EXTERNAL

REPORT

Smart Metering Entity (SME)
Time-of-Use Mandate Progress Report
Through March 31, 2013

Issue 32.0 - April 25, 2013

Table of Contents

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 (LDC[1]) 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), 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.oeb.gov.on.ca/OEB/Industry) and the IESO/SME (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
- MDM/R Enrolled Meter Counts by Distributor
- MDM/R Enrolment Wave Calendar (2013)

Each table is accompanied by a description of its contents and how to interpret it. The information contained in two 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 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.

2. SME and MDM/R Readiness – Relevant Issues

2.1 MDM/R Operation and Software Testing

The Smart Metering Entity (SME) has completed the enrolment of 71 of 72 distributors and their eligible meters under the Board's TOU mandate. The enrolment and transition of remaining customers to TOU billing is subject to the Board's regulatory and exemption processes.

The MDM/R production environment remains stable and reliable, and the SME continues to address LDC support and service requests in a timely manner.

The MDM/R continues to offer a stable, centralized system that effectively supports LDCs with their time-of-use billing. The SME is working with LDCs as they transition to the billing quantity interface that enables them to comply with Measurement Canada's requirements by including register readings on customer's time-of-use bills.

2.2 Processing Performance

At the end of March, the MDM/R was supporting 71 LDCs with a total of 4.6 million enrolled smart meters. In March, the MDM/R processed an average of 12.5% more interval data daily, due to the poor quality of data submitted by some LDCs and their respective AMI agents, which resulted in temporary data estimations as well as the reprocessing of duplicate data submissions.

Last month the SME reported on an issue experienced in early March resulting from the submission of incorrectly time-stamped meter read data that began when clocks were switched to Daylight Saving Time (DST). To prevent future recurrences the SME will be issuing a reminder to LDCs a few weeks before each time change.

In March, primarily due to the substantial DST issue, the MDM/R processed only 95.5% of meter reads within service level time lines. No business impacts from these delays were reported to the IESO by the affected LDCs. The MDM/R processed 100% of meter master data updates, and 100% of billing quantities within contracted service level time lines.

To ensure the reliable operation of the MDM/R, the SME continues to proactively work with LDCs and their metering providers directly to manage the quality and timing of meter read data submissions to the MDM/R.

In early April, the SME and its Operational Service Provider conducted a live recovery exercise simulating the transfer of MDM/R production operations from the primary Production environment to the Disaster Recovery environment. This exercise, which did not affect regular production operations in any way, tested the underlying strategies, processes, procedures, and communication protocols to be used when recovering from a substantial and sustained loss of the primary MDM/R Production environment. From an LDC perspective, these requirements are outlined in the MDM/R Business Continuity Manual that is posted on the SME website. Three LDCs also participated in this exercise, primarily focusing on the communications between the SME and the LDCs throughout the transfer of operations to the Disaster Recovery environment and the subsequent processing of backlogged files. Preliminary results from the exercise indicate that it was successful, and analysis of the results is expected to be completed by early May.

2.3 Resourcing

The SME continues to make resources available to LDCs in support of their time-of-use implementation plans and transition to the interface and measurement profiles required for LDCs to receive and present register reads on electricity bills. There were no significant resource changes in March.

2.4 Training

The SME has completed updating training materials and the training environment to provide a more advanced MDM/R user interface training program for LDCs. This new program includes a variety of scenarios for investigation and exploration stemming from meter read data submission, synchronization and billing exceptions. An internal pilot of the advanced training session is scheduled for April 30, 2013, and further sessions for LDCs are scheduled between June and December 2013. Consult the SME website for the complete 2013 training schedule.

2.5 Additional Risks and Issues

SME INITIATIVES

Smart Metering Charge

The OEB has approved the IESO to recover a charge of $0.788 per Residential and General Service <50kW customer per month effective May 1, 2013 until October 31, 2018. The charge recovers the costs of developing and implementing the Meter Data Management Repository (MDM/R) and its information technology to collect and process data from smart meters throughout the province. Based on the OEB's Decision and Order, the SME has circulated to LDCs the approved "Smart Metering Agreement for Distributors" that articulates the roles and responsibilities of the SME and the LDCs. 48 LDCs have signed this agreement at the time this report was issued.

Transitioning of LDCs to Enable their Receipt of Cumulative Register Reads from the MDM/R for Inclusion on TOU Bills to Customers

By the end of March, 67 LDCs[2] have transitioned to the MDM/R interface enabling them to receive register reads for billing and support their compliance with Measurement Canada requirements. The SME continues to work with the remaining LDCs to obtain and confirm transition schedules.

LDCs are responsible for the inclusion of cumulative register reads on customer's TOU bills by making necessary changes to their own systems, business processes, and by conducting their own tests before transitioning.

Measurement Canada 2012 Phase 2

To further support Measurement Canada requirements, the MC 2012 Phase 2 solution allows LDCs to use the MDM/R for billing based on hourly and periodic consumption. This solution also provides

[2] *This number has been adjusted for the amalgamated LDCs that continue to operate as separate organizations in the MDM/R.*

additional quality indicators for estimated and calculated register reads and the ability to designate externally submitted register reads as estimated.

The following components comprise Phase 2 of the Measurement Canada 2012 solution:

- Calculative reads equality adjustment (periodic and hourly) and related measurement profiles;
- Additional quality indicators for externally estimated and calculated register reads using estimated intervals; and
- Extension of the Trilliant meter readings interface for estimated register reads.

Our expectation is that this software will be made available for LDC testing and be deployed to Production in the fourth quarter of 2013, after the refresh of the MDM/R computing infrastructure is completed.

Green Button Initiative

The Green Button initiative is focused on providing consumers with the ability to download their electricity consumption information in a standard format ("Download My Data") and enabling authorized third party service and application providers, with customer consent, to access electricity consumption information on behalf of consumers from LDCs and the MDM/R ("Connect My Data").

The IESO continues to provide input and advice to the Ministry of Energy, MaRS Discovery District (MaRS), LDCs and industry stakeholders, on the Electricity Data Access Project (EDAP). A working group and sub-committees have been formed to move this initiative forward, with representation from LDCs, the Privacy Commissioner of Ontario, the IESO, the OPA, the OEB and the Ministry.

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

3.1 March Highlights

By the end of March there were 71 LDCs in production with 4.6 million meters enrolled in the MDM/R. The last LDC has completed connectivity testing and will begin Unit Testing in April. This LDC has submitted a project plan and is planning to begin integration testing with the MDM/R in the third and fourth quarters of 2013 with a targeted cutover to production in the fourth quarter of 2013.

3.2 MDM/R Cutover Targets[3]

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.

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.

[3] *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.*

March 31, 2013	MDM/R Cutover Targets		
	Production LDCs	RPP Eligible Customers	Enrolled in MDMR
Actuals - Based on Production LDCs data			
Pre- Q2 2010	9	3,011,681	2,820,140
Q3 2010	2	161,324	161,324
Q4 2010	4	123,200	123,200
Q1 2011	13	286,469	287,418
Q2 2011	14	292,592	292,592
Q3 2011	16	583,108	578,871
Q4 2011	5	39,206	38,172
Q1 2012	6	207,837	207,837
Q2 2012	2	55,195	55,195
Q3 2012	-	-	-
Q4 2012	-	-	-
Q1 2013	-	-	-
Q2 2013			
Q3 2013			
Actual Totals for LDCs in Production	71	4,760,612	4,564,749
Projected - Based on enrolment plans submitted to the SME			
Q4 2013	1	84,491	
Projected Totals for Committed LDCs	72	84,491	
Totals (Actual and Projected)	72	4,845,103	4,564,749
% Complete of total RPP Eligible Customers Enrolled in the MDM/R		95.9%	

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.

3.3 MDM/R Enrolled Meter Counts by Distributor[3]

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 March 31, 2013	MDM/R Enrolled Meter Counts by Distributor				
Distributor	Total Meters Enrolled through 28-Feb	Total Meters Enrolled through 31-Mar	Increased Meter Enrolment this Month	Total RPP Eligible Customers	% Complete for Production LDCs
Atikokan Hydro*	1,671	1,671	0	1,671	100.0%
Bluewater*	35,581	35,590	9	35,590	100.0%
Brant County Power *	9,858	9,870	12	9,870	100.0%
Brantford Power*	37,994	38,041	47	38,041	100.0%
Burlington Hydro*	64,932	64,946	14	64,946	100.0%
Cambridge*	52,104	52,132	28	52,132	100.0%
Centre Wellington*	6,556	6,568	12	6,568	100.0%
Chapleau*	1,276	1,276	0	1,276	100.0%
CNPI*	40,106	40,117	11	40,117	100.0%
COLLUS Power*	16,082	16,082	0	16,082	100.0%
E.L.K. Energy	10,973	10,973	0	10,935	100.3%
Embrun*	1,948	1,949	1	1,949	100.0%
Enersource	189,114	189,169	55	193,920	97.6%
Entegrus*	40,263	40,269	6	40,269	100.0%
Erie Thames*	18,107	18,111	4	18,111	100.0%
Espanola*	3,310	3,312	2	3,312	100.0%
Essex Power*	28,237	28,284	47	28,284	100.0%
Festival Hydro*	19,819	19,837	18	19,837	100.0%
Fort Frances*	3,739	3,739	0	3,739	100.0%
Greater Sudbury*	47,045	47,080	35	47,080	100.0%
Grimsby Power*	10,408	10,411	3	10,411	100.0%
Guelph Hydro*	50,630	50,673	43	50,673	100.0%
Haldimand County *	21,132	21,143	11	21,143	100.0%
Halton Hills*	20,982	21,003	21	21,003	100.0%
Hearst Power*	2,709	2,709	0	2,709	100.0%
Horizon Utilities*	234,210	234,442	232	234,442	100.0%
Hydro 2000*	1,207	1,207	0	1,207	100.0%
Hydro Hawkesbury*	6,537	6,537	0	6,537	100.0%
Hydro One[1]	1,119,560	1,119,644	84	1,208,801	92.6%
Hydro One Brampton*	139,990	140,321	331	140,321	100.0%
Hydro Ottawa*	307,095	307,466	371	307,466	100.0%

Innisfil Hydro*	15,073	15,090	17	15,090	100.0%
Kenora Hydro*	5,573	5,574	1	5,574	100.0%
Kingston Hydro*	27,186	27,191	5	27,191	100.0%
Kitchener-Wilmot*	88,440	88,516	76	88,516	100.0%
Lakefront Utilities*	9,840	9,868	28	9,868	100.0%
Lakeland Power*	9,712	9,715	3	9,715	100.0%
London Hydro*	148,238	148,328	90	148,328	100.0%
Midland Power*	6,894	6,894	0	6,894	100.0%
Milton Hydro*	31,146	31,359	213	31,359	100.0%
NewmarketTay*	33,585	33,659	74	33,659	100.0%
Niagara Peninsula	50,220	50,388	168	49,912	101.0%
Niagara-on-the-Lake*	8,120	8,128	8	8,128	100.0%
Norfolk Power*	19,182	19,189	7	19,189	100.0%
North Bay Hydro	22,647	22,647	0	23,681	95.6%
Northern Ontario Wires*	5,991	5,991	0	5,991	100.0%
Oakville Hydro	64,283	64,357	74	63,408	101.5%
Orangeville Hydro*	11,347	11,347	0	11,347	100.0%
Orillia Power*	13,062	13,075	13	13,075	100.0%
Oshawa PUC*	53,074	53,138	64	53,138	100.0%
Ottawa River*	10,528	10,544	16	10,544	100.0%
Parry Sound*	3,386	3,387	1	3,387	100.0%
Peterborough*	35,328	35,358	30	35,358	100.0%
PowerStream*	325,542	325,851	309	325,851	100.0%
PUC Distribution*	32,992	32,992	0	32,992	100.0%
Renfrew Hydro*	4,182	4,182	0	4,182	100.0%
Rideau St. Lawrence*	5,798	5,801	3	5,801	100.0%
Sioux Lookout*	2,735	2,737	2	2,737	100.0%
St. Thomas*	16,505	16,523	18	16,523	100.0%
Thunder Bay*	49,834	49,840	6	49,840	100.0%
Tillsonburg*	6,683	6,683	0	6,683	100.0%
Toronto Hydro	612,241	612,241	0	714,625	85.7%
Veridian*	115,101	115,209	108	115,209	100.0%
Wasaga*	12,522	12,534	12	12,534	100.0%
Waterloo North*	53,642	53,664	22	53,664	100.0%
Welland Hydro*	22,199	22,204	5	22,204	100.0%
Wellington North*	3,638	3,642	4	3,642	100.0%
West Coast Huron*	3,809	3,809	0	3,809	100.0%
Westario Power*	22,497	22,507	10	22,507	100.0%
Whitby Hydro*	40,691	40,720	29	40,720	100.0%
Woodstock Hydro*	15,283	15,295	12	15,295	100.0%
Total Meter Counts	4,561,924	4,564,749	2,825	4,760,612	95.9%

*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.

[1]Hydro One has been granted an exemption by the OEB from having to report monthly enrolment numbers as a result of TOU implementation for some of their hard-to-reach customers.

3.4 Distributor Enrolment Testing Activities with the MDM/R

The System Integration Testing, Qualification Testing and Cutover timelines identified are sourced from the details in the Enrolment Wave Calendar. Unit testing timelines are provided by each LDC in their MDM/R project plan.

No enrolment testing activity is expected until the third quarter of 2013.

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.

MDM/R Enrolment Wave Calendar

As of March 31, 2013

S SIT - normally 2 weeks
Q QT - normally 4 weeks
C Cutover - normally 2 weeks

Reason for Latest Change	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
Reason Code:																									
1: IESO Change																									
2: LDC Plan change																									
3: LDC Not Ready																									
4: LDC Wave Failure																									
5: Update pending																									
	February	March	April	May	June	July	August	September	September	September	September	September	October	October	October	October	November	November	November	November	December	December	December	December	December
		S						2	9	16	23	30	7	14	21	28	4	11	18	25	2	9	16	23	30
RPP Eligible Customers	LDC Name																									
84,491	ENWIN Powerlines Ltd.								S	S	S	Q	Q	Q	Q	Q			C	C	C					

Red = No project plan submitted
Yellow = Verbal indication of major milestones
Blue = Project plan submitted
Green = Enrolment self-certification accepted
White = Production LDC
Orange = Scheduled for amalgamation

	MDMR Production LDCs
1,671	Atikokan Hydro Inc.
35,590	Bluewater Power Distribution Corp.
9,870	Brant County Power Inc
38,041	Brantford Power Inc.
64,946	Burlington Hydro Inc.
52,132	Cambridge & North Dumfries Hydro Inc.
6,568	Centre Wellington Hydro Ltd.
1,276	Chapleau Public Utilities Corp.
27,520	CNP - Fort Erie
9,075	CNP - Port Colborne Hydro Inc
3,522	CNP - EOP
16,082	Collus Power Corp
1,949	Cooperative Hydro Embrun Inc.
10,935	E.L.K. Energy Inc.
193,920	Enersource Hydro Mississauga Inc.
40,269	Entegrus
18,111	Erie Thames Powerlines Corp.
3,312	Espanola Regional Hydro Distribution Corp.
28,284	Essex Power Lines Corp.
19,837	Festival Hydro Inc.
3,739	Fort Frances Power Corp.
47,080	Greater Sudbury Hydro Inc.
10,411	Grimsby Power Inc.
50,673	Guelph Hydro Electric Systems Inc.
21,143	Haldimand County Hydro
21,003	Halton Hills
2,709	Hearst Power Distribution Company Ltd
234,442	Horizon Utilities Corporation
1,207	Hydro 2000 Inc.
6,537	Hydro Hawkesbury Inc.
1,208,801	Hydro One
140,321	Hydro One Brampton Networks Inc.
307,466	Hydro Ottawa Limited
15,090	Innisfil Hydro Distribution Systems Ltd.
5,574	Kenora Hydro Electric Corp Ltd
27,191	Kingston Hydro Corporation
88,516	Kitchener-Wilmot Hydro Inc.
9,868	Lakefront Utilities Inc.
9,715	Lakeland Power Distribution Ltd.
148,328	London Hydro
6,894	Midland Power Utility Corp
31,359	Milton Hydro
33,659	Newmarket Hydro Ltd./Tay Hydro
49,912	Niagara Peninsula Energy Inc.
8,128	Niagara-on-the-Lake Hydro Inc.
19,189	Norfolk Power Distribution Inc.
23,681	North Bay Hydro Distribution Ltd
5,991	Northern Ontario Wires Inc.
63,408	Oakville Hydro Electricity Distribution Inc.
11,347	Orangeville Hydro Ltd.
13,075	Orillia Power Distribution Corp.
53,138	Oshawa PUC Networks Inc.
10,544	Ottawa River Power Corp.
3,387	Parry Sound Power Corp.
35,358	Peterborough Distribution Inc.
325,851	PowerStream Inc
32,992	PUC Distribution Inc.
4,182	Renfrew Hydro Inc.
5,801	Rideau St. Lawrence Distribution Inc.
2,737	Sioux Lookout Hydro
16,523	St. Thomas Energy Inc.
49,840	Thunder Bay Electricity Distribution Inc.
6,683	Tillsonburg Hydro Inc.
714,625	Toronto Hydro Electric Services Ltd.
115,209	Veridian Connections
12,534	Wasaga Distribution Inc.
53,664	Waterloo North Hydro Inc.
22,204	Welland Hydro-Electric System Corp.
3,642	Wellington North Power Inc.
3,809	West Coast Huron Energy Inc.
22,507	Westario Power Inc.
40,720	Whitby Hydro Energy Services Corp.
15,295	Woodstock Hydro Services Inc.
4,760,612	**Production total customer count**
4,845,103	**All LDC total customer count**