



Smart Metering Entity (SME)

Time-of-Use Mandate Progress Report

Through April 30, 2012

Issue 21.0 - May 20, 2012

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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). This report focuses on updates through the end of the indicated month. However, in the area of MDM/R readiness (Section 2) important updates that occurred between the end of the reporting month and the date the report is submitted to the OEB will also be reported. 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 (http://www.mei.gov.on.ca/), the Ontario Energy Board (http://www.smi-ieso.ca/).

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 (2012)

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

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.

- 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 the MDM/R Enrolment Wave Calendar 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.

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SME and MDM/R Readiness – Relevant Issues

2.1 MDM/R Operation and Software Testing

The Smart Metering Entity (SME) continues to effectively support distributor enrolment and the implementation of TOU billing under the Board's TOU mandate.

The MDM/R production environment continued to experience stable and reliable operation prior to and after the promotion of EnergyIP Release 7.2 (April 13 – 15) to production. Following this promotion, the MDM/R was subject to a stabilization period, where the system was closely monitored and a few minor problems were remediated. The stabilization period ended May 1, at which time we began transitioning LDCs to the new billing quantity interface that enables them to comply with Measurement Canada's requirements to include register readings on customers' time-of-use bills.

The SME remains confident that with ongoing tuning and collaborative support of LDCs, the MDM/R will continue to offer a stable system and effectively support LDCs' time-of-use implementation plans and ramp up of meters to full provincial volumes.

2.2 Processing Performance

At the end of April, the MDM/R was supporting 70 LDCs² in production with a total of 4.39 million enrolled smart meters. The MDM/R processed an average of 3.63 million meter reads daily with a single day peak of 4.08 million meters reporting on April 30, 2012.

In April, the MDM/R processed 100% of meter reads, meter master data updates and billing quantities. All processing was within contracted service levels except for:

- a few days where meter read processing was delayed for a few minutes to accommodate significant changes in LDC data submission times,
- one instance where processing was delayed for a few hours, and
- one instance where reprocessing of meter reads was required, associated with the implementation of R7.2.

To help ensure reliable operation of the MDM/R, the SME is continuing to work with LDCs and our vendors to reduce the impact on the MDM/R associated with the poor quality and the delayed submissions of Meter Read data from a few LDCs and their metering providers.

Note: LDCs continue to be asked to schedule their synchronization files in advance whenever they contain an initial ramp-up of more than 15,000 meters in order to avoid conflicting requests. 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.

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² The number of LDCs has been amended to reflect the amalgamation of Chatham Kent Hydro Inc. and Middlesex Power Distribution Company into the new entity, Entegrus Inc.

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 April.

2.4 Training

The SME continues to adjust our training and workshop session offerings to meet the needs of the LDCs. For training details, please refer to the training page and workshop calendar for the first six months of 2012 on the SME website (http://www.smi-ieso.ca/training).

2.5 Additional Risks and Issues

Measurement Canada (MC)

With the stabilization period complete, LDCs have started to transition to the new billing quantity interface that will deliver register readings for inclusion on customer TOU bills. The SME has asked each production LDC to provide a schedule of when they want the necessary modifications to be made in the MDM/R to enable their transition. Once this is complete, it is the LDC's responsibility to implement its own strategy and plan for migrating their TOU customers to bills that include register readings.

To date, 26 LDCs are in the process of making the MDM/R transition that will enable them to receive register readings for billing.

The MDM/R functionality known as Measurement Canada 2011 and Measurement Canada 2012 Part 1 solutions were deployed as part of Release 7.2. The development of additional MDM/R functionality to further fulfill Measurement Canada's requirements (known as the "Measurement Canada 2012 Solution Part 2") is well underway. Delivery of this solution by eMeter is targeted for May 2012. Implementation dates for these elements are to be determined.

Distributor Readiness – MDM/R Integration and Meter Enrolment

3.1 May Highlights

By the end of April there were 70 LDCs in production with 4.39 million meters enrolled in the MDM/R.

Enrolment activities in April included:

- Enrolment Testing in Progress: Peterborough Distribution.
- Cutover to Production: Festival Hydro

Note: At the end of April, there were two LDCs that had not connected to and started testing with the MDM/R.

3.2 MDM/R Cutover Targets¹

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 % 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.

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^{*}As of January 2012, distributors who have implemented TOU for over 98% of their RPP eligible customers are no longer required to report monthly the number of meters enrolled in the MDM/R to the OEB. For a distributor that has met its TOU targets and is no longer reporting to the OEB, their number of meters enrolled will be based on data taken directly from the MDM/R. Additionally, for these LDCs:

[•] if the number of meters enrolled in the MDM/R exceeds their last OEB reported number of RPP eligible customers we will equate their number of RPP eligible customers to the MDM/R meters enrolled count.

[•] if the number of meters enrolled in the MDM/R is less than their last OEB reported number of RPP eligible customers, we will retain the RPP eligible customers last reported to the OEB.

April 30, 2012	MDM/R Cutover Targets					
	Production LDCs	RPP Eligible Customers	Enrolled in MDMR			
Actuals - Based on Production	LDCs data					
Pre- Q2 2010	9	2,975,200	2,756,914			
Q3 2010	2	156,991	156,731			
Q4 2010	4	121,530	120,948			
Q1 2011	13	283,496	284,220			
Q2 2011	14	287,617	287,006			
Q3 2011	16	570,471	548,270			
Q4 2011	5	39,064	37,966			
Q1 2012	6	193,386	193,455			
Q2 2012						
April 2012	1	19,335	213			
May 2012	0	0	0			
June 2012	0	0	0			
Actual Totals for LDCs in	70	4,647,090	4,385,723			
Projected - Based on enrolme	nt plans submitt	ed to the SME				
Q2 2012	1	35,084				
Projected Totals for Committed LDCs	1	35,084				
Totals (Actual and Projected)	71	4,682,174	4,385,723			
Not Committed - LDCs have not provided enrolment plans						
Schedules not yet determined	2	95,737				
Totals including non-committed LDCs	73	4,777,911	4,385,723			
% Complete of total RPP Eligible (Enrolled in the MDM/R	91.8%					

Notes: (1) "RPP Eligible Customers" are the total customers reported 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.

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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 *% 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 April 30, 2012	MDM/R Enrolled Meter Counts by Distributor				
Distributor	Total Meters Enrolled through 31-Mar	Total Meters Enrolled through 30-Apr	Increased Meter Enrolment this Month	Total RPP Eligible Customers	% Complete for Production LDCs
Atikokan Hydro*	1,686	1,657	-29	1,686	98.3%
Bluewater	35,401	35,401	0	35,417	100.0%
Brant County Power*	9,693	9,725	32	9,725	100.0%
Brantford Power*	37,588	37,619	31	37,619	100.0%
Burlington Hydro*	64,475	64,592	117	64,592	100.0%
Cambridge	50,837	50,937	100	50,937	100.0%
Centre Wellington*	6,516	6,519	3	6,519	100.0%
Chapleau*	1,271	1,272	1	1,274	99.8%
CNPI - Fort Erie	28,109	28,196	87	28,203	100.0%
COLLUS Power*	15,798	15,844	46	15,844	100.0%
E.L.K. Energy	10,826	10,834	8	10,834	100.0%
Embrun*	1,944	1,944	0	1,944	100.0%
Enersource	153,264	165,877	12,613	192,337	86.2%
Entegrus*	39,705	40,081	376	40,081	100.0%
Erie Thames*	17,980	17,998	18	17,998	100.0%
Espanola*	3,295	3,298	3	3,298	100.0%
Essex Power*	28,141	28,144	3	28,144	100.0%
Festival Hydro	0	213	213	19,335	1.1%
Fort Frances*	3,732	3,732	0	3,732	100.0%
Greater Sudbury	46,171	46,398	227	46,526	99.7%
Grimsby Power	10,236	10,275	39	10,292	99.8%
Guelph Hydro	48,343	48,374	31	48,044	100.7%
Haldimand County*	20,975	20,993	18	20,993	100.0%
Halton Hills*	20,761	20,776	15	20,776	100.0%
Hearst Power*	2,691	2,691	0	2,691	100.0%
Horizon Utilities*	230,529	230,637	108	233,828	98.6%
Hydro 2000*	1,199	1,199	0	1,199	100.0%
Hydro Hawkesbury*	5,393	5,400	7	5,400	100.0%
Hydro One	1,082,301	1,082,301	0	1,203,401	89.9%
Hydro One Brampton*	135,864	135,955	91	136,215	99.8%
Hydro Ottawa	297,616	298,111	495	303,018	98.4%

Innisfil Hydro*	14,757	14,771	14	14,781	99.9%
Kenora Hydro*	5,531	5,534	3	5,534	100.0%
Kingston Hydro*	26,981	27,005	24	27,005	100.0%
Kitchener-Wilmot*	87,349	87,555	206	87,555	100.0%
Lakefront Utilities	9,575	9,592	17	9,592	100.0%
Lakeland Power*	9,591	9,593	2	9,593	100.0%
London Hydro	146,092	146,266	174	140,499	104.1%
Midland Power*	6,843	6,846	3	6,846	100.0%
Milton Hydro*	29,016	29,449	433	29,449	100.0%
NewmarketTay*	32,674	32,723	49	32,723	100.0%
Niagara Peninsula	48,065	48,114	49	49,871	96.5%
	7,942	7,943	1	7,948	99.9%
Norfalk Bower	,	•		•	
Norfolk Power	17,949	17,951	2	18,858	95.2%
North Bay Hydro	22,516	22,529	13	23,627	95.4%
Northern Ontario Wires*	5,923	5,930	7	5,991	99.0%
Oakville Hydro	63,734	63,734	0	62,981	101.2%
Orangeville Hydro*	11,137	11,172	35	11,172	100.0%
Orillia Power*	12,878	12,893	15	12,893	100.0%
Oshawa PUC*	52,371	52,402	31	52,687	99.5%
Ottawa River*	10,363	10,391	28	10,399	99.9%
Parry Sound*	3,331	3,333	2	3,333	100.0%
PowerStream*	317,536	317,950	414	317,950	100.0%
PUC Distribution	32,605	32,682	77	32,623	100.2%
Renfrew Hydro*	4,154	4,154	0	4,154	100.0%
Rideau St. Lawrence	5,775	5,775	0	5,775	100.0%
Sioux Lookout*	2,698	2,700	2	2,700	100.0%
St. Thomas*	16,337	16,349	12	16,349	100.0%
Thunder Bay*	49,535	49,538	3	49,538	100.0%
Tillsonburg*	6,383	6,386	3	6,683	95.6%
Toronto Hydro	612,241	612,241	0	701,329	87.3%
Veridian*	113,159	113,421	262	113,421	100.0%
Wasaga	12,325	12,329	4	12,332	100.0%
Waterloo North*	52,060	52,567	507	52,567	100.0%
Welland Hydro.	22,002	22,038	36	21,778	101.2%
Wellington North*	3,608	3,612	4	3,612	100.0%
West Coast Huron	3,683	3,651	-32	3,666	99.6%
Westario Power	22,253	22,248	-5	22,011	101.1%
Whitby Hydro*	39,972	40,201	229	40,201	100.0%
Woodstock Hydro*	15,146	15,162	16	15,162	100.0%
Total Meter Counts	4,368,430	4,385,723	17,293	4,647,090	94.4%

*This LDC has implemented TOU for more than 98% of their customers and has been given an exemption by the OEB from having to report monthly enrolment numbers.

Note: Entegrus includes 2 merged LDCs formerly known as Chatham Kent Hydro Inc. and Middlesex Power Distribution Company.

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.

The projected activities for the next four months now include:

• One distributor is scheduled to cut over to production in May.

As of April 30, 2012	Distributor Testing Activities with the MDM/R (Three Month Outlook)			
	May-12	Jun-12	Jul-12	
In Unit Testing				
In Enrolment				
Cutover	Peterborough			

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3.5 MDM/R Enrolment Wave Calendar

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.
- Orange indicates that the LDC is scheduled for amalgamation.

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.

C Cuti Cutover - normally 2 weeks QT - normally 4 weeks MDM/R Enrolment Wave Calendar Q С As of April 30, 2012 Reason for Latest Change 1: IESO Change 2: LDC Plan change 3: LDC Not Ready 4: LDC Wave Failure 5: Update pending RPP Eligible Customers LDC Name Red = No project plan submitted Yellow = Verbal indication of major milestones Blue = Project plan submitted White = Production LDC Orange = Scheduled for amalgamatic MDMR Production LDCs 1.686 Atikokan Hydro Inc. Bluewater Power Distribution Corp. 35,417 9,725 37,619 64,592 Brant County Power Inc Brantford Power Inc. Brantford Power Inc. Burlington Hydro Inc. Cambridge & North Dumfries Hydro Inc. Centre Wellington Hydro Ltd. Chapleau Public Utilities Corp. 50,937 6,519 1,274 15,607 CNP - Fort Erie 9,061 CNP - Port Colborne Hydro Inc 3,535 CNP - EOP 15,844 Collus Power Corp Cooperative Hydro Embrun Inc. 1,944 Cooperative Hydro Embrun Inc. E.L.K. Energy Inc. Enersource Hydro Mississauga Inc. Entegrus Erie Thames Powerlines Corp. (amalgamated with Clinton Power and West Perth Power on June 1, 2011) Espanola Regional Hydro Distribution Corp. Essex Power Lines Corp. Festival Hydro Inc. Festiva 10,834 17,998 3,298 28,144 19,335 Festival Hydro Inc. Fort Frances Power Corp. Guelph Hydro Electric Systems Inc. Greater Sudbury Hydro Inc. Grimsby Power Inc. 3,732 48,044 46,526 10,292 20,993 20,776 Haldimand County Hydro Halton Hills Halton Hills Hearst Power Distribution Company Ltd Horizon Utilities Corporation Hydro 2000 Inc.* 2,691 233,828 1,199 5,400 Hydro Hawkesbury Inc. Hydro One Hydro One Brampton Networks Inc. Hydro Ottawa Limited 1,203,401 136,215 303,018 Hydro Ottawa Limited Innisfil Hydro Distribution Systems Ltd. Kenora Hydro Electric Corp Ltd Kitchener-Wilmot Hydro Inc. Kingston Hydro Corporation Lakefront Utilities Inc. 14,781 5,534 87,555 27,005 9,592 9,593 Lakeland Power Distribution Ltd. 9,593 140,499 6,846 29,449 32,723 7,948 London Hydro Midland Power Utility Corp Milton Hydro Milton Hydro Newmarket Hydro Ltd./Tay Hydro Niagara-on-the-Lake Hydro Inc. Niagara Peninsula Energy Inc. (includes Peninsula West @ 14,351) Northern Ontario Wires Inc. North Bay Hydro Distribution Ltd Norfolk Power Distribution Inc. Oakville Hydro Electricity Distribution Inc. Orangeville Hydro Ltd. (includes Grand Valley (ASS) 49.871 5,991 23,627 18,858 62,981 11,172 Valley (659)) Orillia Power Distribution Corp. Oshawa PUC Networks Inc. 12,893 52,687 Ostawa PUC. Networks Int Ottawa River Power Corp. Parry Sound Power Corp. PowerStream Inc. PUC Distribution Inc. Renfrew Hydro Inc. 10,399 3,333 317,950 32,623 4,154 5,775 2,700 16,349 Rideau St. Lawrence Distribution Inc. Sioux Lookout Hydro St. Thomas Energy Inc. 49,538 Thunder Bay Electricity Distribution Inc. 6,683 701,329 113,421 Tillsonburg Hydro Inc. Toronto Hydro Electric Services Ltd. Veridian Connections 12,332 52,567 21,778 Wasaga Distribution Inc. Waterloo North Hydro Inc. Welland Hydro-Electric System Corp. 3,612 22,011 Wellington North Power Inc. Westario Power Inc. West Coast Huron Energy Inc. Whitby Hydro Energy Services Corp. 3,666 40,201 Woodstock Hydro Services Inc

Production total customer count
All LDC total customer count

4.647.090