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REPORT

**Smart Metering Entity (SME)
Time-of-Use Mandate Progress Report
Through May 31, 2011**

Issue 10.0 - June 20, 2011

Table of Contents

Table of Contents	1
1. Introduction	2
1.1 Purpose.....	2
1.2 How to Use this Document	2
2. SME and MDM/R Readiness – Relevant Issues	4
2.1 MDM/R Operation and Software Testing	4
2.2 Processing Performance	4
2.3 Resourcing	4
2.4 Training	5
2.5 Additional Risks and Issues	5
3. Distributor Readiness – MDM/R Integration and Meter Enrolment	7
3.1 May Highlights	7
3.2 MDM/R Cutover Targets.....	7
3.3 MDM/R Enrolled Meter Counts by Distributor	9
3.4 Distributor Testing Activities with the MDM/R (Three Month Outlook)	11
3.5 MDM/R Enrolment Wave Calendar (2011-2012).....	13

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 (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 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.

2. 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 under EnergyIP R7.0 continued to experience stable and reliable operation in May, including the addition of 11 LDCs and around 263,000 meters to the MDM/R.

We continue to monitor, project and adjust our resourcing to be able to support more LDCs and their processing volumes.

The IESO remains confident that with ongoing tuning, planned infrastructure improvements, and collaborative support of LDCs, that 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

By the end of May, the MDM/R was supporting 41 LDCs in production with a total of over 3.2 million enrolled smart meters, and regularly processing meter reads from over 2.5 million smart meters on a daily basis.

In May, 100% of the meter reads and 100% of the meter master data updates, including enrolment of new smart meters, were processed within contracted service levels.

The SME continues to monitor and tune the system, including putting in place the necessary infrastructure to support increasing volumes of LDCs and meters towards full provincial volumes.

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. Based on the level of improved performance under R7.0, the SME will assess whether any changes are required to the coordination requirements.

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 May.

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

As previously reported, the initial portions of core EnergyIP product functionality required for the Measurement Canada 2011 Solution, including the file-based XML Billing Service Standard Interface that provides register reads to the LDCs for billing, were delivered at the end of January with EnergyIP Release 7.2. Testing of Release 7.2 by the SME has been underway for several months.

Several LDCs and their agents continue to take advantage of the early testing facility of the new XML Billing Service Standard Interface. This testing facility was created to enable LDCs to do preliminary testing of the new XML interface until a version of R7.2 was promoted to Sandbox, which is now planned to be done by the end of the first week in July.

Although we experienced some delays with early aspects of the solution implementation plan, the software for the remaining portions of the Measurement Canada 2011 Solution was delivered to the SME ahead of schedule. It was installed on May 20, 2011 and is being tested by the SME. Our planned rollout to production of the complete Measurement Canada 2011 Solution is still targeted for late October or early November; however, a previously planned mid August rollout to production of a partial solution has been consolidated into the single rollout.

With the testing conducted to date, the early delivery of the final software components of the Measurement Canada 2011 Solution, and efforts being made to test and implement the solution, we expect that the MDM/R changes to support LDC compliance with Measurement Canada's requirements will be implemented by January 2012.

The SME will continue to work closely with the LDCs as the solution rolls out and they prepare their systems. A workshop with the LDCs to explain the plan for transitioning to receiving register reads for incorporating on customer bills will be held in July.

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 mandated TOU dates.

Through the reallocation of staff and tuning of internal procedures over the last few months, the SME was able to support a record 11 LDCs who completed their enrolment testing and cutover to the production MDM/R environment in May. More than half of the provincial distributors have completed enrolment and, by the end of May, another 26 distributors were actively testing with the MDM/R. With most of the remaining non-production distributors in various stages of preparations to integrate with the MDM/R we are confident that the SME can continue to provide support to LDCs in all stages of enrolment testing.

The projected enrolment and cutover activities for the next four months now include:

- 3 distributors are scheduled to complete cutover to production in June, 8 in July, 7 in August and 1 in September.
- 16 distributors are scheduled to be involved in enrolment testing and/or cutover activities in June, 15 in July, 8 in August and 5 in September.

We no longer consider our ability to accommodate the enrolment schedules of the remaining LDCs to be a risk.

There are no additional risks or 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 May Highlights

In May, a record 11 LDCs completed their Enrolment testing and cutover to the production MDM/R environment. This was more than double the previous max of 5 LDCs in each of January and February. There are now a total of 41 LDCs in production with over 3.2 million meters enrolled in the MDM/R.

Enrolment activities in May included:

- **Cutovers** - 11 LDCs completed their formal enrolment testing and cutover to production. These are Atikokan, Burlington, Collus, Fort Frances, Guelph, Kenora, Middlesex, Midland, Norfolk, Orangeville and Woodstock.
- **Enrolment Testing** - 10 distributors were in formal enrolment testing, including E.L.K. Energy, Hearst Power, Hydro Hawkesbury, Kingston, Niagara-on-the-Lake, Niagara Peninsula, Ottawa River, Renfrew Hydro, Wasaga and Whitby.
- **Unit Testing** - 16 additional LDCs were engaged in various stages of Unit testing.

Note: By the end of May, there were only 9 LDCs remaining who have not connected and begun testing with the MDM/R.

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 Atikokan Hydro, Burlington Hydro, Fort Frances, Kenora Hydro, Lakefront Utilities, Sioux Lookout and Woodstock Hydro were not available from the OEB filings and therefore the source used for these numbers in the May 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 May 31, 2011	MDM/R Cutover Targets		
	Production LDCs	RPP Eligible Customers	Enrolled in MDMR
Actuals - Based on Production LDCs data			
Pre- Q2 2010	9	2,935,644	2,576,078
Q3 2010	2	154,334	153,122
Q4 2010	4	119,690	117,866
Q1 2011	14	278,645	274,386
Q2 2011			
April 2011	1	20,827	20,502
May 2011	11	197,323	149,665
Actual Totals for LDCs in Production	41	3,706,463	3,291,619
Projected - Based on enrolment plans submitted to the SME			
June 2011	3	73,636	
Q3 2011	16	392,933	
Q4 2011	7	157,171	
2012	1	19,335	
Projected Totals for Committed LDCs	27	643,075	
Totals (Actual and Projected)	68	4,349,538	3,291,619
Not Committed - LDCs have not provided enrolment plans			
Schedules not yet determined	8	376,599	
Totals including non-committed LDCs	76	4,726,137	3,291,619
% Complete of total RPP Eligible Customers Enrolled in the MDM/R		69.6%	
<p>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.</p> <p>(2) "Enrolled in MDMR" represents the number of "RPP Eligible Customers" whose smart meters are currently enrolled in the MDM/R.</p>			

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 Atikokan Hydro, Burlington Hydro, Fort Frances, Kenora Hydro, Lakefront Utilities, Sioux Lookout and Woodstock Hydro were not available from the OEB filings and therefore the source used for these numbers in the May 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 May 31, 2011	MDM/R Enrolled Meter Counts by Distributor				
Distributor	Total Meters Enrolled through 30-Apr	Total Meters Enrolled through 31-May	Increased Meter Enrolment this Month	Total RPP Eligible Customers	% Complete for Production LDCs
Atikokan Hydro	0	1	1	1,686	0.1%
Burlington Hydro	0	63,673	63,673	63,447	100.4%
Chapleau	1,250	1,252	2	1,274	98.3%
Chatham-Kent	28,710	31,799	3,089	31,839	99.9%
COLLUS Power	0	15,443	15,443	15,510	99.6%
Erie Thames	13,909	13,963	54	14,206	98.3%
Espanola	3,274	3,277	3	3,288	99.7%
Essex Power	27,134	27,134	0	27,848	97.4%
Fort Frances	0	1	1	3,725	0.0%
Guelph Hydro	0	14,458	14,458	48,044	30.1%
Haldimand County	20,465	20,502	37	20,827	98.4%
Halton Hills	20,474	20,480	6	20,555	99.6%
Horizon Utilities	226,154	226,255	101	232,432	97.3%
Hydro One	1,070,317	1,076,228	5,911	1,193,160	90.2%
Hydro One Brampton	132,298	132,642	344	133,779	99.2%
Hydro Ottawa	77,336	177,159	99,823	298,903	59.3%
Innisfil Hydro	14,481	14,492	11	14,729	98.4%
Kenora Hydro	0	1	1	5,513	0.0%
Kitchener-Wilmot	84,744	85,116	372	86,018	99.0%
Lakefront Utilities	9,439	9,510	71	9,548	99.6%
Lakeland Power	9,462	9,479	17	9,479	100.0%
Middlesex Power	0	7,617	7,617	7,885	96.6%
Midland Power	0	6,821	6,821	6,821	100.0%
Milton Hydro	27,465	27,465	0	27,465	100.0%
NewmarketTay	29,672	29,672	0	32,342	91.7%
Norfolk Power	0	17,430	17,430	18,776	92.8%
Northern Ontario Wires	5,774	5,776	2	6,057	95.4%
Oakville Hydro	61,873	64,088	2,215	61,990	103.4%
Orangeville Hydro	0	10,464	10,464	11,044	94.7%
Orillia Power	11,721	11,790	69	12,637	93.3%
Oshawa PUC	51,006	51,052	46	52,157	97.9%
PowerStream	285,059	285,832	773	312,000	91.6%
PUC Distribution	32,406	32,420	14	32,491	99.8%
Sioux Lookout	1	1	0	2,690	0.0%
Tillsonburg	6,304	6,309	5	6,643	95.0%
Toronto Hydro	612,241	612,241	0	695,750	88.0%
Veridian	109,207	109,427	220	111,753	97.9%
Waterloo North	50,772	51,026	254	51,411	99.3%
West Coast Huron	3,542	3,542	0	3,822	92.7%
West Perth Power	2,014	2,025	11	2,047	98.9%
Woodstock Hydro	0	13,756	13,756	14,872	92.5%
Total Meter Counts	3,028,504	3,291,619	263,115	3,706,463	88.8%

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 May 31, 2011	<i>Distributor Testing Activities with the MDM/R (Three Month Outlook)</i>		
	Jun-11	Jul-11	Aug-11
In Unit Testing	Bluewater Brantford Power Cambridge Centre Wellington Embrun Enersource North Bay Hydro Peterborough Rideau St. Lawrence St. Thomas Thunder Bay Welland Hydro.	Brantford Power Cambridge Centre Wellington Peterborough Rideau St. Lawrence Welland Hydro.	Cambridge Centre Wellington Festival Hydro Peterborough Rideau St. Lawrence

As of May 31, 2011	<i>Distributor Testing Activities with the MDM/R (Three Month Outlook)</i>		
	Jun-11	Jul-11	Aug-11
In Enrolment Testing - SIT	E.L.K. Energy Embrun Enersource Hydro 2000 Niagara Peninsula Parry Sound Renfrew Hydro St. Thomas Wellington North	Brantford Power North Bay Hydro St. Thomas Welland Hydro.	Brantford Power Rideau St. Lawrence
In Enrolment Testing - QT	E.L.K. Energy Hearst Power Hydro Hawkesbury Niagara Peninsula Ottawa River Parry Sound Renfrew Hydro Wasaga Wellington North	E.L.K. Energy Embrun Enersource Hydro 2000 Niagara Peninsula North Bay Hydro Parry Sound Renfrew Hydro St. Thomas Welland Hydro. Wellington North	Brantford Power North Bay Hydro St. Thomas Welland Hydro.
Cutover	Kingston Hydro Niagara-on-the-Lake Wasaga Whitby Hydro	E.L.K. Energy Hearst Power Hydro Hawkesbury Niagara Peninsula Ottawa River Parry Sound Renfrew Hydro Wasaga Wellington North	Embrun Enersource Hydro 2000 North Bay Hydro St. Thomas Welland Hydro. Wellington North

3.5 MDM/R Enrolment Wave Calendar (2011-2012)

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.

