

EXTERNAL

REPORT



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**Smart Metering Entity (SME)
Time-of-Use Mandate Progress Report
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 (<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)

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 (<http://www.smi-ieso.ca/training>) 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 R6.3 in 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 MDM/R* 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 December 31, 2010	MDM/R Cutover Targets		
	Production LDCs	RPP Eligible Customers	Enrolled in MDMR
Actuals - Based on Production 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 enrolment plans submitted to the SME			
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 not provided enrolment plans			
Schedules not yet determined	3	283,688	
Totals including non-committed LDCs	76	4,714,877	2,214,621
% Complete of total RPP Eligible Customers Enrolled in the MDM/R		47.0%	
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 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	MDM/R Enrolled Meter Counts by Distributor				
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 December 31, 2010	<i>Distributor Testing Activities with the MDM/R (Three Month Outlook)</i>		
	Jan-11	Feb-11	Mar-11
In Unit Testing	Bluewater Burlington Hydro COLLUS Power E.L.K. Energy Festival Hydro Greater Sudbury Guelph Hydro Haldimand County Hearst Power Innisfil Hydro Kingston Hydro Kitchener-Wilmot Lakefront Utilities London Hydro Midland Power Niagara Peninsula Niagara-on-the-Lake North Bay Hydro Orangeville Hydro Parry Sound Renfrew Hydro St. Thomas Wasaga Wellington North Whitby Hydro Woodstock Hydro	Atikokan Hydro Bluewater Brant County Power Brantford Power Burlington Hydro Clinton Power E.L.K. Energy Festival Hydro Greater Sudbury Haldimand County Hearst Power Hydro Hawkesbury Kingston Hydro Midland Power Niagara Peninsula Norfolk Power North Bay Hydro Orangeville Hydro Parry Sound Peterborough Renfrew Hydro St. Thomas Wasaga Wellington North Whitby Hydro	Bluewater Brant County Power Brantford Power Burlington Hydro Centre Wellington Clinton Power E.L.K. Energy Embrun Festival Hydro Fort Frances Hearst Power Hydro 2000 Hydro Hawkesbury Kingston Hydro Niagara Peninsula Norfolk Power North Bay Hydro Ottawa River Peterborough Renfrew Hydro St. Thomas Welland Hydro. Whitby Hydro

As of December 31, 2010	Distributor Testing Activities with the MDM/R (Three Month Outlook)			
	Jan-11	Feb-11	Mar-11	
In Enrolment Testing-SIT	COLLUS Power	COLLUS Power	Atikokan Hydro	
	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	
	In Enrolment Testing-QT	Chapleau	COLLUS Power	Atikokan Hydro
		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		
Cutover	Espanola	Chapleau	COLLUS Power	
	Essex Power	Middlesex Power	Erie Thames	
	Oakville Hydro	Northern Ontario Wires	Innisfil Hydro	
	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.

