

**EXTERNAL**

**REPORT**



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

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**Issue 8.0 - April 20, 2011**

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# 1. Introduction

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## 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<sup>1</sup>) 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)

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<sup>1</sup> 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**

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### **2.1 MDM/R Operation and Software Testing**

The current production system (EnergyIP Release 7.0 deployed over the weekend of March 4 to 7) is operating reliably and shows performance improvements over the previous release (EnergyIP 6.3) of the MDM/R. With this deployment now complete and ongoing tuning we are confident that the MDM/R will continue to offer a stable system to support the ramp up of LDCs and meters to full provincial volumes.

The SME continues to improve the efficiency and effectiveness of addressing LDC support requests under increasing volumes of LDCs and meters. Since October of last year, we have improved our incident support resolution times by over 10% while supporting over 50% more support requests per week. We continue to monitor, project and adjust our resourcing to be able to support more LDCs and their processing volumes.

Planning and testing for deployment of the next release of the MDM/R, EnergyIP R7.2, which contains the initial components of the Measurement Canada 2011 Solution, is underway. R7.2 has been deployed on an internal system for initial SME testing. The SME will provide a limited testing mechanism in April to provide LDCs an early opportunity to test the new XML Billing Service Standard Interface available with R7.2 and required for the Measurement Canada 2011 Solution.

### **2.2 Processing Performance**

By the end of March, the MDM/R was reliably supporting 29 LDCs with a total of 2.9 million enrolled smart meters, and processing meter reads from over 2 million smart meters on a daily basis.

Following the deployment and performance tuning of EnergyIP R 7.0 to the production MDM/R, both meter read data processing and synchronization performance improved significantly from the prior release of the MDM/R (EnergyIP R 6.3). In March, 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 March.

As reported below, LDCs have continued to make changes to their enrolment and MDM/R integration plans, slipping schedules to Q3/Q4 2011. With most of the large LDCs already integrated with the MDM/R, we have observed that smaller utilities require more support than larger LDCs both prior to and during their MDM/R integration efforts.

To support LDCs changing schedule and their support requirements, the SME expects to maintain enrolment resources into Q3/Q4 2011, by up to 5 months beyond our original resourcing plan.

## 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 were delivered at the end of January with EnergyIP Release 7.2, including the file-based XML Billing Service Standard Interface. Testing of R 7.2 by the SME is currently underway.

The software for the remaining portions of the Measurement Canada 2011 Solution continues to be on track to be delivered according to plan. The SME will continue to work closely with the LDCs as the solution rolls out and they prepare their systems.

As previously committed, the SME completed an analysis of sample meter data provided by LDCs to provide Measurement Canada with a better quantitative understanding of how the various AMI technologies in the province behave with respect to variances between the consumption indicated by the difference between cumulative register reads and that indicated by the sum of corresponding TOU billing quantities that are derived from the interval consumption data.

The SME provided a progress update on the implementation of the Measurement Canada solution and presented the results of AMI data analysis to Measurement Canada on April 7<sup>th</sup>.

A half-day workshop to update LDCs, their agents and vendors on the current status of the MDM/R Measurement Canada 2011 Solution was held on April 14<sup>th</sup>. Over 110 registrants representing 44 organizations participated in the workshop. This workshop offered a functional review of the solution, a review of the high level EnergyIP Release 7.2 Target Deployment Schedule and a discussion of the early testing facilities for the new XML Billing Service Standard Interface.

### 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.

By the end of March, thirty-seven distributors were actively testing with the MDM/R, with most of the remaining distributors that are not already in production in various stages of preparations to integrate with the MDM/R. This means that, together with the 29 production distributors, we have practical and meaningful engagement with 66 of the 76 distributors in the province.

As in previous months, some of the distributors adjusted their schedules in March. More enrolment activities are beginning to slip into Q3/Q4. The projected enrolment and cutover activities for the next 4 months now include:

- 2 distributors are scheduled to complete cutover to production in April, 13 in May, 5 in June and 11 in July.
- 16 distributors are scheduled to be in enrolment testing or cutover activities in April, 28 in May, 17 in June and 13 in July.

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

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### 3.1 March Highlights

At the end of March there were a total of 29 LDCs in production with over 2.9 million meters enrolled in the MDM/R.

Enrolment activities in March included:

- **Cutovers** - Erie Thames Powerlines, Lakefront Utilities, Innisfil and Kitchener-Wilmot all completed their formal enrolment testing and cutover to production in March.
- **Enrolment Testing** - 11 distributors in formal enrolment testing in March included Burlington, Collus Power, Guelph Hydro, Haldimand County, Atikokan, Fort Frances, Kenora, Midland, London Hydro, Middlesex and Woodstock Hydro.
- **Unit Testing** - 26 additional LDCs were engaged in various stages of Unit testing.

Note: By the end of March, there were only 10 LDCs remaining who have not connected and begun integrated 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 Sioux Lookout was not available and therefore the source used for these numbers in the March 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 March 31, 2011	MDM/R Cutover Targets		
	Production LDCs	RPP Eligible Customers	Enrolled in MDMR
<b>Actuals - Based on Production LDCs data</b>			
Pre- Q2 2010	9	2,936,985	2,409,638
Q3 2010	2	153,791	152,240
Q4 2010	4	119,959	116,160
Q1 2011			
January 2011	5	127,584	126,405
February 2011	5	26,509	22,213
March 2011	4	124,221	122,100
<b>Actual Totals for LDCs in Production</b>	<b>29</b>	<b>3,489,049</b>	<b>2,948,756</b>
<b>Projected - Based on enrolment plans submitted to the SME</b>			
Q2 2011	20	553,862	
Q3 2011	14	222,811	
Q4 2011	6	151,378	
2012	0	0	
<b>Projected Totals for Committed LDCs</b>	<b>40</b>	<b>928,051</b>	
<b>Totals (Actual and Projected)</b>	<b>69</b>	<b>4,417,100</b>	<b>2,948,756</b>
<b>Not Committed - LDCs have not provided enrolment plans</b>			
Schedules not yet determined	7	309,631	
<b>Totals including non-committed LDCs</b>	<b>76</b>	<b>4,726,731</b>	<b>2,948,756</b>
<b>% Complete of total RPP Eligible Customers Enrolled in the MDM/R</b>		<b>62.4%</b>	
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 Sioux Lookout was not available and therefore the source used for these numbers in the March 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 March 31, 2011	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
Chapleau	1,239	1,239	0	1,274	97.3%
Chatham-Kent	28,710	28,710	0	31,837	90.2%
Erie Thames	0	13,841	13,841	14,206	97.4%
Espanola	3,273	3,275	2	3,289	99.6%
Essex Power	4,167	27,094	22,927	27,851	97.3%
Halton Hills	20,196	20,474	278	20,555	99.6%
Horizon Utilities	220,964	226,198	5,234	232,991	97.1%
Hydro One	1,001,708	1,047,554	45,846	1,192,171	87.9%
Hydro One Brampton	96,780	131,766	34,986	133,236	98.9%
Hydro Ottawa	44,961	44,952	-9	298,444	15.1%
Innisfil Hydro	0	14,350	14,350	14,655	97.9%
Kitchener-Wilmot	0	84,491	84,491	85,805	98.5%
Lakefront Utilities	0	9,418	9,418	9,555	98.6%
Lakeland Power	8,907	8,988	81	9,454	95.1%
Milton Hydro	27,465	27,465	0	27,465	100.0%
NewmarketTay	29,672	29,672	0	31,953	92.9%
Northern Ontario Wires	5,752	5,772	20	6,090	94.8%
Oakville Hydro	61,598	61,622	24	61,905	99.5%
Orillia Power	11,667	11,659	-8	12,637	92.3%
Oshawa PUC	47,689	50,151	2,462	52,457	95.6%
PowerStream	281,338	283,948	2,610	316,208	89.8%
PUC Distribution	32,361	32,394	33	32,492	99.7%
Sioux Lookout	1	1	0	2,687	0.0%
Tillsonburg	6,298	6,306	8	6,642	94.9%
Toronto Hydro	612,241	612,241	0	694,336	88.2%
Veridian	108,099	108,898	799	111,580	97.6%
Waterloo North	50,472	50,715	243	51,406	98.7%
West Coast Huron	3,542	3,542	0	3,821	92.7%
West Perth Power	2,009	2,020	11	2,047	98.7%
<b>Total Meter Counts</b>	<b>2,711,109</b>	<b>2,948,756</b>	<b>237,647</b>	<b>3,489,049</b>	<b>84.5%</b>

### 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 March 31, 2011	<i>Distributor Testing Activities with the MDM/R (Three Month Outlook)</i>		
	Apr-11	May-11	Jun-11
<b>In Unit Testing</b>	Bluewater Brant County Power Brantford Power Centre Wellington E.L.K. Energy Embrun Enersource Festival Hydro Greater Sudbury Hearst Power Hydro 2000 Hydro Hawkesbury Niagara Peninsula Niagara-on-the-Lake North Bay Hydro Ottawa River Parry Sound Renfrew Hydro St. Thomas Wasaga Welland Hydro. Wellington North	Bluewater Brant County Power Brantford Power Cambridge Centre Wellington E.L.K. Energy Embrun Hydro 2000 Hydro Hawkesbury North Bay Hydro Ottawa River Parry Sound Rideau St. Lawrence St. Thomas Thunder Bay Wasaga Welland Hydro.	Bluewater Brantford Power Cambridge Centre Wellington CNPI - Fort Erie Peterborough Rideau St. Lawrence St. Thomas

As of March 31, 2011	<i>Distributor Testing Activities with the MDM/R (Three Month Outlook)</i>		
	Apr-11	May-11	Jun-11
In Enrolment Testing - SIT	Hearst Power Kingston Hydro Niagara Peninsula Niagara-on-the-Lake Norfolk Power Orangeville Hydro Whitby Hydro	Brant County Power E.L.K. Energy Embrun Festival Hydro Greater Sudbury Hydro 2000 Hydro Hawkesbury Niagara-on-the-Lake North Bay Hydro Ottawa River Parry Sound Thunder Bay Wasaga	Bluewater E.L.K. Energy Festival Hydro Parry Sound Thunder Bay Welland Hydro.
In Enrolment Testing - QT	Atikokan Hydro Burlington Hydro COLLUS Power Fort Frances Kenora Hydro Kingston Hydro London Hydro Middlesex Power Midland Power Niagara Peninsula Norfolk Power Orangeville Hydro	Embrun Greater Sudbury Hearst Power Hydro 2000 Kingston Hydro Niagara Peninsula Niagara-on-the-Lake Norfolk Power North Bay Hydro Orangeville Hydro Ottawa River Wasaga Whitby Hydro	Bluewater Brant County Power E.L.K. Energy Embrun Festival Hydro Greater Sudbury Hydro 2000 Hydro Hawkesbury North Bay Hydro Ottawa River Parry Sound Thunder Bay Wasaga Welland Hydro.
Cutover	Atikokan Hydro COLLUS Power Fort Frances Haldimand County Kenora Hydro London Hydro Middlesex Power	Atikokan Hydro Burlington Hydro Fort Frances Guelph Hydro Hearst Power Kenora Hydro Kingston Hydro London Hydro Middlesex Power Midland Power Niagara Peninsula Norfolk Power Orangeville Hydro Woodstock Hydro	Greater Sudbury Hearst Power Niagara-on-the-Lake North Bay Hydro Wasaga Whitby Hydro

### 3.5 MDM/R Enrolment Wave Calendar (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.
- 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.



