February might wish to cutover under R6.3 instead of waiting for R7.0. The SME will work with these LDCs on a one-on-one basis to determine optimal enrolment schedules to help them meet their provincial TOU rollout objectives.

During December, nine distributors adjusted their schedules to defer a significant portion of their enrolment activities in 2011. There are 18 distributors scheduled to be in enrolment testing concurrently in January, 22 in February and 22 in March 2011. These numbers are down from previous projections. Eighteen LDCs are projected to be cutover to Production in Q1 2011.

Despite the trend for fewer concurrent LDCs enrolling in Q1 of 2011, if the situation occurs where the SME's enrolment capability cannot concurrently meet LDC demand, the SME would need to defer one or more LDC's enrolment test schedules to a less congested time period. In this case the SME would work with all the affected LDCs to identify an acceptable alternate schedule that would have as little impact as possible.

There are no additional issues to report with respect to the SME and the MDM/R readiness for this month.

3. Distributor Readiness – MDM/R Integration and Meter Enrolment

3.1 December Highlights

Distributors in formal enrolment testing in December included Chapleau, Espanola, Essex Power, Lakeland, Northern Ontario Wires, Oakville Hydro, Orillia Power, Oshawa, PUC Distribution, Sioux Lookout and West Perth.

Lakeland Power and Oshawa successfully completed enrolment testing and cutover to Production under EnergyIP R6.3in mid-December.

West Perth, Oakville, Essex, PUC and Espanola are scheduled to cutover to Production under EnergyIP R6.3 in mid-January 2011.

3.2 MDM/R Cutover Targets

The MDM/R Cutover Targets table provides both actual and projected numbers of LDCs that have been or are to be cutover to MDM/R production operations in each calendar quarter. Monthly breakdowns are provided for the current quarter only. For information on which specific LDCs are included in the *Production LDCs* column for each time period refer to the MDM/R Enrolment Wave Calendar. The *RPP Eligible Customers* column contains the aggregate total for all the LDCs included in the *Production LDCs* column. LDC filings with the OEB include their total RPP eligible customers and these figures form the basis for the aggregated figures reported in this table. The *Enrolled in MDMR* column contains the aggregate total number of smart meters for those LDCs that are included in the Production LDCs column. It is included in this table to track the ramp-up of enrolled meters after the LDCs complete their cutover to MDM/R production operations. The source of these figures is the LDC filings with the OEB. The number of meters enrolled in the MDM/R for Lakeland Power was not available and therefore the source used for the December report was the MDM/R. The % complete figure at the bottom of the table indicates the percentage of the total RPP eligible customers enrolled in the MDM/R as of the reporting date.

| As of | MD | M/R Cutover Ta | argets |
|---|---------------------|---------------------------|--------------------|
| December 31, 2010 | Production LDCs | RPP Eligible Customers | Enrolled in MDMR |
| Actuals - Based on Producti | on LDCs data | | |
| Pre- Q2 2010 | 9 | 2,931,214 | 2,137,461 |
| Q3 2010 | 2 | 152,967 | 12,692 |
| Q4 2010 | | | |
| October 2010 | 0 | 0 | 0 |
| November 2010 | 2 | 57,878 | 55,369 |
| December 2010 | 2 | 60,714 | 9,099 |
| Actual Totals for LDCs in Production | 15 | 3,202,773 | 2,214,621 |
| Projected - Based on enrol | ment plans subm | nitted to the SM | E |
| Q1 2011 | 18 | 323,397 | |
| Q2 2011 | 25 | 581,940 | |
| Q3 2011 | 10 | 178,340 | |
| Q4 2011 | 4 | 109,985 | |
| 2012 | 1 | 34,754 | |
| Projected Totals for Committed LDCs | 58 | 1,228,416 | |
| Totals (Actual and Projected) | 73 | 4,431,189 | 2,214,621 |
| Not Committed - LDCs have | e not provided ei | nrolment plans | |
| Schedules not yet determined | 3 | 283,688 | |
| Totals including non- committed LDCs | 76 | 4,714,877 | 2,214,621 |
| % Complete of total RPP Eligib Enrolled in the MDM/R | le Customers | 47 | 7.0% |
| Notes: (1) "RPP Eligible Custon | ners" are the total | customers report | ed to the OEB that |

will ultimately be put on TOU rates and whose smart meters will be enrolled in the MDM/R.

(2) "Enrolled in MDMR" represents the number of "RPP Eligible Customers" whose smart meters are currently enrolled in the MDM/R.

3.3 MDM/R Enrolled Meter Counts by Distributor

The MDM/R Enrolled Meter Counts by Distributor table shows each MDM/R production LDC's progress in enrolling smart meters over the previous month. The total meters enrolled in the previous and the current reporting months are provided, along with the net increase or decrease over the period. Note that in some cases there may be a small decrease in the number of meters enrolled from month to month. This reflects the routine day to day activities within an LDC's operation that involve the removals and deactivations of meters. The source of the data in the *Total Meters Enrolled* and the *Total RPP Eligible Customers* columns come from data filed by the LDCs with the OEB. The number of meters enrolled in the MDM/R for Lakeland Power was not available and therefore the source used for the December report was the MDM/R. The *% Complete* column indicates what percentages of the Total RPP Eligible Customers are enrolled in MDM/R production as of the end of the reporting period.

| As of December 31, 2010 | Μ | IDM/R Enrolle | d Meter Count | s by Distribut | or |
|----------------------------|---|---|---|------------------------------------|--------------------------------------|
| Distributor | Total Meters Enrolled through 30-Nov | Total Meters Enrolled through 31-Dec | Increased Meter Enrolment this Month | Total RPP Eligible Customers | % Complete for Production LDCs |
| Chatham-Kent | 22,714 | 28,710 | 5,996 | 31,520 | 91.1% |
| Halton Hills | 8,807 | 12,480 | 3,673 | 20,461 | 61.0% |
| Horizon Utilities | 158,798 | 213,452 | 54,654 | 232,279 | 91.9% |
| Hydro One | 690,930 | 843,719 | 152,789 | 1,191,502 | 70.8% |
| Hydro One Brampton | 212 | 212 | 0 | 132,506 | 0.2% |
| Hydro Ottawa | 34,973 | 34,973 | 0 | 297,306 | 11.8% |
| Lakeland Power | 0 | 8,899 | 8,899 | 9,366 | 95.0% |
| Milton Hydro | 27,364 | 27,465 | 101 | 27,465 | 100.0% |
| Newmarket Tay | 29,672 | 29,672 | 0 | 31,953 | 92.9% |
| Oshawa PUC | 0 | 200 | 200 | 51,348 | 0.4% |
| PowerStream | 257,254 | 270,587 | 13,333 | 316,208 | 85.6% |
| Tillsonburg | 6,279 | 6,305 | 26 | 6,630 | 95.1% |
| Toronto Hydro | 581,162 | 581,162 | 0 | 691,566 | 84.0% |
| Veridian | 107,542 | 107,721 | 179 | 111,415 | 96.7% |
| Waterloo North | 48,035 | 49,064 | 1,029 | 51,248 | 95.7% |
| Total Meter Counts | 1,973,742 | 2,214,621 | 240,879 | 3,202,773 | 69.1% |

3.4 Distributor Testing Activities with the MDM/R (Three Month Outlook)

The System Integration Testing, Qualification Testing and Cutover timelines provided in this table are sourced from the details in the Enrolment Wave Calendar. Unit testing timelines are provided by each LDC in their MDM/R project plan. Those LDC's names that appear in black are entering unit testing for the first time in the indicated month. Note that Enrolment Testing (SIT and QT) and Cutover to MDM/R production operations may be postponed and rescheduled for some LDCs if the number of LDCs being concurrently tested exceeds the support capacity of the SME (i.e. enrolment of up to six LDCs per month).

| As of | Di | stributor Testing Activities with | the MDM/R |
|-------------------|---------------------|-----------------------------------|--------------------|
| December 31, 2010 | | (Three Month Outlool | k) |
| | Jan-11 | Feb-11 | Mar-11 |
| In Unit Testing | Bluewater | Atikokan Hydro | Bluewater |
| | Burlington Hydro | Bluewater | Brant County Power |
| | COLLUS Power | Brant County Power | Brantford Power |
| | E.L.K. Energy | Brantford Power | Burlington Hydro |
| | Festival Hydro | Burlington Hydro | Centre Wellington |
| | Greater Sudbury | Clinton Power | Clinton Power |
| | Guelph Hydro | E.L.K. Energy | E.L.K. Energy |
| | Haldimand County | Festival Hydro | Embrun |
| | Hearst Power | Greater Sudbury | Festival Hydro |
| | Innisfil Hydro | Haldimand County | Fort Frances |
| | Kingston Hydro | Hearst Power | Hearst Power |
| | Kitchener-Wilmot | Hydro Hawkesbury | Hydro 2000 |
| | Lakefront Utilities | Kingston Hydro | Hydro Hawkesbury |
| | London Hydro | Midland Power | Kingston Hydro |
| | Midland Power | Niagara Peninsula | Niagara Peninsula |
| | Niagara Peninsula | Norfolk Power | Norfolk Power |
| | Niagara-on-the-Lake | North Bay Hydro | North Bay Hydro |
| | North Bay Hydro | Orangeville Hydro | Ottawa River |
| | Orangeville Hydro | Parry Sound | Peterborough |
| | Parry Sound | Peterborough | Renfrew Hydro |
| | Renfrew Hydro | Renfrew Hydro | St. Thomas |
| | St. Thomas | St. Thomas | Welland Hydro. |
| | Wasaga | Wasaga | Whitby Hydro |
| | Wellington North | Wellington North | |
| | Whitby Hydro | Whitby Hydro | |
| | Woodstock Hydro | | |

| Asof | Di | stributor Testing Activities with t | |
|-------------------|------------------------|-------------------------------------|------------------------------------|
| December 31, 2010 | | (Three Month Outlook |) |
| | Jan-11 | Feb-11 | Mar-11 |
| n Enrolment | COLLUS Power | COLLUS Power | Atikokan Hydro |
| esting-SIT | Erie Thames | Erie Thames | Greater Sudbury |
| | Guelph Hydro | Greater Sudbury | Haldimand County |
| | Innisfil Hydro | Guelph Hydro | Kingston Hydro |
| | Kitchener-Wilmot | Haldimand County | London Hydro |
| | Lakefront Utilities | London Hydro | Niagara Peninsula |
| | Middlesex Power | Midland Power | North Bay Hydro |
| | West Coast Huron | Niagara-on-the-Lake | Orangeville Hydro |
| | Woodstock Hydro | Orangeville Hydro | St. Thomas |
| | | Parry Sound | Wasaga |
| | | Wasaga | Wellington North |
| | | Wellington North | Whitby Hydro |
| n Enrolment | Chapleau | COLLUS Power | Atikokan Hydro |
| esting-QT | Middlesex Power | Erie Thames | COLLUS Power |
| | Northern Ontario Wires | Guelph Hydro | Erie Thames |
| | Orillia Power | Innisfil Hydro | Greater Sudbury |
| | Sioux Lookout | Kitchener-Wilmot | Guelph Hydro |
| | West Coast Huron | Lakefront Utilities | Haldimand County |
| | Woodstock Hydro | Middlesex Power | Innisfil Hydro |
| | | Niagara-on-the-Lake | London Hydro |
| | | Sioux Lookout | Midland Power |
| | | West Coast Huron | Niagara Peninsula |
| | | Woodstock Hydro | Niagara-on-the-Lake |
| | | | Orangeville Hydro |
| | | | Parry Sound |
| | | | Wasaga |
| | | | Wellington North |
| | | | Whitby Hydro |
| | Espanola | Chapleau | COLLUS Power |
| Cutover | | Middlesex Power | |
| | Essex Power | | Erie Thames |
| | Oakville Hydro | Northern Ontario Wires | Innisfil Hydro Kitchonor Wilmot |
| | PUC Distribution | Orillia Power | Kitchener-Wilmot |
| | West Perth Power | Sioux Lookout | Lakefront Utilities |
| | | West Coast Huron | Middlesex Power |
| | | | Niagara-on-the-Lake |
| | | | Parry Sound |
| | | | West Coast Huron |
| | | | Woodstock Hydro |

3.5 MDM/R Enrolment Wave Calendar (2010 – 2011)

The MDM/R Enrolment Wave Calendar is an integrated plan illustrating the three formal enrolment testing milestones of SIT, QT and Cutover for all non-production LDCs. The background colour for each LDC's name indicates the source of the information used in the calendar:

- Green indicates that the LDC has submitted a project plan, completed Unit testing and the SME has accepted the LDC's Self-Certification for Enrolment Testing.
- Blue indicates that the SME has reviewed and accepted the LDC's project plan.
- Yellow either indicates that the SME has not received a project plan but has received verbal confirmation of the LDC's three enrolment testing milestones or that the LDC has verbally indicated that it will re-submit a new plan. This information is not used for projecting LDC cutover dates in any of the other charts in this report.
- Red indicates that the LDC has not shared their plan with the SME.
- White indicates a production LDC that has completed Cutover.

The RPP eligible customer counts come from data filed by the LDCs with the OEB. As LDC plans change, the reason code will indicate one of five possible reasons.

- 1. The change may have been initiated by the SME due to resource or system constraints.
- 2. The LDC may have re-submitted a new plan.
- 3. The LDC may have missed timelines for their project tasks and therefore was not ready to proceed in accordance with their plan.
- 4. The LDC may have entered enrolment testing but subsequently had to withdraw because they were unable to successfully complete the tests.
- 5. The LDC's previous plan has changed but they have not re-submitted a new plan.

When an LDC's schedule is changed, the milestones for the previous schedule remain on the calendar but are greyed out.

Finally, each section on the timeline represents a one week period starting on a Monday.

| MDM/ As of Dec 31 | R Enrolment Wave C | Calendar | | | | | | | | | | Current wave indicated by: S SIT - normally 2 weeks Q QT - normally 4 weeks Previous wave indicated by: S Q | | | | | | | | | | | | | iiy 4 v | week | eks C Cutover - normally 2 weeks | | | | | | | | | | | | | | | | | |
|----------------------|--|---|----|----------|-----|-------------------------|-----------|--------------|----------|------------|----------|---|----------------|-----------------------|--------------|-----|---------------------------------------|--------------|------------|---------|----------------|--------|-----|--------------|-----------|------------|----------------------------------|-----------|-----|-----|-----------|-----|---------|--------------|---------------------|--------------------|-------------|---------------------|---------------------|-------------|-------------------|---------|--------------|---------------|
| | | Reason for Latest Change | м | M | им | мм | м | мм | м | мм | м | мм | мм | мм | м | мм | м | м | M | им | м | мм | им | м | м | м | и м | м | мм | м | м | м | M | м | м | MN | Лм | м | м | мг | MN | M N | | м |
| | | Reason Code: 1: IESO Change 2: LDC Plan change 3: LDC Not Ready 4: LDC Wave Failure | | | | | | | | | | February March | | | | | | | | | | | | | | | | | | | | | | | | | October | | | | | | | |
| | | 5: Update pending | 29 | Dec 6 | | 2 Dec Janu 2 Janu | Jar 10 | лаг 17 24 | Jar 1 | 14 7 14 | 21 21 | Tef Wa | в Ш 14 2 | eg g ≥ 28 21 28 | dy 4 | d 4 | d d d d d d d d d d d d d d d d d d d | 2 Ma | 9 1 | ew 6 23 | В 30 | ounr 6 | | - | | 1n) # # | | | | | | | | 26 P | 3 | 0 0 10 11 | 7 24 | 0 31 | 9 7 | 2 2 14 2 | 2 2 2 2 2 2 | | 5 1 | อั 12 |
| | 1 | | D | ec : | 201 | 0 | | | | | | | | | | | | | J | an | uar | y t | o D | De | cei | mb | ber | 20 |)11 | | | | | | | | | | | | | | | |
| RPP Eligible | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lustomers | LDC Name | | | | | _ | | | | | | | | - | | | | П | | 1 | | | 1 | T | | | Т | | | | | | T | | П | - | | Π | П | Т | T | Т | — | Т |
| 1,686 | Algoma Power Inc. Atikokan Hydro Inc. | 2 | | \vdash | + | | ++ | | + | | + | S | SC | QQ | | 0 | C | C | + | + | \vdash | - | + | \vdash | \vdash | + | + | + | + | - | \vdash | -+ | + | \vdash | ┢╋┥ | + | + | \vdash | ⊢┼ | + | + | + | + | + |
| 34,942 | Bluewater Power Distribution Corp. | 2 | + | \vdash | + | + | + | SC | 0 | QQ | | | | a a | 4 | × | | | + | + | \vdash | c | C | 0 | 0 | QC | | C | C | - | \vdash | -+ | + | \vdash | ┢┼┥ | + | + | ┢┼┥ | ┝┼ | + | + | + | + | + |
| 94,942 9,546 | Bluewater Power Distribution Corp. Brant County Power Inc | 2 | + | \vdash | + | + | ++ | 5 5 | Q | u u | Q | | ┝╌┝╴ | + | s | S C | | Q | 0 | | ┢┼┥ | 5 | S | Q | Q | | × | 0 | U | + | \vdash | -+ | + | ⊢ | ┢┼┥ | + | + | ┢┼┥ | ┝┼ | + | + | + | + | + |
| 37,258 | Brant County Power Inc Brantford Power Inc. | 2 | | | | | ++ | | + | | \vdash | | \vdash | + | | | | Q. | | | S | S Q | | 0 | 0 | C | 2 0 | c | QC | 0 | 0 | | | \vdash | ┢┼┥ | + | + | \vdash | ⊢┼ | + | + | + | + | + |
| 57,258 | Burlington Hydro Inc. | 2 | | | | - | | | | | + | | | _ | | S | 9 | 0 | 0 0 | | 3 | | | Q | Q | | , 0 | 0 | | Q Q | Q | | , , | - | ++ | + | + | + | \vdash | + | + | + | + | + |
| 53,258 50,164 | Cambridge & North Dumfries Hydro Inc. | 2 | | \vdash | + | | ++ | | + | | + | | \vdash | + | \vdash | 3 | 3 | 4 | <u>u</u> (| × Q | + | | - | \vdash | \vdash | + | + | + | + | - | \vdash | -+ | + | \vdash | ┢╋┥ | + | + | s | S | 0 | | | + | 2 |
| 5,536 | Centre Wellington Hydro Ltd. | 2 | | | | - | | | | | + | | | - | | | | | S S | | Q | 0 0 | C | C | | | | | | | | | + | + | ┢─┼ | + | + | | | | | | - | - |
| ,274 | Chapleau Public Utilities Corp. | 2 | | | ╉ | 0 | | QQ | | 0.0 | ┢┼ | + | \vdash | + | \vdash | | + | ┝╶┦ | | | w l | x v | | | | + | | + | -+ | | \square | -+ | + | \vdash | ┢┼┥ | + | + | ┢┼┥ | \vdash | + | + | + | + | + |
| ,274 ,632 | Clinton Power Corp. | 2 | | | S | | | | | | <u> </u> | | | _ | c | S C | | | 0 | c c | | _ | - | | | | - | | | - | | | + | + | ┢┼┥ | + | + | + | \vdash | + | + | + | + | + |
| ,632 ,496 | CNPI - EOP | 2 | | | 3 | 3 | | u u | Q | QU | | | | - | 3 | 3 6 | | Q | | | | _ | | | | | - | | | - | | c (| | 0 | | QQ | | | C | C | + | + | + | + |
| ,490 5,489 | CNPI - Fort Erie | 2 | | | | - | | | | | | | | _ | | _ | - | | _ | _ | | _ | - | | | | | | | - | | S S | s Q | | _ | | · · | _ | C | 0 | + | + | ┿ | + |
|),147 | CNPI - Port Colborne Hydro Inc | 2 | | | | - | | | | | | | | | | | | | _ | | | | - | | | | | | | | | | | Q | _ | _ | _ | _ | C | с С | + | + | + | + |
| .5,440 | Collus Power Corp | 2 | | | | - | 9 | \$ 0 | S | S Q | | 0 0 | | | | | | | _ | | | | - | | | | | | | | | 0 | | | | | | | | <u> </u> | + | + | + | + |
| .,780 | Cooperative Hydro Embrun Inc. | 2 | | | | - | 0 | 5 4 | | | S S | y y | | | | | + | | | S S | 0 | QQ | 0 | | | 6 | | | | | | | + | \vdash | ++ | + | + | + | \vdash | + | + | + | + | + |
| L1,062 | E.L.K. Energy Inc. | 2 | | | | | | | | | + | | | | | | | | | | | S Q | | 0 | 0 | | | | | | | | + | + | ┢─┼ | + | + | + | \vdash | + | + | + | + | + |
| 188,444 | Enersource Hydro Mississauga Inc. | 3, 5 | 0 | QC |) | | | С | С | | | | | | | | - | | | - | | | | Q | 4 | | | | | - | | | + | + | + | + | + | + | \vdash | + | + | + | + | + |
| 33,675 | ENWIN Powerlines Ltd. | 0, 0 | 4 | 9 0 | < | | | | | | | | | | | | - | | | | | | - | | | | | | | - | | | + | + | + | + | + | H | \vdash | + | + | + | + | + |
| 14,151 | Erie Thames Powerlines Corp. | 2 | | | | S | S | 0 0 | S | S Q | Q | 00 | CC | С | | | | | | | | | | | | | | | | | | | + | - | \vdash | + | + | Ħ | H | + | + | + | + | + |
| 3,286 | Espanola Regional Hydro Distribution Corp. | 2 | С | | | C | C | ~ ~ | | | ~ | ~ ~ | | | | | | | | | | | | | | | | | | | | | + | + | \vdash | + | + | Ħ | H | + | + | + | + | + |
| 27,825 | Essex Power Lines Corp. | 1 | | 0 0 | Q | 0 0 | C | | | | | | | | | | | | | | | | | | | | | | | | | | + | + | \vdash | + | + | + | \vdash | + | + | + | + | + |
| 19,335 | Festival Hydro Inc. | 2 | 4 | | | | | | | | + | | Ģ | S S | 0 | Q S | S | 0 | Q | | | C C | | | | | | | | | | | + | + | \vdash | + | + | \vdash | \vdash | + | + | + | + | + |
| 3,727 | Fort Frances Power Corp. | 2 | | | | | | | | | | | | | _ | S C | _ | | | C | С | | | | | | | | | | | | + | + | \vdash | + | + | + | \vdash | + | + | + | + | + |
| 45,991 | Greater Sudbury Hydro Inc. | - | | | | | | | | | | S S | 00 | 0 0 | | _ | | | • | | | | | | | | | | | | | | + | + | \vdash | + | + | + | \vdash | + | + | + | + | + |
| 10,041 | Grimsby Power Inc. | 2 | | | | | | | | | | | ~ ~ | | ~ | 000 | | | | | | | | | | | | | S S | 0 | 0 | 0 (| | С | C | QC | : 0 | H | \vdash | + | + | + | + | + |
| 18,044 | Guelph Hydro Electric Systems Inc. | 2 | | | | | | | S | S O | 0 | QQ | | | C | С | | | | | | | | | | | | | | × | × | | 4 | | | | <u> </u> | \square | \vdash | + | + | + | + | + |
| 20,822 | Haldimand County Hydro | 2 | | | | - | 9 | \$ 0 | | | | S Q | 0 | | | C C | | | _ | | | | | | | | | | | | | | + | + | ++ | + | + | + | \vdash | + | + | + | + | + |
| 2,504 | Hearst Power Distribution Company Ltd | 2 | Q | 0 | + | C | C | | Q I | a a | | | a c | <u>-</u> v | | s s | | 0 | 0 | | С | C | + | ┢ | ┝┼ | + | + | + | + | + | \vdash | -+ | + | \vdash | ┢╋ | + | + | ┢┼┥ | \vdash | + | + | + | + | + |
| L,186 | Hydro 2000 Inc. | 2 | Q | S S | + | | | | + | | ┢┼┤ | -+ | \vdash | + | ┝╴┞ | 5 5 | - | v | | S S | | | | - | \vdash | - | | \square | -+ | - | \vdash | -+ | + | \vdash | ┢┼┥ | + | + | ┢┼┥ | ┢┼┥ | + | + | + | + | + |
| 5,403 | Hydro Hawkesbury Inc. | 2 | | | + | | ++ | - | + | - | ┢┼┤ | + | c | S S | Q | 0 0 | | С | _ | S | | | | 0 | C | C | | | + | + | \vdash | -+ | + | \vdash | \vdash | + | + | ┢╋ | \vdash | + | + | + | + | + |
| 14,633 | Innisfil Hydro Distribution Systems Ltd. | 2 | С | С | ┽┦ | | + | S S | 0 | QQ | 0 | C | C | | × | × 0 | | F | ~ | | | 4 4 | | a a | | | + | + | -+ | + | \vdash | - | + | \vdash | \vdash | + | + | + | \vdash | + | + | + | + | + |
| 5,515 | Kenora Hydro Electric Corp Ltd | 2 | ~ | | ┽┦ | + | + | | ~ | | | | | + | \vdash | | + | S | SC | 2 0 | Q | Q | С | C | | -+ | + | + | -+ | | \square | -+ | + | \vdash | \vdash | + | + | ++ | \vdash | + | + | + | + | + |
| 26,627 | Kingston Hydro Corporation | 2 | | | + | + | + | | S | SO | Q | QQ | (| C S | S | QC | 0 | - | CC |) | | | | | H | - | 1 | \top | - | 1 | | | + | \vdash | \vdash | + | + | \square | \vdash | + | + | + | + | + |
| 35,621 | Kitchener-Wilmot Hydro Inc. | 2 | | CC | ; | | \square | S S | _ | QQ | _ | | CC | С | | | | | | | \uparrow | | 1 | \vdash | \square | - | + | + | -+ | 1 | \square | | + | \vdash | \vdash | + | + | \square | \vdash | + | + | + | + | + |
| 9,445 | Lakefront Utilities Inc. | 2 | _ | S S | | | | | | QQ | | CC | | | $ \uparrow $ | | 1 | $ \uparrow $ | + | | $[\uparrow]$ | | | 1 | | \uparrow | | \square | | 1 | | | + | \square | $\uparrow \uparrow$ | + | \top | $\uparrow \uparrow$ | $ \uparrow\uparrow$ | + | + | + | + | 十 |
| 40,499 | London Hydro | 2 | | | | + | | | | QQ | | | QC | QQ | Q | | С | С | + | | \uparrow | | 1 | | H | | 1 | \top | | 1 | | | + | \vdash | \vdash | + | + | \square | \vdash | + | + | + | + | + |
| | Middlesex Power Distribution Corp. (bought | | | | + + | | | | | QQ | | 0 | | | | | | | + | | | | 1 | \mathbf{T} | \square | - | + | + | - | 1 | | | + | 1 | \vdash | + | + | \square | \vdash | + | + | + | + | + |
| 7,721 | Newbury(185) and Dutton (622)) | | | | | | 0 | | | | | U | | | | | _ | \square | | _ | \square | | _ | | Щ | | \bot | | | _ | | | \perp | \vdash | \square | \perp | \perp | Щ | \square | \perp | \perp | \perp | \downarrow | \downarrow |
| 6,805 | Midland Power Utility Corp | 2 | | S | S S | | \square | S | S | QS | S | QQ | QC | Q | С | С | | \square | | _ | \square | | | 1 | Щ | | | | | _ | | | \perp | \vdash | \square | \perp | \perp | Щ | \square | \perp | \perp | \perp | \perp | \downarrow |
| 49,080 | Niagara Peninsula Energy Inc. (includes Peninsula West @ 14,351) | 2 | | | | | | | | | | | s s | S Q | Q | Q C | C | С | | | | | | | | 1 | | | | 1 | | | | 1 | | | | | | | | | | |
| 7,761 | Niagara-on-the-Lake Hydro Inc. | 2 | 0 | S S | | 0 | 0 | SS | 0 | SS | 0 | QQ | 0 | | | | | | + | | + | | - | 1 | \square | | + | + | | + | | | + | + | \vdash | + | + | + | \vdash | + | + | + | + | + |
| 18,736 | Norfolk Power Distribution Inc. | <u> </u> | Q. | 0 0 | , , | | Q. | 0 0 | Q I | 0 0 | × | | | S Q | S | SC | | 0 | 0 0 | | \vdash | | + | | ⊢┤ | + | + | + | + | + | \vdash | -+ | + | \vdash | \vdash | + | + | ┢╌┥ | \vdash | + | + | + | + | + |
| 23,475 | North Bay Hydro Distribution Limited | | | | + | _ | ++ | - | + | - | ┢┼┤ | + | S S | _ | | | _ | | | | ┞┤ | | - | + | \vdash | + | + | + | -+ | - | \vdash | -+ | + | \vdash | ┢┼┥ | + | + | ┢┤ | ┢╋╋ | + | + | + | + | + |
| | Rohan Bay Hyaro Distribution Limiteu | | | | | | | | | | 1 | | 0 0 | 5 | S. | a G | L CA | | U | | 1 | | | 1 | 1 | | | | 1 | 1 | 1 | | \perp | — | + | \perp | <u> </u> | + | \mapsto | + | + | + | + | \rightarrow |

| MDM/ As of Dec 31 | R Enrolment Wave (| | | | | | | | | | ed by: ted by: | ÷ | | S S | SIT - nc | ormally | Q QT - normally 4 weeks | | | | | | | | C Cutover - normally 2 weeks | | | | | | | | | | | | | | | | | | | |
|----------------------|--|--|-----------|------|------|------|-------|----------------------|---|----|-------------------|-----------------------|-----|--------|----------|---------|-------------------------|----------------|-----------|--------|-------------------|------------|---------|---------|------------------------------|-----------|--------|-----------|----------|--------|------|------|------|----------|---------|---------|---------|-----|-----------|---------|-----|-----|-----------|-----|
| | | Reason for Latest Change | м | MN | им | м | ими | им | м | мм | мм | лм | мм | м | м | мм | м | мм | им | м | мм | - м | ми | M M | им | м | мм | м | м | | м | мі | | лм | м | M | им | M | м | MN | м | м | м | м |
| | | Reason Code: 1: IESO Change 2: LDC Plan change 3: LDC Not Ready 4: LDC Wave Failure 5: Update pending | 29 | 6 13 | 3 20 | 27 3 | | Vanuary 5 January | | | | o reutuary 2 March | | | April | | April | 5 May 6 Mav | May 16 | Van 23 | 50 May on June | June 13 | aune 20 | Aunt 27 | # July | # July | 5 July | ∞ August | 5 August | August | Sept | Sept | Sent | October | October | October | October | Nov | Nov | Nov | Dec | Dec | Dec 19 | Dec |
| RPP Eligible | | | D | ec 2 | 201 | 0 | | | | | | | | | | | | | Ja | nu | ary | ' to | De | ece | em | be | er 2 | <u>01</u> | 1 | | | | | | | | | | | | | | | |
| Customers | LDC Name | | _ | | _ | _ | _ | | | _ | | | - | - | | - | | | | | | <u>г т</u> | - | - | - | | | | - | | - | | - | | _ | | - | 1 | | | - | | | |
| 61,820 | Oakville Hydro Electricity Distribution Inc. | | Q | QC | 2 Q | (| C | \parallel | | | | | | | | | | | + | | | \square | | + | _ | \square | | + | -+ | + | | | | + | | | | _ | \square | + | + | | \vdash | |
| 11,126 | Orangeville Hydro Ltd. (includes Grand | | \square | | | | | | | | 5 | SS | QQ | Q | Q | C C | | | \square | | | Щ | | | | Щ | | \square | | | | | | \perp | | | | | Ц | \perp | | | \perp | |
| 12,637 | Orillia Power Distribution Corp. | 2 | | S S | | (| Q Q (| QQ | (| CC | | | | | | | | | | | | \square | | | | \square | | | | | | | | Ť | | | | | \square | | | | \square | |
| 10,301 | Ottawa River Power Corp. | 2 | Q | QC | C (| | | | | | | | S | S | Q | QQ | Q | C C | S | S | QQ | Q | Q | | | С | С | | | | | | | | | | | | | | | | | |
| 3,291 | Parry Sound Power Corp. | | | | | | | | | S | S C | Q | QQ | С | С | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 34,754 | Peterborough Distribution Inc. | 2 | | | | | | | | | | | | | | | | | | | S | S | Q | Q | Q | | С | С | | | | | | | | S S | S | | Q | Q Q | Q | | . | |
| 32,347 | PUC Distribution Inc. | 2 | Q | QC | 2 | (| C C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3,748 | Renfrew Hydro Inc. | 2 | | | | | | | | | | | S | S | Q | QS | S | QQ | l Q | Q | Q C | С | Q | | С | С | | | | | | | | | | | | | | | | | | |
| 5,750 | Rideau St. Lawrence Distribution Inc. | 2 | | | | | | | | | | | | | | | | | | | | | | | | | S | S | Q | ຊີເ | Q | C (| 0 | | | | | | | | | | | |
| 2,706 | Sioux Lookout Hydro | 1 | S | S S | ; | | Q(| QQ | Q | С | С | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16,153 | St. Thomas Energy Inc. | | | | | | | | | | | | S | S | Q | QQ | Q | C C | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 48,974 | Thunder Bay Electricity Distribution Inc. | 2 | | | | | | | | | | | | | | | | | | | S S | Q | Q | Q Q | 1 | С | С | | | | | | | | | | | | | | | | | |
| 11,999 | Wasaga Distribution Inc. | 2 | | | | | | | | | 5 | SS | QQ | Q | Q | C C | | | | | | | | | | | | | | | | | | | | | | | | | | | , | |
| 21,684 | Welland Hydro-Electric System Corp. | 2 | | | | | | | | | | | | | | | | | S | S | QQ | Q | Q | C | С | | | | | | | | | | | | | | | | | | , | |
| 3,579 | Wellington North Power Inc. | 2 | | S S | ; | | QS | S S | Q | QQ | S S | S Q | QQ | Q | С | С | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3,721 | West Coast Huron Energy Inc. | | | | | 3 | s s (| _ | Q | _ | CC |) | | | | | | | | | | П | | | | | | | | | | | | | | | | | | | | | | |
| 2,047 | West Perth Power Inc. | 2 | Q | QC | 2 | (| C C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | - | | | | |
| 21,648 | Westario Power Inc. | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | 3 | S S | Q | Q | 2 Q | 1 | С | С | | | | - | | | | |
| 39,226 | Whitby Hydro Energy Services Corp. | | | | | | | | | | | S | S Q | Q | Q | QC | С | | | | | | | | | | | | | | | | | 1 | | | | | | - | | | | |
| 14,872 | Woodstock Hydro Services Inc. | 2 | Q | QC | 2 | (| C S S | S Q | Q | QQ | (|) C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,512,104 | Non production total customer count | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | + | | | | | | + | | | | |
| 1- 1- | MDMR Production LDCs | | | | | | | | | | | | | | LL | | | | | | | | | - | | | | | | | - | | | <u> </u> | | | | | | | | | | |
| 31,520 | Chatham-Kent Hydro Inc. | | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20,461 | Halton Hills | | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 232,279 | Horizon Utilities Corporation | | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,191,502 | Hydro One | | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 132,506 | Hydro One Brampton Networks Inc. | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 297,306 | Hydro Ottawa Limited | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9,366 | Lakeland Power Distribution Ltd. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 27,465 | Milton Hydro | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 31,953 | Newmarket Hydro Ltd./Tay Hydro | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 51,348 | Oshawa PUC Networks Inc. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 316,208 | PowerStream Inc | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6,630 | Tillsonburg Hydro Inc. | | _ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 691,566 | Toronto Hydro Electric Services Ltd. | | _ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 111,415 | Veridian Connections | | _ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 51,248 | Waterloo North Hydro Inc. | | _ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3,202,773 | Production total customer count | | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4,714,877 | All LDC total customer count | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | ct plan submitted | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | l indication of major milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | plan submitted | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | nent self-certification accepted | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| White = Produc | tion LDC | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |