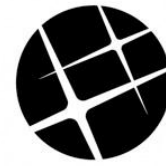


EXTERNAL

REPORT



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**Smart Metering Entity (SME)
Time-of-Use Mandate Progress Report
Through February 28, 2011**

Issue 7.0 - March 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). 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 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)

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 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

Corrective measures taken in response to January's service disruptions were successful and after one more minor incident in early February, the MDM/R returned to normal stable operation for the remainder of the month.

Following extensive testing by the IESO and LDCs, EnergyIP R7.0 was successfully deployed in the MDM/R production environment over the weekend of March 5th to 7th. The MDM/R was returned to normal service levels on March 15th after processing the backlog of LDC submitted files and performance tuning of the system. This major upgrade was completed within a very tight schedule thanks to extensive collaboration between the SME, the production LDCs and our vendors IBM Canada, Ltd. and eMeter Corporation. EnergyIP R7.0 delivered performance improvements, defect corrections and minor new functionality. With this deployment now complete we are confident that the MDM/R will continue to offer a stable system to support the ramp up to full provincial volumes.

The first release of EnergyIP R7.2 that contains the initial implementation of the 2011 Measurement Canada Solution has been deployed on an internal system for initial SME testing. The SME has committed to work closely with the LDCs as the solution rolls-out and therefore we are developing a limited testing mechanism that will give LDCs an early opportunity to test the new Standard XML Billing Interface. The interim testing methodology is expected to be ready in early April and will continue to be supported until the deployment of R7.2 to the Sandbox environment that is targeted for June.

2.2 Processing Performance

During normal operation, the MDM/R continues to process meter read data at rates that support the current volume of smart meters reporting daily data to production. By the end of the month, the MDM/R was processing daily meter read data from over 2 million smart meters.

In February, meter read data processing service levels were met except for several instances involving the meter reads of the largest LDC.

Following the deployment of EnergyIP R 7.0 to the production MDM/R and performance tuning, both meter read data and synchronization processing performance have improved. In February, planning activities for three important data base performance upgrade measures were completed. The implementation of these three measures is expected to occur between April and June. We are therefore confident that the MDM/R will support processing under current and full production volumes.

In February 100% of the meter master data updates, were processed via the synchronization interface within the contracted service levels. 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. Based on the level of

improved performance under R7.0, the SME will assess whether any changes are required to the coordination efforts.

We are targeting to publish an MDM/R Operational Best Practices guide to inform LDCs of required and recommended operating practices to help ensure that the MDM/R continues to operate as efficiently as possible and to meet service levels under increasing processing volumes. Much of this information has already been communicated with the largest LDCs in an MDM/R Operations Workshop conducted in 2010.

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 February.

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 (<http://www.smi-ieso.ca/training>) for more details on training and the training calendar for 2011.

2.5 Additional Risks and Issues

Measurement Canada

The initial portions of core EnergyIP product functionality required for the 2011 Measurement Canada Solution were delivered at the end of January with EnergyIP Release 7.2 including the file-based Standard Billing XML Request/Reply interface. Testing of R 7.2 by the SME is currently underway as planned.

The software for the remaining portions of the 2011 Measurement Canada solution is on track to be delivered according to plan. To support on-time and quality delivery of the software, the IESO participated in a detailed walkthrough session of the design with eMeter during the first week of February and provided detailed test scenarios and test data to eMeter for use in their quality assurance program testing of the new code. The IESO will continue to work closely with the LDCs as the solution rolls out and they prepare their systems.

The IESO agreed to provide Measurement Canada with an analysis of sample meter data so they could get a better quantitative understanding of how the various AMI technologies in the province behave with respect to variances between the consumption indicated by cumulative register reads and that indicated by the sum of corresponding TOU billing quantities. The LDCs have submitted expanded samples of data for the meter types used for each AMI system deployed in Ontario.

The IESO is planning to provide a progress update on the implementation of the Measurement Canada solution and present the results of AMI data analysis to Measurement Canada by early April.

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.

Many distributors adjusted their schedules in February. Most changes were to delay the start of SIT from 2 to 9 weeks although a few distributors brought their SIT start dates forward. Five LDCs removed their plans completely and did not provide new project plans. These changes continue to push more enrolment and cutover activities into the remainder of Q1 and Q2 where we currently have:

- 4 distributors scheduled to complete cutover activities in March, 2 in April, 17 in May and 5 in June.
- 18 distributors scheduled to be in enrolment testing or preparation for cutover in March, 20 in April, 27 in May and 13 in June 2011.

These changes to the overall schedule continue to build pressure on SME Registration and Enrolment resources to manage the volume of LDCs potentially able to be involved in some stage of enrolment testing and cutover concurrently. The SME has increased the number of Registration and Enrolment project managers through the re-assignment of roles within the team to be able to handle more LDCs concurrently. If the situation occurs where the SME's enrolment capability cannot concurrently meet higher than planned LDC demand, the SME may 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 February Highlights

At the end of February there were a total of 25 LDCs in production with 2.6 M meters enrolled in the MDM/R.

Enrolment activities in February included:

- **Cutovers** - Chapleau Public Utilities, Northern Ontario Wires, Orillia Power, Sioux Lookout and West Coast Huron all completed their formal enrolment testing and cutover to production in February. These 5 LDCs were the last to enter the production MDM/R under EnergyIP R6.3. Cutovers will resume again under EnergyIP R7.0 starting during the week of March 21st.
- **Enrolment Testing** - 9 distributors in formal enrolment testing in February included Erie Thames Powerlines, Guelph Hydro, Haldimand County, Innisfil Hydro, Kitchener-Wilmot Hydro, Lakefront Utilities, London Hydro and Woodstock Hydro.
- **Unit Testing** - 19 additional LDCs were engaged in various stages of Unit testing.

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 Toronto Hydro, Sioux Lookout and West Coast Huron was not available and therefore the source used for these numbers in the February 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 February 28, 2011	MDM/R Cutover Targets		
	Production LDCs	RPP Eligible Customers	Enrolled in MDMR
Actuals - Based on Production LDCs data			
Pre- Q2 2010	9	2,936,386	2,355,158
Q3 2010	2	153,547	116,976
Q4 2010	4	119,820	113,366
Q1 2011			
January 2011	5	127,482	103,408
February 2011	5	26,511	22,201
Actual Totals for LDCs in Production	25	3,363,746	2,711,109
Projected - Based on enrolment plans submitted to the SME			
March 2011	4	124,095	
Q2 2011	24	556,542	
Q3 2011	11	197,813	
Q4 2011	5	144,937	
2012	0	0	
Projected Totals for Committed LDCs	44	1,023,387	
Totals (Actual and Projected)	69	4,387,133	2,711,109
Not Committed - LDCs have not provided enrolment plans			
Schedules not yet determined	7	337,458	
Totals including non-committed LDCs	76	4,724,591	2,711,109
% Complete of total RPP Eligible Customers Enrolled in the MDM/R		57.4%	
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

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 Toronto Hydro, Sioux Lookout and West Coast Huron was not available and therefore the source used for these numbers in the February 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 February 28, 2011	MDM/R Enrolled Meter Counts by Distributor				
Distributor	Total Meters Enrolled through 31-Jan	Total Meters Enrolled through 28-Feb	Increased Meter Enrolment this Month	Total RPP Eligible Customers	% Complete for Production LDCs
Chapleau	0	1,239	1,239	1,274	97.3%
Chatham-Kent	28,710	28,710	0	31,809	90.3%
Espanola	3,276	3,273	-3	3,286	99.6%
Essex Power	4,176	4,167	-9	27,850	15.0%
Halton Hills	20,272	20,196	-76	20,555	98.3%
Horizon Utilities	213,452	220,964	7,512	232,774	94.9%
Hydro One	944,928	1,001,708	56,780	1,192,680	84.0%
Hydro One Brampton	212	96,780	96,568	132,992	72.8%
Hydro Ottawa	34,964	44,961	9,997	298,212	15.1%
Lakeland Power	8,905	8,907	2	9,373	95.0%
Milton Hydro	27,465	27,465	0	27,465	100.0%
NewmarketTay	29,672	29,672	0	31,953	92.9%
Northern Ontario Wires	0	5,752	5,752	6,090	94.4%
Oakville Hydro	61,531	61,598	67	61,862	99.6%
Orillia Power	0	11,667	11,667	12,637	92.3%
Oshawa PUC	22,471	47,689	25,218	52,457	90.9%
PowerStream	271,713	281,338	9,625	316,208	89.0%
PUC Distribution	32,342	32,361	19	32,437	99.8%
Sioux Lookout	0	1	1	2,689	0.0%
Tillsonburg	6,298	6,298	0	6,642	94.8%
Toronto Hydro	612,241	612,241	0	693,754	88.3%
Veridian	107,836	108,099	263	111,531	96.9%
Waterloo North	49,860	50,472	612	51,348	98.3%
West Coast Huron	0	3,542	3,542	3,821	92.7%
West Perth Power	2,047	2,009	-38	2,047	98.1%
Total Meter Counts	2,482,371	2,711,109	228,738	3,363,746	80.6%

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 February 28, 2011	<i>Distributor Testing Activities with the MDM/R (Three Month Outlook)</i>		
	Mar-11	Apr-11	May-11
In Unit Testing	Atikokan Hydro Bluewater Brant County Power Brantford Power Burlington Hydro Centre Wellington Clinton Power COLLUS Power E.L.K. Energy Embrun Festival Hydro Fort Frances Greater Sudbury Hearst Power Hydro 2000 Hydro Hawkesbury Kingston Hydro Midland Power Middlesex Power Niagara Peninsula Niagara-on-the-Lake Norfolk Power North Bay Hydro Orangeville Hydro Ottawa River Parry Sound Renfrew Hydro St. Thomas Wasaga Welland Hydro Whitby Hydro	Bluewater Brant County Power Brantford Power Centre Wellington E.L.K. Energy Embrun Festival Hydro Greater Sudbury Hearst Power Hydro 2000 Hydro Hawkesbury Kenora Hydro Niagara Peninsula Ottawa River Parry Sound Renfrew Hydro Welland Hydro	Bluewater Brantford Power Cambridge E.L.K. Energy Embrun Hydro 2000 Hydro Hawkesbury Ottawa River Rideau St. Lawrence Thunder Bay Welland Hydro

As of February 28, 2011	Distributor Testing Activities with the MDM/R (Three Month Outlook)		
	Mar-11	Apr-11	May-11
In Enrolment Testing - SIT	Atikokan Hydro Burlington Hydro COLLUS Power Fort Frances Kenora Hydro Kingston Hydro Middlesex Power Niagara-on-the-Lake St. Thomas Wellington North	Brant County Power Clinton Power Hearst Power Kingston Hydro Niagara Peninsula Norfolk Power Parry Sound Renfrew Hydro Whitby Hydro	Centre Wellington E.L.K. Energy Embrun Festival Hydro Greater Sudbury Hydro 2000 Hydro Hawkesbury Ottawa River Thunder Bay Welland Hydro
In Enrolment Testing - QT	Burlington Hydro COLLUS Power Erie Thames Guelph Hydro Haldimand County Kitchener-Wilmot London Hydro Middlesex Power Wellington North Woodstock Hydro	Atikokan Hydro Brant County Power Burlington Hydro Clinton Power COLLUS Power Fort Frances Kenora Hydro Kingston Hydro London Hydro Middlesex Power Niagara Peninsula Niagara-on-the-Lake Norfolk Power Parry Sound St. Thomas Wellington North	Brant County Power Centre Wellington Clinton Power Embrun Greater Sudbury Hearst Power Hydro 2000 Kingston Hydro Ottawa River Niagara Peninsula Norfolk Power Parry Sound Renfrew Hydro Welland Hydro Whitby Hydro
Cutover	Erie Thames Innisfil Hydro Kitchener-Wilmot Lakefront Utilities	COLLUS Power Haldimand County London Hydro Middlesex Power Wellington North	Atikokan Hydro Brant County Power Burlington Hydro Clinton Power Fort Frances Guelph Hydro Kenora Hydro Kingston Hydro London Hydro Middlesex Power Niagara Peninsula Niagara-on-the-Lake Norfolk Power Parry Sound St. Thomas Wellington North 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.

