



**Meter Data Management and Repository
(MDM/R)**

**TOU Schedule and
Calendar Manual**

Issue 3.0

This document provides the IESO interpretation of the TOU Periods specified by the OEB Regulated Price Plan and the Configuration of MDM/R TOU Schedules and related EPS Calendars required to support the RPP TOU Pricing Structures

MANUAL

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1.0	Issued under formal change control to support production operation of the MDM/R	March 28, 2008
1.1	Addition of configuration to support the global rate change functionality	November 14, 2008
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Related Documents

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Ontario Energy Board	<i>Regulated Price Plan Manual</i>	Last Revised on July 22, 2009
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Table of Changes

The following is a summary of changes to this document from version 2.0, dated December 19,2008.

Reference (Section and Page)	Description of Change
Section 2.2.1, page 6	Addition of RPP TOU time periods effective November 1, 2009
Section 2.3, page 8	Addition of RPP holiday dates for 2011
Section 3.1, page 11	Identification of the five additional MDM/R TOU Schedules required to support the calculation of demand
Section 3.1.2, page 13	Identification of an additional MDM/R Energy Purchase Service Calendar
Section 3.3, page 14	Identification of the 24 additional Energy Purchase Services created to support the calculation of demand
Appendix A, page A-1	Definition of the additional MDM/R TOU Schedules required to support the calculation of demand
Appendix B, page B-1	Edits and additions to the TOU Switchpoint Profiles

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1. Introduction

Ontario's smart metering initiative was created with the goal of creating a conservation culture within the province of Ontario. One of the actions taken to accomplish this goal was the creation flexible, time-of-use pricing that would encourage demand response and conservation during high priced time periods. The time-of-use (TOU) pricing structure to be implemented was initially communicated by the Ontario Energy Board (OEB) in the "Regulated Price Plan Manual" originally published on August 22, 2005 and most recently revised on July 22, 2009 (as of the publication date of this Manual).

1.1 Purpose

This document serves two purposes:

1. To document the IESO's interpretation of the TOU pricing structure and related TOU time periods published by the OEB for Regulated Price Plan (RPP) consumers, and
2. To document the implementation of the TOU time periods within the MDM/R.

1.2 Scope

This document will provide an interpretation of the OEB's RPP manual pertaining to TOU pricing structures specify how this structure will be implemented within the MDM/R. The overview of the implementation will provide a high level view of the MDM/R TOU Schedules and Energy Purchase Service Calendars configuration and the administrative tasks required to support this configuration.

This document will also specify the basis used by the MDM/R in determining days that are deemed to be 'holidays' within the RPP structure.

1.3 Who Should Use This Document

This document should be used by any organization who:

- Desires an understanding of how the TOU time periods related to the RPP TOU pricing structure will be implemented with the MDM/R and,
- LDCs and their agent(s) if applicable in determining the configuration required of their Advanced Metering Infrastructure and business systems in preparing to integrate with the MDM/R.

1.4 Assumptions and Limitations

- At this time this document does not provide any specifics on how Critical Peak Pricing (CPP) would be implemented. The implementation of CPP by the MDM/R will be included in a future issue of this document should the CPP requirements are determined through regulation or code.
- The MDM/R configuration specified in this current issue of this manual addresses TOU Schedules and Calendars for years 2009 to 2011. Updates to this manual will be made in advance of changes initiated by the OEB or to support years beyond the current period.

1.5 Conventions

For the purposes of this document, any references to “IESO” or the Smart Metering Entity (“SME”) may be construed to mean the same entity.

1.6 Roles and Responsibilities

Role of the Ontario Energy Board

The OEB shall be responsible for determining the TOU structures to be applied to RPP Consumers.

Role of the Smart Metering Entity

The Smart Metering Entity will be responsible for ensuring the MDM/R is configured to implement the TOU time periods and calendar changes as determined by the Ontario Energy Board (OEB).

Role of the Local Distribution Companies

The role of the local distribution company shall be to apply the available Framing Structures appropriately to all Service Delivery Points within their service territory.

1.7 How This Document Is Organized

Section 2 of this document provides an overview of the IESO’s interpretation of the OEB TOU pricing structure and related TOU time periods documented in the OEB’s RPP Manual.

Section 3 of this document provides the details on how the TOU time periods specified by the OEB will be implemented within the MDM/R.

Appendix A of this document provides the TOU Schedules used by the MDM/R and relationship between seasons, day types, and Switchpoint Profiles that comprise the MDM/R’s TOU Schedules.

Appendix B of this document provides the definition of the TOU Switchpoint Profiles and related TOU Switchpoint Records used to support the various TOU Schedules within the MDM/R.

1.7.1 Definition of Terms Used in this Document

Within this document the following words and phrases have the following meanings:

“**Billing Quantity**” refers to consumption data that has been through VEE and is ready for use in billing.

“**Framing Structure**” means a parameter that denotes the method by which Meter Reads are assembled into Billing Quantities by the MDM/R.

“**LDC**” means a Local Distribution Company, which is a LDC, as defined in the Ontario Energy Board Act, 1998.

“**MDM/R**” means the meter data management and meter data repository functions within which Meter Reads are processed to produce Billing Quantity data and the storage of data for future use.

“**Meter Read**” is a number generated by a meter that reflects cumulative electricity consumption at a specific point in time. (The Meter Read and related data will be reported to the MDM/R at a specific Service Delivery Point).

“**RPP Consumer**” means a consumer that pays the commodity price for electricity referred to in section 3.3 or 3.4 of the Standard Service Supply (SSS) Code.

“**SDP**” means the Service Delivery Point at which delivery is metered or calculated. The SDP is the point at which billing occurs based on input from one or more smart meters.

“**TOU bin**” – is an accumulator of energy consumption falling within a specific TOU Period.

“**TOU Period**” - a specific time range defined within the Ontario Energy Board *Regulated Price Plan Manual* to which a specific time-of-use price applies.

“**TOU Schedule**” refers to the mechanism within the MDM/R that identifies the appropriate Switchpoint Profile to be used for each day within the Energy Purchase Service Calendar based upon the season and day type identified in within the Energy Purchase Service Calendar.

“**TOU Switchpoint Profile**” refers to the collection of TOU Switchpoint Records for an entire day that maps each hour of the day to the appropriate TOU bin.

“**TOU Switchpoint Record**” refers to a record mapping a specified period of time within a day to a TOU bin.

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2. Ontario's Regulated Price Plan

The Regulated Price Plan (RPP) created a TOU structure for price protected consumers aimed to provide price signals and incentives to end use consumers to respond to those price signals.

Chapter 3 of the OEB's Regulated Price Plan Manual documents the analysis used to determine the appropriate number of seasons, number of day types, and the number and time of TOU periods within a day. Through this analysis, the OEB detected a consistent pattern of low, medium and high priced periods through out the day. This pattern was observed to be materially different during the winter months than in the summer months. This resulted in the creation of a three tiered price structure with two 'seasons' in the provincial RPP structure.

The details the IESO's interpretation of the seasons, TOU time periods and holiday schedules for the three price tiers are shown below in sections 2.1 through 2.3

2.1 RPP Definition of TOU Seasons

In the RPP manual two seasons are defined: summer and winter. The dates for each of these seasons are shown below in Table 2-1.

RPP Season	Start Date (inclusive)	End Date (inclusive)
Summer	May 1 st	October 31 st
Winter	November 1 st	April 30 th (following year)

Table 2-1 – Regulated Price Plan TOU Seasons

The dates listed in Table 2-1 are inclusive meaning the entire date listed is to be included in the RPP season. For further clarity, the 'Winter' RPP Season commences at the start of the day on November 1st and ends at the end of the day on April 30th of the following year.

2.2 RPP TOU Time Periods

The interpretation of the TOU time periods related to the TOU pricing structure and "local" times as provided in the RPP manual is provided in this section.

2.2.1 Regulated Price Plan TOU Time Periods

The three TOU time periods of the day created through the RPP manual are referred to as On Peak, Mid Peak, and Off Peak.

Within the MDM/R, consumption for each of these TOU time periods will be accumulated into a TOU Bin. The definition of the TOU time periods used to create these TOU Bins are shown below in Table 2-2 (initial definitions prior to November 1, 2009) and Table 2-3 (revised definitions, effective November 1, 2009).

Season	Day Type	TOU Period	Start Time	End Time	Segment Hours
Winter	Weekday	On Peak	07:00	11:00	4
			17:00	20:00	3
		Mid Peak	11:00	17:00	6
			20:00	22:00	2
		Off Peak	00:00	07:00	7
			22:00	24:00	2
	Weekend and Holidays	Off Peak	00:00	24:00	24
Summer	Weekday	On Peak	11:00	17:00	6
		Mid Peak	07:00	11:00	4
			17:00	22:00	5
		Off Peak	00:00	07:00	7
			22:00	24:00	2
	Weekend and Holidays	Off Peak	00:00	24:00	24

Table 2-2 – Initial Regulated Price Plan TOU Time Periods prior to November 1, 2009

Season	Day Type	TOU Period	Start Time	End Time	Segment Hours
Winter	Weekday	On Peak	07:00	11:00	4
			17:00	21:00	4
		Mid Peak	11:00	17:00	6
		Off Peak	00:00	07:00	7
			21:00	24:00	3
	Weekend and Holidays	Off Peak	00:00	24:00	24

Season	Day Type	TOU Period	Start Time	End Time	Segment Hours
Summer	Weekday	On Peak	11:00	17:00	6
		Mid Peak	07:00	11:00	4
			17:00	21:00	4
		Off Peak	00:00	07:00	7
			21:00	24:00	3
	Weekend and Holidays	Off Peak	00:00	24:00	24

Table 2-3 - Regulated Price Plan TOU Time Periods effective November 1, 2009

The July 22, 2009 version of the RPP Manual introduced changes to the TOU period structure. These changes are effective November 1, 2009. Table 2-2 provides the TOU period structure in use prior to November 1, 2009 while Table 2-3 provides the TOU period structure that will become effective on November 1, 2009

As shown in Table 2-2, and Table 2-3 all consumption occurring on a day deemed to be a weekend or holiday is to be considered off peak. Days deemed to be weekdays contain three tiers. The times associated with each tier do not need to be contiguous throughout the day (i.e. there can be multiple time periods associated with each tier).

The start times listed in Table 2-2 and Table 2-3 refer to the start of the hour. For further clarity, the first hour to be included in a TOU period with a start time of 07:00 will be the hour from 07:00 to 08:00.

The end times listed in Table 2-2 and Table 2-3 refer to the end of the hour. For further clarity, the last hour to be included in a TOU period with an end time of 22:00 will be the hour from 21:00 to 22:00.

2.2.2 Interpretation of Local Time

The RPP Manual states, “Times in summer are “local” or daylight savings time.” The IESO interprets this statement to apply to both the Eastern and Central time zone. As such, the times listed in Table 2-2 and Table 2-3 are interpreted to be the ‘prevailing’ time for the time zone in which the meter is physically located.

2.3 Holiday Schedule

The OEB’s analysis used to create the RPP TOU schedules indicated that the provincial demand drops sharply on holiday’s and is more similar to weekends than to normal weekdays. To accommodate this pattern, the RPP manual introduces a day type called ‘holiday’. This day type is treated the same as weekends, namely all consumption during the day is included in the Off Peak tier.

The RPP Manual includes the following statement to define what days during a calendar year should be treated as holidays.

“For the purposes of RPP time-of-use pricing, a “holiday” means: New Year’s Day, Family Day, Good Friday, Christmas Day, Boxing Day, Victoria Day, Canada Day, Civic Holiday, Labour Day, and Thanksgiving Day. When any such holiday falls on a weekend (Saturday or Sunday), the next weekday following (that’s not a holiday) is to be treated as a holiday for RPP time-of-use pricing purposes.”

Using this guideline, the dates to be treated as holidays for RPP time-of-use pricing for 2009 through 2011 are included in Table 2-4 below.

Year	‘Holiday’ Name	‘Holiday’ Date used for TOU Pricing (mm/dd/yyyy)
2009	New Year’s Day	01/01/2009
	Family Day	02/16/2009
	Good Friday	04/10/2009
	Victoria Day	05/18/2009
	Canada Day	07/01/2009
	Civic Holiday	08/03/2009
	Labour Day	09/07/2009
	Thanksgiving Day	10/12/2009
	Christmas Day	12/25/2009
	Boxing Day	12/28/2009
2010	New Year’s Day	01/01/2010
	Family Day	02/15/2010
	Good Friday	04/02/2010
	Victoria Day	05/24/2010
	Canada Day	07/01/2010
	Civic Holiday	08/02/2010
	Labour Day	09/06/2010
	Thanksgiving Day	10/11/2010
	Christmas Day	12/27/2010
	Boxing Day	12/28/2010
2011	New Year’s Day	01/03/2011
	Family Day	02/21/2011
	Good Friday	04/22/2011
	Victoria Day	05/23/2011
	Canada Day	07/01/2011

Year	'Holiday' Name	'Holiday' Date used for TOU Pricing (mm/dd/yyyy)
	Civic Holiday	08/01/2011
	Labour Day	09/05/2011
	Thanksgiving Day	10/10/2011
	Christmas Day	12/26/2011
	Boxing Day	12/27/2011

Table 2-4 –Holiday dates for RPP TOU pricing for 2009 through 2011

2.4 RPP Rate Changes

The OEB's Regulated Price Plan Manual describes a methodology to implement changes to the RPP rates. The methodology allows for price resetting to be considered for implementation every six months. The OEB has aligned the implementation of these rate changes with the change of RPP seasons, namely May 1st and Nov 1st of each year. In extraordinary circumstances they OEB may elect to reset the RPP price as required but this would likely be only considered on a quarterly basis.

Whether the price resetting is a result of the normal evaluation completed bi-annually or as result of an extraordinary circumstance, the OEB would set the new price at least 15 days before the beginning of the month in which the new prices are to be implemented.

The MDM/R supports the functionality to report billing quantities for each separate pricing period within a billing period when the OEB has implemented changes to the RPP rates. The pricing period must be global across the entire province. Currently, a change to the RPP TOU rates is the only pricing event that would invoke this functionality.

The dates that province wide RPP rate change take effect are established within the MDM/R through the configuration of the Energy Purchase Service Calendars. Section 3.1.2 of this document provides further information regarding the Energy Purchase Service Calendars.

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3. MDM/R TOU Schedules

TOU Periods are specified by the OEB as part of the Regulated Price Plan (RPP).

The configuration of TOU Periods in the MDM/R is accomplished through the use of TOU Schedules and related Energy Purchase Service (EPS) Calendars. The TOU Schedules and related EPS Calendars are established and tracked in the MDM/R Master Directory. Each TOU Schedule is a collection of rules that map the type of a calendar day (Season, Day Type, Event Type) to a TOU Switchpoint Profile. A TOU Switchpoint Profile is a collection of TOU Switchpoint Records. Each TOU Switchpoint Record associates a specified time period within a day to a TOU Bin.

The Smart Metering Entity maintains the configuration of TOU Schedules and related EPS Calendars required to support the TOU Periods specified by RPP.

The LDC through the MDM/R synchronization process assigns an Energy Purchase Service and thus the related TOU Schedule to each Service Delivery Point (SDP). Each Energy Purchase Service defines the Billing Quantities that are delivered to the LDC by the MDM/R Billing Services. Three primary types of Billing Quantity data are delivered based on the requirements defined by the Energy Purchase Service assigned to each SDP. These primary types of Billing Quantity data are: TOU/CPP data; Periodic data, and Hourly data. TOU Schedules and the MDM/R Framing process are used to produce TOU/CPP and Periodic Billing Quantity data.

The following sections describe the configuration of MDM/R TOU Schedules and Calendars; MDM/R TOU Switchpoint Profiles and TOU Switchpoint Records, and the use of MDM/R Energy Purchase Services for the production of Billing Quantity data.

3.1 MDM/R TOU Schedules

The TOU Schedule within the MDM/R is the mechanism that maps the unique combination of day type and season to a TOU Switchpoint Profile. Nine separate TOU Schedules are configured within the MDM/R namely:

- Ontario TOU Schedule Eastern – used for SDPs framed as TOU/CPP located in the Eastern time zone.
- Ontario TOU Schedule Central – used for SDPs framed as TOU/CPP located in the Central time zone.
- Ontario Periodic Schedule – used for SDPs framed as Periodic located in either time zone.
- Ontario TOU Demand Schedule Eastern – used for SDPs framed as TOU/CPP located in the Eastern time zone where calculation of demand is required.
- Ontario TOU Demand Schedule Central – used for SDPs framed as TOU/CPP located in the Central time zone where calculation of demand is required.
- Ontario Periodic Demand Schedule Eastern – used for SDPs framed as Periodic located in the Eastern time zone where calculation of demand is required.

- Ontario Periodic Demand Schedule Central – used for SDPs framed as Periodic located in the Central time zone where calculation of demand is required.
- Ontario Hourly Demand Schedule Eastern – used for SDPs framed as Hourly located in the Eastern time zone where calculation of demand is required.
- Ontario Hourly Demand Schedule Central – used for SDPs framed as Hourly located in the Central time zone where calculation of demand is required.

The TOU Schedules and associated TOU Switchpoint Profiles configured within the MDM/R are specified in appendices.

3.1.1 MDM/R Seasons

The RPP winter and RPP summer use different daily time periods to define the TOU bins. The implementation of this change within the MDM/R is accomplished through the configuration of seasons. Additionally, since the TOU bins are represented in ‘prevailing’ time and the MDM/R operates exclusively in Eastern Standard Time, the internal MDM/R configuration required to support these TOU bins needs to change with the change in local time from Standard Time to Daylight Savings Time. This is also accomplished through the configuration of seasons within the MDM/R. Since the change in time does not align with the RPP change in seasons, four seasons are required within the MDM/R to implement the RPP TOU Periods and local time outlined in section 2.

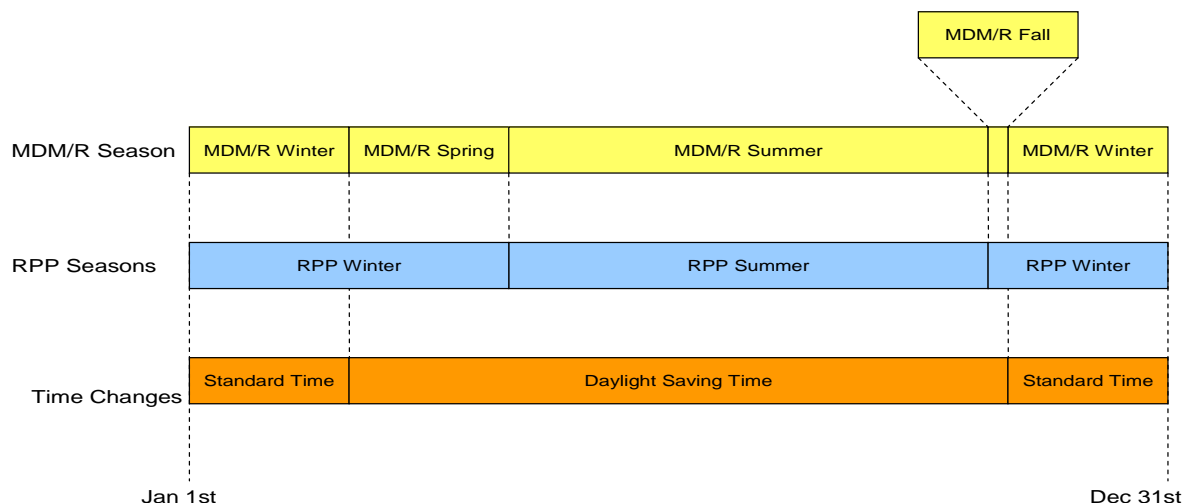


Figure 3-1 – MDM/R Seasons and Relationship to RPP Seasons and Time Changes

Figure 3-1 shows how the combination of RPP season changes and Standard and Daylight Savings time changes combines to create the need for four distinct seasons within the MDM/R in a typical year. These seasons are referred to in the MDM/R as winter, spring, summer and fall. The start and stop dates within the MDM/R for each season does not align with the traditional season dates. Any

change to either the prevailing time or the RPP season creates the need to change the times associated with each RPP TOU bin. This is implemented via a season change within the MDM/R and therefore the season start and end dates within the MDM/R are aligned with these dates. The Standard and Daylight Savings time change dates change yearly and as such, the start and end dates for each MDM/R season will also change yearly.

3.1.2 MDM/R Calendars

Two types of calendars exist within the MDM/R. Energy Purchase Service Calendars exist to support the Framing of Meter Read data into TOU bins. The second calendar type exists to support the validation and estimation routines within the MDM/R. These two calendar types allows the MDM/R to differentiate the day type used by the Framing routine and the day type used for validation and estimation routines for the same calendar day.

The RPP Manual definition of holidays will be used as the basis to determine the day type associated with each calendar day in all MDM/R calendars. These holiday dates are provided for reference in Table 2-4.

MDM/R Energy Purchase Service Calendars

Energy Purchase Service Calendars are created in the MDM/R to establish the day type and MDM/R season for each calendar day and to identify the calendar days that province wide rate changes take effect. Separate calendars have been created for TOU/ CPP, Periodic, and Hourly Framing structures to allow for different day types or seasons to be assigned to the three Framing structures for the same calendar day. The use of separate calendars also allows for RPP TOU rates and RPP tiered rates to take affect on different days.

The three Energy Purchase Service Calendars are:

- Ontario Generic TOU Calendar
- Ontario Generic Periodic Calendar
- Ontario Generic Hourly Calendar

The configuration and maintenance of the Energy Purchase Service Calendars is an administrative function performed by the IESO.

Upon publication by the OEB of their Regulated Price Plan: Price Report, the IESO will review the published RPP rates for the upcoming RPP season provided in the report and create a RPP Rate Change event in the Energy Purchase Service Calendar if the RPP price has changed. If the RPP price has not changed from the current RPP season, no RPP Rate Change event will be entered into the Energy Purchase Service Calendar.

Validation and Estimation Calendar

Within the MDM/R database a table exists that establishes the day type associated with each calendar day. This table is referenced by the validation and estimation routines used by each VEE service.

The configuration and maintenance of the Validation and Estimation Calendar is an administrative function performed by the IESO.

3.2 MDM/R TOU Switchpoint Profiles

A TOU Switchpoint Profile is required for each day type (weekday, weekend, and holiday) within each MDM/R season (winter, spring, fall and summer). A TOU Switchpoint Profile can be referenced for multiple day types and seasons.

TOU Switchpoint Records are created within the MDM/R to associate a specific time period within a day to a TOU bin. TOU Switchpoint Records are then combined to form TOU Switchpoint Profiles to determine how to associate the 24 hours within a day to a TOU bin.

TOU Switchpoint Profiles are created for each season for each year in the MDM/R. By not reusing TOU Switchpoint Profiles from year to year, or redefining historical TOU Switchpoint Profiles for reuse, an accurate historical record of the TOU Switchpoint Profiles used each season in each year is retained in the MDM/R.

All times referenced within the TOU Switchpoint Profiles are in EST. Therefore, different TOU Switchpoint Profiles are required for SDPs that are physically located in the Eastern time zone versus the Central time zone as the RPP TOU Periods reference 'prevailing' time. The TOU Switchpoint Profiles and associated TOU Switchpoint Records configured within the MDM/R are provided in Appendix B.

3.3 MDM/R Energy Purchase Services

The Framing Structure provided in the synchronization process identifies the Energy Purchase Service to associate with the SDP. The Energy Purchase Service determines the Energy Purchase Service Calendar and TOU Schedule to use when Framing Meter Read data for the SDP. Table 3-1 below shows the four Framing Structures provided in the MDM/R with their associated calendars and TOU schedules.

Energy Purchase Service	Framing Structure ID	Energy Purchase Service Calendar	TOU Schedule
TOU/CPP (EST)	01	Ontario Generic TOU Calendar	Ontario TOU Schedule Eastern
TOU/CPP (CST)	02	Ontario Generic TOU Calendar	Ontario TOU Schedule Central
Hourly	03	N/A	N/A
Periodic	04	Ontario Generic Periodic Calendar	Ontario Periodic Schedule
Energy Purchase, Periodic 15 Minute	05	Ontario Generic Periodic Calendar	Ontario Periodic Demand Schedule Eastern

Block (EST)			
Energy Purchase, Periodic 15 Minute Block (CST)	06	Ontario Generic Periodic Calendar	Ontario Periodic Demand Schedule Central
Energy Purchase, Periodic 60 Minute Block (EST)	07	Ontario Generic Periodic Calendar	Ontario Periodic Demand Schedule Eastern
Energy Purchase, Periodic 60 Minute Block (CST)	08	Ontario Generic Periodic Calendar	Ontario Periodic Demand Schedule Central
Energy Purchase, Periodic 15 Minute Rolling (EST)	09	Ontario Generic Periodic Calendar	Ontario Periodic Demand Schedule Eastern
Energy Purchase, Periodic 15 Minute Rolling (CST)	10	Ontario Generic Periodic Calendar	Ontario Periodic Demand Schedule Central
Energy Purchase, Periodic 60 Minute Rolling (EST)	11	Ontario Generic Periodic Calendar	Ontario Periodic Demand Schedule Eastern
Energy Purchase, Periodic 60 Minute Rolling (CST)	12	Ontario Generic Periodic Calendar	Ontario Periodic Demand Schedule Central
Energy Purchase, Hourly 15 Minute Block (EST)	13	Ontario Generic Hourly Calendar	Ontario Hourly Demand Schedule Eastern
Energy Purchase, Hourly 15 Minute Block (CST)	14	Ontario Generic Hourly Calendar	Ontario Hourly Demand Schedule Central
Energy Purchase, Hourly 60 Minute Block (EST)	15	Ontario Generic Hourly Calendar	Ontario Hourly Demand Schedule Eastern
Energy Purchase, Hourly 60 Minute Block (CST)	16	Ontario Generic Hourly Calendar	Ontario Hourly Demand Schedule Central
Energy Purchase, Hourly 15 Minute Rolling (EST)	17	Ontario Generic Hourly Calendar	Ontario Hourly Demand Schedule Eastern

Energy Purchase, Hourly 15 Minute Rolling (CST)	18	Ontario Generic Hourly Calendar	Ontario Hourly Demand Schedule Central
Energy Purchase, Hourly 60 Minute Rolling (EST)	19	Ontario Generic Hourly Calendar	Ontario Hourly Demand Schedule Eastern
Energy Purchase, Hourly 60 Minute Rolling (CST)	20	Ontario Generic Hourly Calendar	Ontario Hourly Demand Schedule Central
Energy Purchase, TOU/ CPP 15 Minute Block (EST)	21	Ontario Generic TOU Calendar	Ontario TOU Demand Schedule Eastern
Energy Purchase, TOU/ CPP 15 Minute Block (CST)	22	Ontario Generic TOU Calendar	Ontario TOU Demand Schedule Central
Energy Purchase, TOU/ CPP 60 Minute Block (EST)	23	Ontario Generic TOU Calendar	Ontario TOU Demand Schedule Eastern
Energy Purchase, TOU/ CPP 60 Minute Block (CST)	24	Ontario Generic TOU Calendar	Ontario TOU Demand Schedule Central
Energy Purchase, TOU/ CPP 15 Minute Rolling (EST)	25	Ontario Generic TOU Calendar	Ontario TOU Demand Schedule Eastern
Energy Purchase, TOU/ CPP 15 Minute Rolling (CST)	26	Ontario Generic TOU Calendar	Ontario TOU Demand Schedule Central
Energy Purchase, TOU/ CPP 60 Minute Rolling (EST)	27	Ontario Generic TOU Calendar	Ontario TOU Demand Schedule Eastern
Energy Purchase, TOU/ CPP 60 Minute Rolling (CST)	28	Ontario Generic TOU Calendar	Ontario TOU Demand Schedule Central

Table 3-1 – MDM/R Energy Purchase Services, EPS Calendars and TOU Schedules

When an SDP is assigned the Periodic Energy Purchase Service, the Framing process computes and records a single value that represents the total kWh usage for each day. On building a Billing Quantity Response the total kWh usage for each day in the billing period is summed to deliver the total kWh usage for the billing period.

If the SDP is assigned a TOU/CPP Energy Purchase Service, the Framing process computes and records daily usage values for each TOU/CPP period defined by the TOU Schedule related to the assigned Energy Purchase Service. On building a Billing Quantity Response the TOU/CPP bin totals for each day in the billing period are summed to deliver the total kWh usage for each TOU/CPP bin for the billing period.

For SDPs with an Hourly Framing Structure the Framing process is not used. On building an hourly Billing Quantity Response the MDM/R retrieves the relevant interval consumption data from the Meter Data Database and delivers this data as the Billing Quantity Response.

For SDPs using a framing structure which includes the provisioning of demand quantities (i.e. Framing Structure IDs 5 to 28), TOU quantities may or may not apply depending on the particulars of the Framing Structure selected. Please see the *MDM/R Technical Interface Specifications* (IESO_SPEC_9027) document for further details.

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Appendix A: TOU Schedules

The tables in Appendix A define the TOU Schedules and related TOU Switchpoint Profiles used by the MDM/R to support the production of TOU/CPP and Periodic usage data.

For dates listed in the tables below, the effective start date is an exclusive date for the entire day and effective end date is an inclusive date for the entire day

Ontario TOU Schedule Eastern					
Map to Framing Structure 01 (TOU/CPP EST)					
Season Type	Business Day Type	Event Type	Switchpoint Profile	Effective Start Date	Effective End Date
Winter	Weekday		Winter EST 2008/2009 Weekday	1-Nov-08	7-Mar-09
Spring	Weekday		Spring EDT 2009 Weekday	7-Mar-09	30-Apr-09
Summer	Weekday		Summer EDT 2009 Weekday	30-Apr-09	31-Oct-09
Fall	Weekday		(N/A)		
Winter	Weekday		Winter EST 2009/2010 Weekday	31-Oct-09	13-Mar-10
Spring	Weekday		Spring EDT 2010 Weekday	13-Mar-10	30-Apr-10
Summer	Weekday		Summer EDT 2010 Weekday	30-Apr-10	31-Oct-10
Fall	Weekday		Fall EDT 2010 Weekday	31-Oct-10	6-Nov-10
Winter	Weekday		Winter EST 2010/2011 Weekday	6-Nov-10	12-Mar-11
Spring	Weekday		Spring EDT 2011 Weekday	12-Mar-11	30-Apr-11
Summer	Weekday		Summer EDT 2011 Weekday	30-Apr-11	31-Oct-11
Fall	Weekday		Fall EDT 2011 Weekday	31-Oct-11	5-Nov-11
Winter	Weekday		Winter EST 2011/2012 Weekday	5-Nov-11	10-Mar-12
	Weekend		Weekend	31-Oct-06	
	Holiday		Weekend	31-Oct-06	

Table A-1 Ontario TOU Schedule Eastern

Ontario TOU Schedule Central					
Map to Framing Structure 02 (TOU/CPP CST)					
Season Type	Business Day Type	Event Type	Switchpoint Profile	Effective Start Date	Effective End Date
Winter	Weekday		Winter CST 2008/2009 Weekday	1-Nov-08	7-Mar-09
Spring	Weekday		Spring CDT 2009 Weekday	7-Mar-09	30-Apr-09
Summer	Weekday		Summer CDT 2009 Weekday	30-Apr-09	31-Oct-09
Fall	Weekday		(N/A)		
Winter	Weekday		Winter CST 2009/2010 Weekday	31-Oct-09	13-Mar-10
Spring	Weekday		Spring CDT 2010 Weekday	13-Mar-10	30-Apr-10
Summer	Weekday		Summer CDT 2010 Weekday	30-Apr-10	31-Oct-10
Fall	Weekday		Fall CDT 2010 Weekday	31-Oct-10	6-Nov-10
Winter	Weekday		Winter CST 2010/2011 Weekday	6-Nov-10	12-Mar-11
Spring	Weekday		Spring CDT 2011 Weekday	12-Mar-11	30-Apr-11
Summer	Weekday		Summer CDT 2011 Weekday	30-Apr-11	31-Oct-11
Fall	Weekday		Fall CDT 2011 Weekday	31-Oct-11	5-Nov-11
Winter	Weekday		Winter CST 2011/2012 Weekday	5-Nov-11	10-Mar-12
	Weekend		Weekend	31-Oct-06	
	Holiday		Weekend	31-Oct-06	

Table A-2 Ontario TOU Schedule Central

Ontario TOU Demand Schedule Eastern					
Map to Framing Structures 21, 23, 25 and 27					
Season Type	Business Day Type	Event Type	Switchpoint Profile	Effective Start Date	Effective End Date
Summer	Weekday		TOU Demdn Summer EDT 2009 Weekda	30-Apr-09	31-Oct-09
Fall	Weekday		(N/A)		
Winter	Weekday		TOU Demand Winter EST 2009/2010 We	31-Oct-09	13-Mar-10
Spring	Weekday		TOU Demand Spring EDT 2010 Weekday	13-Mar-10	30-Apr-10
Summer	Weekday		TOU Demand Summer EDT 2010 Weekd	30-Apr-10	31-Oct-10
Fall	Weekday		TOU Demand Fall EDT 2010 Weekday	31-Oct-10	6-Nov-10
Winter	Weekday		TOU Demand Winter EST 2010/2011 We	6-Nov-10	12-Mar-11
Spring	Weekday		TOU Demand Spring EDT 2011 Weekday	12-Mar-11	30-Apr-11
Summer	Weekday		TOU Demand Summer EDT 2011 Weekd	30-Apr-11	31-Oct-11
Fall	Weekday		TOU Demand Fall EDT 2011 Weekday	31-Oct-11	5-Nov-11
Winter	Weekday		TOU Demand Winter EST 2011/2012 We	5-Nov-11	10-Mar-12
	Weekend		Weekend	31-Oct-06	
	Holiday		Weekend	31-Oct-06	

Table A-3 Ontario TOU Demand Schedule Eastern

Ontario TOU Demand Schedule Central					
Map to Framing Structures 22, 24, 26 and 28					
Season Type	Business Day Type	Event Type	Switchpoint Profile	Effective Start Date	Effective End Date
Summer	Weekday		TOU Demand Summer CDT 2009 Weekd	30-Apr-09	31-Oct-09
Fall	Weekday		(N/A)		
Winter	Weekday		TOU Demand Winter CST 2009/2010 We	31-Oct-09	13-Mar-10
Spring	Weekday		TOU Demand Spring CDT 2010 Weekday	13-Mar-10	30-Apr-10
Summer	Weekday		TOU Demand Summer CDT 2010 Weekd	30-Apr-10	31-Oct-10
Fall	Weekday		TOU Demand Fall CDT 2010 Weekday	31-Oct-10	6-Nov-10
Winter	Weekday		TOU Demand Winter CST 2010/2011 We	6-Nov-10	12-Mar-11
Spring	Weekday		TOU Demand Spring CDT 2011 Weekday	12-Mar-11	30-Apr-11
Summer	Weekday		TOU Demand Summer CDT 2011 Weekd	30-Apr-11	31-Oct-11
Fall	Weekday		TOU Demand Fall CDT 2011 Weekday	31-Oct-11	5-Nov-11
Winter	Weekday		TOU Demand Winter CST 2011/2012 We	5-Nov-11	10-Mar-12
	Weekend		Weekend	31-Oct-06	
	Holiday		Weekend	31-Oct-06	

Table A-4 Ontario TOU Demand Schedule Central

Ontario Hourly Demand Schedule Eastern					
Map to Framing Structures 13, 15, 17 and 19					
Season Type	Business Day Type	Event Type	Switchpoint Profile	Effective Start Date	Effective End Date
Winter	Weekday		Hourly Demand EST	31-Oct-06	
Fall	Weekday		Hourly Demand EDT	31-Oct-06	
Spring	Weekday		Hourly Demand EDT	31-Oct-06	
Summer	Weekday		Peridoic Demend EDT	31-Oct-06	
	Weekend		Hourly	31-Oct-06	
	Holiday		Hourly	31-Oct-06	

Table A-5 Ontario Hourly Demand Schedule Eastern

Ontario Hourly Demand Schedule Central					
Map to Framing Structures 14, 16, 18 and 20					
Season Type	Business Day Type	Event Type	Switchpoint Profile	Effective Start Date	Effective End Date
Winter	Weekday		Hourly Demand CST	31-Oct-06	
Fall	Weekday		Hourly Demand CDT	31-Oct-06	
Spring	Weekday		Hourly Demand CDT	31-Oct-06	
Summer	Weekday		Peridoic Demend CDT	31-Oct-06	
	Weekend		Hourly	31-Oct-06	
	Holiday		Hourly	31-Oct-06	

Table A-6 Ontario Hourly Demand Schedule Central

Ontario Periodic Schedule					
Map to Framing Structure 04 (Periodic)					
Season Type	Business Day Type	Event Type	Switchpoint Profile	Effective Start Date	Effective End Date
	Weekday		Periodic	31-Oct-06	
	Weekend		Periodic	31-Oct-06	
	Holiday		Periodic	31-Oct-06	

Table A-7 Ontario Periodic Schedule

Ontario Periodic Demand Schedule Eastern					
Map to Framing Structures 05, 07, 09 and 11					
Season Type	Business Day Type	Event Type	Switchpoint Profile	Effective Start Date	Effective End Date
Winter	Weekday		Periodic Demand EST	31-Oct-06	
Fall	Weekday		Periodic Demand EDT	31-Oct-06	
Spring	Weekday		Periodic Demand EDT	31-Oct-06	
Summer	Weekday		Periodic Demand EDT	31-Oct-06	
	Weekend		Periodic	31-Oct-06	
	Holiday		Periodic	31-Oct-06	

Table A-8 Ontario Periodic Demand Schedule Eastern

Ontario Periodic Demand Schedule Central					
Map to Framing Structures 06, 08, 10 and 12					
Season Type	Business Day Type	Event Type	Switchpoint Profile	Effective Start Date	Effective End Date
Winter	Weekday		Periodic Demand CST	31-Oct-06	
Fall	Weekday		Periodic Demand CDT	31-Oct-06	
Spring	Weekday		Periodic Demand CDT	31-Oct-06	
Summer	Weekday		Periodic Demand CDT	31-Oct-06	
	Weekend		Periodic	31-Oct-06	
	Holiday		Periodic	31-Oct-06	

Table A-9 Ontario Periodic Demand Schedule Central

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Appendix B: TOU Switchpoint Profiles

The tables in Appendix B provide the definition of TOU Switchpoint Profiles used for the Business Day Type of “Weekday” for the Eastern time zone (i.e. for SDPs assigned the Framing Structure TOU/CPP (EST) for the four MDM/R seasons.

All start times listed in the tables in Appendix B refer to the start of the hour. For further clarity, the first hour to be included in a TOU period with a start time of 07:00 will be the hour from 07:00 to 08:00.

All end times listed in the tables in Appendix B refer to the end of the hour. For further clarity, the last hour to be included in a TOU period with an end time of 22:00 will be the hour from 21:00 to 22:00

Winter EST 2008/2009 Weekday			
Start Time (EST)	End Time (EST)	Bin Number	Bin Name
00:00	07:00	1	Off Peak
07:00	11:00	3	On Peak
11:00	17:00	2	Mid Peak
17:00	20:00	3	On Peak
20:00	22:00	2	Mid Peak
22:00	24:00	1	Off Peak

Spring EDT 2009 Weekday			
Start Time (EST)	End Time (EST)	Bin Number	Bin Name
00:00	06:00	1	Off Peak
06:00	10:00	3	On Peak
10:00	16:00	2	Mid Peak
16:00	19:00	3	On Peak
19:00	21:00	2	Mid Peak
21:00	24:00	1	Off Peak

Summer EDT 2009 Weekday			
Start Time (EST)	End Time (EST)	Bin Number	Bin Name
00:00	06:00	1	Off Peak
06:00	10:00	2	Mid Peak
10:00	16:00	3	On Peak
16:00	21:00	2	Mid Peak
21:00	24:00	1	Off Peak

Winter EST 2009/2010 Weekday			
Start Time (EST)	End Time (EST)	Bin Number	Bin Name
00:00	07:00	1	Off Peak
07:00	11:00	3	On Peak
11:00	17:00	2	Mid Peak
17:00	21:00	3	On Peak
21:00	24:00	1	Off Peak

Spring EDT 2010 Weekday				Summer EDT 2010 Weekday			
Start Time (EST)	End Time (EST)	Bin Number	Bin Name	Start Time (EST)	End Time (EST)	Bin Number	Bin Name
00:00	06:00	1	Off Peak	00:00	06:00	1	Off Peak
06:00	10:00	3	On Peak	06:00	10:00	2	Mid Peak
10:00	16:00	2	Mid Peak	10:00	16:00	3	On Peak
16:00	20:00	3	On Peak	16:00	20:00	2	Mid Peak
20:00	24:00	1	Off Peak	20:00	24:00	1	Off Peak

Fall EDT 2010 Weekday				Winter EST 2010/2011 Weekday			
Start Time (EST)	End Time (EST)	Bin Number	Bin Name	Start Time (EST)	End Time (EST)	Bin Number	Bin Name
00:00	06:00	1	Off Peak	00:00	07:00	1	Off Peak
06:00	10:00	3	On Peak	07:00	11:00	3	On Peak
10:00	16:00	2	Mid Peak	11:00	17:00	2	Mid Peak
16:00	20:00	3	On Peak	17:00	21:00	3	On Peak
20:00	24:00	1	Off Peak	21:00	24:00	1	Off Peak

Spring EDT 2011 Weekday				Summer EDT 2011 Weekday			
Start Time (EST)	End Time (EST)	Bin Number	Bin Name	Start Time (EST)	End Time (EST)	Bin Number	Bin Name
00:00	06:00	1	Off Peak	00:00	06:00	1	Off Peak
06:00	10:00	3	On Peak	06:00	10:00	2	Mid Peak
10:00	16:00	2	Mid Peak	10:00	16:00	3	On Peak
16:00	20:00	3	On Peak	16:00	20:00	2	Mid Peak
20:00	24:00	1	Off Peak	20:00	24:00	1	Off Peak

Fall EDT 2011 Weekday				Winter EST 2011/2012 Weekday			
Start Time (EST)	End Time (EST)	Bin Number	Bin Name	Start Time (EST)	End Time (EST)	Bin Number	Bin Name
00:00	06:00	1	Off Peak	00:00	07:00	1	Off Peak
06:00	10:00	3	On Peak	07:00	11:00	3	On Peak
10:00	16:00	2	Mid Peak	11:00	17:00	2	Mid Peak
16:00	20:00	3	On Peak	17:00	21:00	3	On Peak
20:00	24:00	1	Off Peak	21:00	24:00	1	Off Peak

Table B-1 TOU Weekday Switchpoint Profiles for Ontario TOU Schedule Eastern

Winter CST 2008/2009 Weekday			
Start Time (EST)	End Time (EST)	Bin Number	Bin Name
00:00	08:00	1	Off Peak
08:00	12:00	3	On Peak
12:00	18:00	2	Mid Peak
18:00	21:00	3	On Peak
21:00	23:00	2	Mid Peak
23:00	24:00	1	Off Peak

Spring CDT 2009 Weekday			
Start Time (EST)	End Time (EST)	Bin Number	Bin Name
00:00	07:00	1	Off Peak
07:00	11:00	3	On Peak
11:00	17:00	2	Mid Peak
17:00	20:00	3	On Peak
20:00	22:00	2	Mid Peak
22:00	24:00	1	Off Peak

Summer CDT 2009 Weekday			
Start Time (EST)	End Time (EST)	Bin Number	Bin Name
00:00	07:00	1	Off Peak
07:00	11:00	2	Mid Peak
11:00	17:00	3	On Peak
17:00	22:00	2	Mid Peak
22:00	24:00	1	Off Peak

Winter CST 2009/2010 Weekday			
Start Time (EST)	End Time (EST)	Bin Number	Bin Name
00:00	08:00	1	Off Peak
08:00	12:00	3	On Peak
12:00	18:00	2	Mid Peak
18:00	22:00	3	On Peak
22:00	24:00	1	Off Peak

Spring CDT 2010 Weekday			
Start Time (EST)	End Time (EST)	Bin Number	Bin Name
00:00	07:00	1	Off Peak
07:00	11:00	3	On Peak
11:00	17:00	2	Mid Peak
17:00	21:00	3	On Peak
21:00	24:00	1	Off Peak

Summer CDT 2010 Weekday			
Start Time (EST)	End Time (EST)	Bin Number	Bin Name
00:00	07:00	1	Off Peak
07:00	11:00	2	Mid Peak
11:00	17:00	3	On Peak
17:00	21:00	2	Mid Peak
21:00	24:00	1	Off Peak

Fall CDT 2010 Weekday			
Start Time (EST)	End Time (EST)	Bin Number	Bin Name
00:00	07:00	1	Off Peak
07:00	11:00	3	On Peak
11:00	17:00	2	Mid Peak
17:00	21:00	3	On Peak
21:00	24:00	1	Off Peak

Winter CST 2010/2011 Weekday			
Start Time (EST)	End Time (EST)	Bin Number	Bin Name
00:00	08:00	1	Off Peak
08:00	12:00	3	On Peak
12:00	18:00	2	Mid Peak
18:00	22:00	3	On Peak
22:00	24:00	1	Off Peak

Spring CDT 2011 Weekday			
Start Time (EST)	End Time (EST)	Bin Number	Bin Name
00:00	07:00	1	Off Peak
07:00	11:00	3	On Peak
11:00	17:00	2	Mid Peak
17:00	21:00	3	On Peak
21:00	24:00	1	Off Peak

Summer CDT 2011 Weekday			
Start Time (EST)	End Time (EST)	Bin Number	Bin Name
00:00	07:00	1	Off Peak
07:00	11:00	2	Mid Peak
11:00	17:00	3	On Peak
17:00	21:00	2	Mid Peak
21:00	24:00	1	Off Peak

Fall CDT 2011 Weekday			
Start Time (EST)	End Time (EST)	Bin Number	Bin Name
00:00	07:00	1	Off Peak
07:00	11:00	3	On Peak
11:00	17:00	2	Mid Peak
17:00	21:00	3	On Peak
21:00	24:00	1	Off Peak

Winter CST 2011/2012 Weekday			
Start Time (EST)	End Time (EST)	Bin Number	Bin Name
00:00	08:00	1	Off Peak
08:00	12:00	3	On Peak
12:00	18:00	2	Mid Peak
18:00	22:00	3	On Peak
22:00	24:00	1	Off Peak

Table B-2 TOU Weekday Switchpoint Profiles for Ontario TOU Schedule Central

TOU Demand Summer EDT 2009 Weekday			
Start Time (EST)	End Time (EST)	Bin Number	Bin Name
00:00	06:00	1	Off Peak
06:00	10:00	2	Mid Peak
10:00	16:00	3	On Peak
16:00	21:00	2	Mid Peak
21:00	24:00	1	Off Peak
06:00	18:00	4	KW77
06:00	18:00	5	KVA77

TOU Demand Winter EST 2009/2010 Weekday			
Start Time (EST)	End Time (EST)	Bin Number	Bin Name
00:00	07:00	1	Off Peak
07:00	11:00	3	On Peak
11:00	17:00	2	Mid Peak
17:00	21:00	3	On Peak
21:00	24:00	1	Off Peak
07:00	19:00	4	KW77
07:00	19:00	5	KVA77

TOU Demand Spring EDT 2010 Weekday			
Start Time (EST)	End Time (EST)	Bin Number	Bin Name
00:00	06:00	1	Off Peak
06:00	10:00	3	On Peak
10:00	16:00	2	Mid Peak
16:00	20:00	3	On Peak
20:00	24:00	1	Off Peak
06:00	18:00	4	KW77
06:00	18:00	5	KVA77

TOU Demand Summer EDT 2010 Weekday			
Start Time (EST)	End Time (EST)	Bin Number	Bin Name
00:00	06:00	1	Off Peak
06:00	10:00	2	Mid Peak
10:00	16:00	3	On Peak
16:00	20:00	2	Mid Peak
20:00	24:00	1	Off Peak
06:00	18:00	4	KW77
06:00	18:00	5	KVA77

TOU Demand Fall EDT 2010 Weekday			
Start Time (EST)	End Time (EST)	Bin Number	Bin Name
00:00	06:00	1	Off Peak
06:00	10:00	3	On Peak
10:00	16:00	2	Mid Peak
16:00	20:00	3	On Peak
20:00	24:00	1	Off Peak
06:00	18:00	4	KW77
06:00	18:00	5	KVA77

Winter EST 2010/2011 Weekday			
Start Time (EST)	End Time (EST)	Bin Number	Bin Name
00:00	07:00	1	Off Peak
07:00	11:00	3	On Peak
11:00	17:00	2	Mid Peak
17:00	21:00	3	On Peak
21:00	24:00	1	Off Peak
07:00	19:00	4	KW77
07:00	19:00	5	KVA77

TOU Demand Spring EDT 2011 Weekday			
Start Time (EST)	End Time (EST)	Bin Number	Bin Name
00:00	06:00	1	Off Peak
06:00	10:00	3	On Peak
10:00	16:00	2	Mid Peak
16:00	20:00	3	On Peak
20:00	24:00	1	Off Peak
06:00	18:00	4	KW77
06:00	18:00	5	KVA77

TOU Demand Summer EDT 2011 Weekday			
Start Time (EST)	End Time (EST)	Bin Number	Bin Name
00:00	06:00	1	Off Peak
06:00	10:00	2	Mid Peak
10:00	16:00	3	On Peak
16:00	20:00	2	Mid Peak
20:00	24:00	1	Off Peak
06:00	18:00	4	KW77
06:00	18:00	5	KVA77

TOU Demand Fall EDT 2011 Weekday			
Start Time (EST)	End Time (EST)	Bin Number	Bin Name
00:00	06:00	1	Off Peak
06:00	10:00	3	On Peak
10:00	16:00	2	Mid Peak
16:00	20:00	3	On Peak
20:00	24:00	1	Off Peak
06:00	18:00	4	KW77
06:00	18:00	5	KVA77

Winter EST 2011/2012 Weekday			
Start Time (EST)	End Time (EST)	Bin Number	Bin Name
00:00	07:00	1	Off Peak
07:00	11:00	3	On Peak
11:00	17:00	2	Mid Peak
17:00	21:00	3	On Peak
21:00	24:00	1	Off Peak
07:00	19:00	4	KW77
07:00	19:00	5	KVA77

Table B-3 Weekday Switchpoint Profiles for Ontario TOU Demand Schedule Eastern

TOU Demand Summer CDT 2009 Weekday			
Start Time (EST)	End Time (EST)	Bin Number	Bin Name
00:00	07:00	1	Off Peak
07:00	11:00	2	Mid Peak
11:00	17:00	3	On Peak
17:00	22:00	2	Mid Peak
22:00	24:00	1	Off Peak
07:00	19:00	4	KW77
07:00	19:00	5	KVA77

TOU Demand Winter CST 2009/2010 Weekday			
Start Time (EST)	End Time (EST)	Bin Number	Bin Name
00:00	08:00	1	Off Peak
08:00	12:00	3	On Peak
12:00	18:00	2	Mid Peak
18:00	22:00	3	On Peak
22:00	24:00	1	Off Peak
08:00	20:00	4	KW77
08:00	20:00	5	KVA77

TOU Demand Spring CDT 2010 Weekday			
Start Time (EST)	End Time (EST)	Bin Number	Bin Name
00:00	07:00	1	Off Peak
07:00	11:00	3	On Peak
11:00	17:00	2	Mid Peak
17:00	21:00	3	On Peak
21:00	24:00	1	Off Peak
07:00	19:00	4	KW77
07:00	19:00	5	KVA77

TOU Demand Summer CDT 2010 Weekday			
Start Time (EST)	End Time (EST)	Bin Number	Bin Name
00:00	07:00	1	Off Peak
07:00	11:00	2	Mid Peak
11:00	17:00	3	On Peak
17:00	21:00	2	Mid Peak
21:00	24:00	1	Off Peak
07:00	19:00	4	KW77
07:00	19:00	5	KVA77

TOU Demand Fall CDT 2010 Weekday				TOU Demand Winter CST 2010/2011 Weekday			
Start Time (EST)	End Time (EST)	Bin Number	Bin Name	Start Time (EST)	End Time (EST)	Bin Number	Bin Name
00:00	07:00	1	Off Peak	00:00	08:00	1	Off Peak
07:00	11:00	3	On Peak	08:00	12:00	3	On Peak
11:00	17:00	2	Mid Peak	12:00	18:00	2	Mid Peak
17:00	21:00	3	On Peak	18:00	22:00	3	On Peak
21:00	24:00	1	Off Peak	22:00	24:00	1	Off Peak
07:00	19:00	4	KW77	08:00	20:00	4	KW77
07:00	19:00	5	KVA77	08:00	20:00	5	KVA77

TOU Demand Spring CDT 2011 Weekday				TOU Demand Summer CDT 2011 Weekday			
Start Time (EST)	End Time (EST)	Bin Number	Bin Name	Start Time (EST)	End Time (EST)	Bin Number	Bin Name
00:00	07:00	1	Off Peak	00:00	07:00	1	Off Peak
07:00	11:00	3	On Peak	07:00	11:00	2	Mid Peak
11:00	17:00	2	Mid Peak	11:00	17:00	3	On Peak
17:00	21:00	3	On Peak	17:00	21:00	2	Mid Peak
21:00	24:00	1	Off Peak	21:00	24:00	1	Off Peak
07:00	19:00	4	KW77	07:00	19:00	4	KW77
07:00	19:00	5	KVA77	07:00	19:00	5	KVA77

TOU Demand Fall CDT 2011 Weekday				Winter CST 2011/2012 Weekday			
Start Time (EST)	End Time (EST)	Bin Number	Bin Name	Start Time (EST)	End Time (EST)	Bin Number	Bin Name
00:00	07:00	1	Off Peak	00:00	08:00	1	Off Peak
07:00	11:00	3	On Peak	08:00	12:00	3	On Peak
11:00	17:00	2	Mid Peak	12:00	18:00	2	Mid Peak
17:00	21:00	3	On Peak	18:00	22:00	3	On Peak
21:00	24:00	1	Off Peak	22:00	24:00	1	Off Peak
07:00	19:00	4	KW77	08:00	20:00	4	KW77
07:00	19:00	5	KVA77	08:00	20:00	5	KVA77

Table B-4 Weekday Switchpoint Profiles for Ontario TOU Demand Schedule Central

Weekend Weekend			
Start Time (EST)	End Time (EST)	TOU bin	TOU type
00:00	24:00	1	off

Table B-5 Weekend TOU Switchpoint Profile for all Ontario TOU Schedules

Periodic Periodic			
Start Time (EST)	End Time (EST)	TOU bin	TOU type

Table B-6 TOU Switchpoint Profile for Ontario Periodic Schedule and Weekend TOU Switchpoint Profile for Ontario Periodic Demand Schedules

Periodic Demand EST Periodic			
Start Time (EST)	End Time (EST)	TOU bin	TOU type
07:00	19:00	4	KW77
07:00	19:00	5	KVA77

Periodic Demand EDT Periodic			
Start Time (EST)	End Time (EST)	TOU bin	TOU type
06:00	18:00	4	KW77
06:00	18:00	5	KVA77

Table B-7 Weekday TOU Switchpoint Profiles for Ontario Periodic Demand Schedule Eastern

Periodic Demand CST Periodic			
Start Time (EST)	End Time (EST)	TOU bin	TOU type
08:00	20:00	4	KW77
08:00	20:00	5	KVA77

Periodic Demand CDT Periodic			
Start Time (EST)	End Time (EST)	TOU bin	TOU type
07:00	19:00	4	KW77
07:00	19:00	5	KVA77

Table B-8 Weekday TOU Switchpoint Profiles for Ontario Periodic Demand Schedule Central

Hourly Periodic			
Start Time (EST)	End Time (EST)	TOU bin	TOU type

Table B-9 Weekend TOU Switchpoint Profile for Ontario Hourly Demand Schedules

Hourly Demand EST Hourly			
Start Time (EST)	End Time (EST)	TOU bin	TOU type
07:00	19:00	4	KW77
07:00	19:00	5	KVA77

Hourly Demand EDT Hourly			
Start Time (EST)	End Time (EST)	TOU bin	TOU type
06:00	18:00	4	KW77
06:00	18:00	5	KVA77

Table B-10 Weekday TOU Switchpoint Profiles for Ontario Hourly Demand Schedule Eastern

Hourly Demand CST Hourly			
Start Time (EST)	End Time (EST)	TOU bin	TOU type
08:00	20:00	4	KW77
08:00	20:00	5	KVA77

Hourly Demand CDT Hourly			
Start Time (EST)	End Time (EST)	TOU bin	TOU type
07:00	19:00	4	KW77
07:00	19:00	5	KVA77

Table B-11 Weekday TOU Switchpoint Profiles for Ontario Hourly Demand Schedule Central

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