



Smart Metering Entity (SME)

Time-of-Use Mandate Progress Report

Through April 30, 2011

Issue 9.0 - May 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 (<a href="http://www.nei.gov.on.ca/">http://www.nei.gov.on.ca/</a>), the Ontario Energy Board (<a href="http://www.smi-ieso.ca/">http://www.smi-ieso.ca/</a>).

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>&</sup>lt;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.

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# SME and MDM/R Readiness – Relevant Issues

### 2.1 MDM/R Operation and Software Testing

The MDM/R production environment under EnergyIP R7.0 continues to show performance improvements over the previous release (EnergyIP 6.3) and operated reliably in April with one exception as summarized below.

At noon on April 26 an orderly shutdown of the MDM/R was performed to investigate and assess the occurrence of a system error. By 11:30 PM April 27 the problem was corrected and the MDM/R restarted. By 12:30 PM on April 29 the processing of backlogged files was completed and the MDM/R resumed operating within service levels. Analysis determined that the problem was limited to one area of the file storage system where the MDM/R data resides. Throughout the event and during its recovery data integrity was maintained. Measures are now in place to prevent and detect the recurrence of similar problems.

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 April, the MDM/R was supporting 30 LDCs in production with a total of over 3 million enrolled smart meters, and regularly processing meter reads from over 2.3 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 R6.3). Excluding the outage and recovery period from April 26 to April 29, in April 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 April.

### 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 (<a href="http://www.smi-ieso.ca/training">http://www.smi-ieso.ca/training</a>) 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.

On April 20, the SME made available the early testing facility to enable LDC testing of the new XML Billing Service Standard Interface. Several LDCs and their agents have begun to take advantage of this opportunity.

Although we experienced some delays with aspects of the solution implementation plan, the software for the remaining portions of the Measurement Canada 2011 Solution has been developed and is being delivered to the SME ahead of schedule.

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 will be implemented to support LDC compliance with Measurement Canada's requirements by January 2012.

The SME will continue to work closely with the LDCs as the solution rolls out and they prepare their systems.

#### **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.

By the end of April, 34 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 30 production distributors, we have practical and meaningful engagement with 64 of the 76 distributors in the province.

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

- 12 distributors are scheduled to complete cutover to production in May, 2 in June, 10 in July and 3 in August.
- 23 distributors are scheduled to be involved in enrolment testing and/or cutover activities in May, 15 in June, 13 in July and 7 in August.

Although dynamic changes to the overall schedule continue to present challenges for the planning and scheduling of SME Registration and Enrolment resources, the SME continues to accommodate all rescheduling requests and provide support to LDCs in all stages of enrolment testing.

There are no additional issues to report with respect to the SME and the MDM/R readiness for this month.

# Distributor Readiness – MDM/R Integration and Meter Enrolment

### 3.1 April Highlights

At the end of April there were a total of 30 LDCs in production with over 3 million meters enrolled in the MDM/R.

Enrolment activities in April included:

- **Cutovers** Haldimand County completed its formal enrolment testing and cutover to production in April.
- Enrolment Testing 13 distributors were in formal enrolment testing in April included Atikokan, Burlington, Collus Power, Fort Frances, , Kenora, Kingston, London Hydro, Middlesex, Midland, Niagara-on-the-Lake, Norfolk, Orangeville and Whitby.
- Unit Testing 21 additional LDCs were engaged in various stages of Unit testing.

Note: By the end of April, there were only 12 LDCs remaining who have not connected and begun testing with the MDM/R. This number increased compared to last month's report since 2 LDCs abandoned their testing and rescheduled the start date of their Unit Testing activities.

### 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 Haldimand County and Sioux Lookout were not available from the OEB filings and therefore the source used for these numbers in the April 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	MD	M/R Cutover T	argets
April 30, 2011	Production LDCs	RPP Eligible Customers	Enrolled in MDMR
Actuals - Based on Producti	on LDCs data		
Pre- Q2 2010	9	2,934,866	2,466,161
Q3 2010	2	154,027	152,772
Q4 2010	4	119,678	117,544
Q1 2011	14	278,498	271,562
Q2 2011			
April 2011	1	20,820	20,465
Actual Totals for LDCs in Production	30	3,507,889	3,028,504
Projected - Based on enrol	ment plans subm	nitted to the SM	Ξ
May 2011	12	223,965	
June 2011	2	47,176	
Q3 2011	15	436,913	
Q4 2011	5	123,247	
2012	0	0	
Projected Totals for Committed LDCs	34	831,301	
Totals (Actual and Projected)	64	4,339,190	3,028,504
Not Committed - LDCs have	not provided ei	nrolment plans	
Schedules not yet determined	12	385,701	
Totals including non- committed LDCs	76	4,724,891	3,028,504
% Complete of total RPP Eligib Enrolled in the MDM/R	le Customers	64	4.1%

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 Haldimand County and Sioux Lookout were not available from the OEB filings and therefore the source used for these numbers in the April 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 April 30, 2011	M	IDM/R Enrolle	d Meter Count	s by Distribut	or
Distributor	Total Meters Enrolled through 31-Mar	Total Meters Enrolled through 30-Apr	Increased Meter Enrolment this Month	Total RPP Eligible Customers	% Complete for Production LDCs
Chapleau	1,239	1,250	11	1,274	98.1%
Chatham-Kent	28,710	28,710	0	31,839	90.2%
<b>Erie Thames</b>	13,841	13,909	68	14,206	97.9%
Espanola	3,275	3,274	-1	3,288	99.6%
Essex Power	27,094	27,134	40	27,848	97.4%
Haldimand County	0	20,465	20,465	20,820	98.3%
Halton Hills	20,474	20,474	0	20,555	99.6%
<b>Horizon Utilities</b>	226,198	226,154	-44	232,913	97.1%
Hydro One	1,047,554	1,070,317	22,763	1,193,039	89.7%
<b>Hydro One Brampton</b>	131,766	132,298	532	133,472	99.1%
Hydro Ottawa	44,952	77,336	32,384	298,673	25.9%
Innisfil Hydro	14,350	14,481	131	14,692	98.6%
Kitchener-Wilmot	84,491	84,744	253	85,928	98.6%
Lakefront Utilities	9,418	9,439	21	9,555	98.8%
<b>Lakeland Power</b>	8,988	9,462	474	9,476	99.9%
Milton Hydro	27,465	27,465	0	27,465	100.0%
NewmarketTay	29,672	29,672	0	32,342	91.7%
Northern Ontario Wires	5,772	5,774	2	6,057	95.3%
Oakville Hydro	61,622	61,873	251	61,952	99.9%
Orillia Power	11,659	11,721	62	12,637	92.8%
Oshawa PUC	50,151	51,006	855	52,157	97.8%
PowerStream	283,948	285,059	1,111	312,000	91.4%
PUC Distribution	32,394	32,406	12	32,501	99.7%
Sioux Lookout	1	1	0	2,692	0.0%
Tillsonburg	6,306	6,304	-2	6,639	95.0%
Toronto Hydro	612,241	612,241	0	694,933	88.1%
Veridian	108,898	109,207	309	111,662	97.8%
Waterloo North	50,715	50,772	57	51,406	98.8%
West Coast Huron	3,542	3,542	0	3,821	92.7%
West Perth Power	2,020	2,014	-6	2,047	98.4%
Total Meter Counts	2,948,756	3,028,504	79,748	3,507,889	86.3%

# 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 April 30, 2011	Dis	tributor Testing Activities wit (Three Month Outloo	
	May-11	Jun-11	Jul-11
In Unit Testing	Bluewater	Bluewater	Brantford Power
	Brant County Power	Brantford Power	Cambridge
	Brantford Power	Cambridge	Centre Wellington
	Centre Wellington	Centre Wellington	Peterborough
	E.L.K. Energy	Peterborough	
	Embrun	St. Thomas	
	Enersource		
	Greater Sudbury		
	Hearst Power		
	Hydro 2000		
	Hydro Hawkesbury		
	North Bay Hydro		
	Niagara Peninsula		
	Ottawa River		
	Parry Sound		
	Renfrew Hydro		
	St. Thomas		
	Thunder Bay		
	Wasaga		
	Welland Hydro.		
	Wellington North		

As of	Dis	stributor Testing Activities wi	th the MDM/R
April 30, 2011		(Three Month Outlo	
	May-11	Jun-11	Jul-11
In Enrolment	Brant County Power	Bluewater	Brantford Power
Testing - SIT	E.L.K. Energy	E.L.K. Energy	St. Thomas
	Embrun	Enersource	
	Hydro 2000	Niagara Peninsula	
	Hydro Hawkesbury	Parry Sound	
	Niagara Peninsula	St. Thomas	
	Niagara-on-the-Lake	Thunder Bay	
	Ottawa River		
	Parry Sound		
	Thunder Bay		
	Wasaga		
In Enrolment	Embrun	Bluewater	Bluewater
Testing - QT	Hydro 2000	Brant County Power	E.L.K. Energy
	Kingston Hydro	E.L.K. Energy	Enersource
	Niagara-on-the-Lake	Embrun	Niagara Peninsula
	Norfolk Power	Hydro 2000	Parry Sound
	Orangeville Hydro	Hydro Hawkesbury	St. Thomas
	Ottawa River	Niagara Peninsula	Thunder Bay
	Wasaga	Ottawa River	
	Whitby Hydro	Parry Sound	
		Thunder Bay	
		Wasaga	
Cutover	Atikokan Hydro	Niagara-on-the-Lake	Brant County Power
	Burlington Hydro	Wasaga	E.L.K. Energy
	COLLUS Power	Whitby Hydro	Embrun
	Fort Frances		Hydro 2000
	Guelph Hydro		Hydro Hawkesbury
	Kenora Hydro		Niagara Peninsula
	Kingston Hydro		Ottawa River
	Middlesex Power		Parry Sound
	Midland Power		Thunder Bay
	Norfolk Power		Wasaga
	Orangeville Hydro		
	Woodstock Hydro		

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### 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.

## **MDM/R Enrolment Wave Calendar**

Current wave indicated by:

Previous wave indicated by:

S SIT - normally 2 weeks QT-

Q QT - normally 4 weeks

C Cutover - normally 2 weeks

As of April 30, 2011

		3: LDC Not Ready 4: LDC Wave Failure	ج															10	ıst	ıst	rst	ıst				her	October	ber	per	per			Nov.			
		5: Update pending	March	April	April	γprii	April	May	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	May	Мау	June	June	nue	July	Ju S	July	Sin S	Aug (	λugι	λugι	λugι	Sept	Sept	Sept		et of o	Octo	Octo	)cb	2 0	<u> </u>	<u>}</u>	၁၂	) ရင	Sec Dec
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RPP Eligible																																				
Customers	LDC Name																																			
11,566	Algoma Power Inc.								4																	$\perp$	┺	Ш	Ц	$\dashv$	$\bot$	$\bot$		Ц	$\bot$	
1,686	Atikokan Hydro Inc.	2	Q	Q	Q	Q		C	c																				Ш					Ш		
35,165	Bluewater Power Distribution Corp.	2							_			5	SS	_	Q		_	C	C								┷	Ш	Ц	$\dashv$	$\bot$	$\perp$		Ц	$\bot$	
9,546	Brant County Power Inc	2		S	S	Q	Q	Q C	Q C	S		Q					С									$\perp$	┺	Ш	Ц	$\dashv$	$\perp$	$\bot$	$oldsymbol{ol}}}}}}}}}}}}}}}}}}$	Ш	$\dashv$	
37,357	Brantford Power Inc.	2									S		_	Q	Q		C	SS	Q	Q	Q	Q	_	C			┺	Ш	Ц	$\dashv$	$\perp$	$\perp$		Ш	$\bot$	
63,424	Burlington Hydro Inc.	2	Q	Q	Q	Q	S	C	Q	Q		C	;		Ш				$\perp$	<u> </u>			_	_		_	丄	Ш	Ц	$\perp$	_	┸	┸	Ш	$\bot$	
50,363	Cambridge & North Dumfries Hydro Inc.	2							$\perp$																	$\perp$	┸	Ш		S	S	) Q	Q	Q	C	2
6,406	Centre Wellington Hydro Ltd.	2, 3	$\perp$					3	SS	Q	Q	Q	C	С									S	S	Q C	Q	Q	С	С	$\dashv$	$\bot$	$\bot$	╄	Щ	$\bot$	
1,632	Clinton Power Corp.		_	_		_		_	_	_					Ш			4	4	<u> </u>		Ц	_	_	_	_	┺	Ш	Ш	$\dashv$	$\bot$	_	╄	Ш	+	
3,495	CNPI - EOP	2, 5							_	<u> </u>																			С				┷	$\sqcup$	$\perp$	_
15,485	CNPI - Fort Erie	2, 5	_	_		_		_	_	_					Ш			4	4	┞									С				┿	Ш	+	
9,030	CNPI - Port Colborne Hydro Inc	2, 5							4	<u> </u>													S	SC	Q C	Q	Q	Q	С	C	C	<u> </u>	┷	$\sqcup$	$\perp$	_
15,496	Collus Power Corp	2,1	Q	Q	Q	С	С	C	C																	_	丄	Ш	Ш	$\dashv$	$\bot$		↓_	Щ	4	
1,782	Cooperative Hydro Embrun Inc.	2		<u> </u>					S	S		Q					C (								_	_	┺	Ш	Ш	_	_	4	ــــــ	Ш	$\perp$	_
11,088	E.L.K. Energy Inc.	2								<u> </u>	S	S		Q			C (										$\perp$	Ш	Ш	_		$\bot$	$\perp$	Ш	$\dashv$	_
189,384	Enersource Hydro Mississauga Inc.	2		<u> </u>					_	<u> </u>			S	S	Q	Q	Q (	Q		С	С		_			_	┺	Ш	Ш	_		4	┷	Ш	$\dashv$	
83,397	ENWIN Powerlines Ltd.																			<u> </u>						$\bot$	╄	Ш	Ш	$\dashv$	4	4	₩	Н	$\dashv$	
19,335	Festival Hydro Inc.	2, 3, 5	S		_		S	_	_	Q	S	S	Q	Q	Q	_	C (	С		<u> </u>						$\perp$	╄	Ш	Ш	$\dashv$	$\bot$	4	╄	Н	$\dashv$	
3,725	Fort Frances Power Corp.	2			Q			C	_								_	_	4	<u> </u>			_		_	+	+	Щ	Н	$\dashv$	_	+	+	$\dashv$	+	_
46,050	Greater Sudbury Hydro Inc.	2, 5	Q	Q	С	С		SS	3   Q	Q	Q	Q	С	С			_			L						_	_			+	+	+	╄	igapha	+	_
10,056	Grimsby Power Inc.	2			Н		_		$\perp$	+-	_		_	_	Н	_	_	_	S	S	Q	Q	Q	Q	C	) C	Q	С	С	+	+	+	₩	₩	+	-
48,044	Guelph Hydro Electric Systems Inc.	2	Q	_			С									_		_	+	<u> </u>			_		_	+	₩	Ш	Н	4	_	+	┿	$\vdash$	+	_
2,504	Hearst Power Distribution Company Ltd	2, 5		-		S	S	QC	QQ	Q					Н		0	_	_	<u> </u>		_	4		_	+	+	Щ	Н	+	+	+	┿	$\dashv$	+	
1,186	Hydro 2000 Inc.	2	_	_	_	_	0	0 0	S	S		Q			_		C (	С		<u> </u>			_		_	+	+	Н	$\vdash$	+	+	+	+	$\dashv$	+	_
5,403	Hydro Hawkesbury Inc.	2	S	_	_	Q	Q	CC	_	S	S	Q	Q Q	Q	C	С				-						+	+	Н	Н	+	+	+	+	$\dashv$	+	+
5,513 26,693	Kenora Hydro Electric Corp Ltd	2			Q		0	0						-			_	-	+	╂			+	-	-	+	+	Н	$\vdash\vdash$	+	+	+	+	₩	+	+
140,499	Kingston Hydro Corporation	2	5	S	S	Q	Q	Q C	C	С				-			_			<u> </u>			+		-	+	+	Н	$\vdash$	+	+	+	₩	₩	+	-
·	London Hydro	5	Q	Q			C	С		С	С																		Ш							
7,885	Middlesex Power Distribution Corp. (bought Newbury(185) and Dutton (622))	_			Q			С																					Ш					Ш		
6,820	Midland Power Utility Corp	2, 5	S				Q												$\perp$	<u> </u>						_	丄	Ш	Ц	$\dashv$	$\bot$	丄	丄	Ц	$\bot$	
49,438	Niagara Peninsula Energy Inc. (includes Peninsula West @ 14,351)	2	Q											Q	Q	С	С										$oldsymbol{\perp}$		Ц	_	_	$\perp$	$\perp$	$\coprod$	$\perp$	
7,794	Niagara-on-the-Lake Hydro Inc.	2, 3										C	,			_	_		4	<u> </u>			4			4	╄	Ш	Ш	$\dashv$	4	4	╄	Ш	$\dashv$	
18,771	Norfolk Power Distribution Inc.		Q							С		$\sqcup \sqcup$			Ш	_	_	_	4	┞		$\Box$	4	_	_	4	$\bot$	Ш	Ш	$\dashv$	$\bot$	4	╄	Ш	+	
23,504	North Bay Hydro Distribution Ltd	2, 3	_	Q	Q	Q	Q	C	S Q	l Q	Q	QC	C			_	_		4	<u> </u>			4			4	╄	Ш	Ш	$\dashv$	4	4	╄	Ш	$\dashv$	
11,036	Orangeville Hydro Ltd. (includes Grand Valley (659))	2						Q																			igspace		Ш	4	$\downarrow$	$\downarrow$	Ļ	$\coprod$	$\perp$	_
10,301	Ottawa River Power Corp.	2										Q					C (	C	+	╀		$\dashv$	+	+	+	+	+	${m \sqcup}$	${oldsymbol{arphi}}$	$\dashv$	+	+	+	$\dashv$	+	+
3,292	Parry Sound Power Corp.	2, 3	С	S	S	Q	Q	Q C	λ   C	C				Q			С			╀		$\sqcup$	4		-		_			_	_	+	+	$\dashv$	+	+
34,806	Peterborough Distribution Inc.	2		-			•	0 1	-					Q				C	C	$\vdash$		Щ	4	3	5 8	S Q	Q	Q	Q	C	C	+	+	$\dashv$	+	+
3,748	Renfrew Hydro Inc.	2, 5	S	Q	Q	S	S	Q C	גן Q	Q	Q	C	; Q	!	Ш	С	C			L		Ш				┸	丄	Ш	Ш	$\perp$	丄	丄	丄	Ш	丄	Ш

Orange = Scheduled for amalgamation

MDM/ As of April 3	R Enrolment Wave C	Calendar					ndica					S SI	IT - n	orm	ally 2	2 we	eks	-		QQ	QT -	nori	mall	y 4 w	reek	S		C		itove	er - n	orma	ally :	2 we	eks			
		Reason for Latest Change Reason Code: 1: IESO Change 2: LDC Plan change 3: LDC Not Ready 4: LDC Wave Failure 5: Update pending	March	April		April		May	May	Ma Kawa 23	May	9 June 9 11	oune	oune ou	Alul.	July	July		August	August	August		August	Sept	Sept		October	October	October	October	October	M ^oN 7	Nov	Nov	Nov	Dec	Dec	M Sec 26
RPP Eligible			<u> </u>																																			
Customers	LDC Name																																					ŀ
5,780	Rideau St. Lawrence Distribution Inc.	2			T														S	S	Q	Q	Q	Q		)							Т		Т			П
16,153	St. Thomas Energy Inc.	2, 3, 5	S	Q (	Q Q	Q	C	С					Ι				Q	Q	Q	С	С								Ι									$\Box$
48,999	Thunder Bay Electricity Distribution Inc.	2			Т						S	S	2 (		Q Q		С								T								T	$\top$	T			
12,039	Wasaga Distribution Inc.	2, 3, 5	Q	Q (	СС	)	S	S	П			QC				_					1			1	1							$\Box$	T	1	1	Ì		
21,877	Welland Hydro-Electric System Corp.	2, 3, 5							S	S					Q Q	Q	С	С			T				Ť							T	T	T				T
3,579	Wellington North Power Inc.	2, 5	Q	Q	Q Q	Q S	S					CC							П		7		7	1	T	t	T	T	Ť			$\Box$	$\dashv$	1	T	t	T	T
21,616	Westario Power Inc.	2												+	1	1	+					S	S	Q (	2 (	2 (	)	C	С			T	T	1		+		M
39,382	Whitby Hydro Energy Services Corp.	2		_	S	SS	Q	Q	Q	Q		СС										_							Ť				1	T				Ħ
14,872	Woodstock Hydro Services Inc.	1		<u> </u>				_	_	С													= t	1	+	+	$^{+}$	T					1	1		+		$\vdash$
1,217,002	Non Production total customer count			_	+	$\top$									+								<del>- t</del>	<del>-  </del>	+	+	+	$\top$		$\vdash$			<del>-  </del>	$^+$		+		$\vdash$
· ·	MDMR Production LDCs																	1							_				-									ш
1,274	Chapleau Public Utilities Corp.		+																																			
31,839	Chatham-Kent Hydro Inc.		-																																			
14,206	Erie Thames Powerlines Corp.		-																																			
3,288	Espanola Regional Hydro Distribution Corp.		-																																			
27,848	Essex Power Lines Corp.		-																																			
20,820	Haldimand County Hydro		-																																			
20,555	Halton Hills		-																																			
232,913	Horizon Utilities Corporation		1																																			
1,193,039	Hydro One		1																																			
133,472	Hydro One Brampton Networks Inc.		1																																			
298,673	Hydro Ottawa Limited		1																																			
14,692	Innisfil Hydro Distribution Systems Ltd.		1																																			
85,928	Kitchener-Wilmot Hydro Inc.		1																																			
9,555	Lakefront Utilities Inc.																																					
9,476	Lakeland Power Distribution Ltd.																																					
27,465	Milton Hydro																																					
32,342	Newmarket Hydro Ltd./Tay Hydro																																					
6,057	Northern Ontario Wires Inc.		-																																			
61,952	Oakville Hydro Electricity Distribution Inc.		-																																			
12,637	Orillia Power Distribution Corp.		-																																			
52,157	Oshawa PUC Networks Inc. PowerStream Inc		-																																			
312,000 32,501	PUC Distribution Inc.		-																																			
2,692	Sioux Lookout Hydro		-																																			
6,639	Tillsonburg Hydro Inc.		-																																			
694,933	Toronto Hydro Electric Services Ltd.		1																																			
111,662	Veridian Connections		1																																			
51,406	Waterloo North Hydro Inc.		1																																			
3,821	West Coast Huron Energy Inc.		1																																			
2,047	West Perth Power Inc.	1																																				
3,507,889	Production total customer count																																					
4,724,891	All LDC total customer count																																					
Red = No proj	ect plan submitted		-																																			
	al indication of major milestones	l																																				
	t plan submitted																																					
Green = Enrol	ment self-certification accepted																																					
White = Produ	ıction LDC																																					
0 Cab	eduled for amalgamation	I																																				