Note: for all the daily file, an hourly scan of the website should be done to ensure the file is downloaded in an timely fashion

The hourly file should also be scanned every 5 minute, and updated to the database whenever it comes out

The 5 minute data should be scanned every minute (or 2) for the same purpose

Estimated Total Daily File Size: 150 mb

Estimated yearly Size: 55 gb

IESO

**5 min Data**

RealtimeCostTotals: Total Energy, Ontario Demand (4kb)

Storage Method: this file has 12 intervals per hour, hence within the hour, only the latest 5 minute print needs to be appended to the table

<http://reports.ieso.ca/public/RealtimeConstTotals/PUB_RealtimeConstTotals.xml>

RealtimeMktPrice: 5 min HOEP prices (4kb)

Storage Method: this file has 12 intervals per hour, hence within the hour, only the latest 5 minute print needs to be appended to the table

<http://reports.ieso.ca/public/RealtimeMktPrice/PUB_RealtimeMktPrice.xml>

**Hourly Data**

NISL report: ICP for each zone (4 kb)

Storage Method: this file has 24 hours, each hour this report is produced once, and the newest file should replace the previous file (rewrite the previously stored data for the 24 hours of the day). The last version is generated towards the end of the day.

<http://reports.ieso.ca/public/NISLShadowPrices/PUB_NISLShadowPrices.xml>

Hourly HOEP: HOEP (4 kb)

Storage Method: this file is produced once per hour, the newest file will contain the latest hour, and this latest hour is appended to the table as it comes out

<http://reports.ieso.ca/public/DispUnconsHOEP/PUB_DispUnconsHOEP.xml>

Generation output: Generation output by hour for all generators in Ontario (32 kb)

Storage Method: this file is produced once per hour, the newest file will contain the latest hour, and this latest hour is appended to the table as it comes out

<http://reports.ieso.ca/public/GenOutputCapability/PUB_GenOutputCapability.xml>

NYISO

**5 min Data**

Most Current 5 minute interval pricing: all zone’s 5 minute RT prices (4 kb)

Storage Method: this file is updated every 5 minute interval. The new numbers are appended to the table

<http://mis.nyiso.com/public/realtime/realtime_zone_lbmp.csv>

Real-time zonal LBMP: all columns in the file (200 kb)

Storage Method: Some Calculations need to be done as not all rows are stored

1. First, we need to find the starting row, the starting row is equal to the **SECOND row** where the date/time in column A is greater than the time stamp of the file.
2. The rows after the starting row are 15 minutes apart, all the rows are after the starting are stored into the table
3. Each time when updating the table, if there are any rows overlapping (having same date/time in column A) with existing rows in the table, write these existing rows with the new numbers from the file
4. The file stops updating near midnight (normally), and then next day’s file start to be updated

<http://mis.nyiso.com/public/csv/realtime/20171018realtime_zone.csv>

Real-time Actual Load: all columns in the file (135 kb)

Storage Method: this file is updated every 5 minute, append the latest rows to the table

<http://mis.nyiso.com/public/csv/pal/20171017pal.csv>

**Hourly Data**

weighted hourly price: all columns in the file (16 kb)

Storage Method: this file contains the current day hourly pricing information. It is updated once an hour, and the latest pricings are added to the bottom of the file. Hence append the latest rows to the table

<http://mis.nyiso.com/public/csv/rtlbmp/20171017rtlbmp_zone.csv>

weighted hourly load: all columns in the file (12 kb)

Storage Method: this file contains the current day hourly pricing information. It is updated once an hour, and the latest pricings are added to the bottom of the file. Hence append the latest rows to the table

<http://mis.nyiso.com/public/csv/palIntegrated/20171017palIntegrated.csv>

**Daily**

DA market price: all information in this file (20 kb)

Storage Method: this file normally comes out around 9:30-10:30 am on **Day 1 for Day 2 (next day)**. All information will be stored in the table once a day.

<http://mis.nyiso.com/public/csv/damlbmp/20171018damlbmp_zone.csv>

NYISO Load forecast: all information in this file (12 kb)

Storage Method: this file comes out once a day, on **Day 1 for Day 2 (next day).** All information will be stored in the table once a day.

<http://mis.nyiso.com/public/csv/isolf/20171023isolf.csv>

MISO

**5 min data**

Current 5 min print & previous hour pricing: all information in this file (30 kb)

Storage: Only columns A:G are needed. This file is published every 5 minute, A:G will be stored into a table (depending on the time stamp in cell N1). The newest data will be appended to the table

<https://www.misoenergy.org/ria/Consolidated.aspx?format=csv>

real-time load & forecasted load: the information in the file will be split into 3 tables. (4 kb)

Table1: day-ahead scheduled load, rows 3:26. This is only updated once a day

Table 2: current load forecast, rows 29:52, this is updated every hour, hence the table will be updated every hour

Table 3: 5-minute load data, all rows from 55 onwards are real-time 5 minute data. Every 5 minute, new data will come out, and this new data is appended to the table

<https://www.misoenergy.org/ria/ptpTotalLoad.aspx?format=csv>

**Daily**

Day-ahead LMP: all information in this file (1 mb)

Storage Method: this is updated daily for the next day (updated on Day 1 for Day 2), the table is updated once per day

<https://www.misoenergy.org/Library/Repository/Market%20Reports/20171022_da_exante_lmp.csv>

Real time hourly LMP (Prelim): all information in this file (1 mb)

Storage Method: this is updated daily, the table is updated once per day

<https://www.misoenergy.org/Library/Repository/Market%20Reports/20171021_rt_lmp_prelim.csv>

Real time hourly LMP (Final): all information in this file (1 mb)

Storage Method: this file is updated daily, however, the time is delayed (e.g. Day 1’s pricing will not be updated until Day 4)

<https://www.misoenergy.org/Library/Repository/Market%20Reports/20171019_rt_lmp_final.csv>

PJM

**5 min Data**

Current pricing: the first table & last table on the webpage (12 kb)

Storage Method:

First table: the data here need to be split into 2 different tables

1. “5 Minute Weighted Avg. LMP”, this will take a standalone table where it is continuously overwritten by the newest data
2. “hourly Integrated LMP for Hour Ending X”, this will be updated hourly. The newest data will be appended to the table

Second table: “PJM Instantaneous Load (MW)”, this table is updated every 5 minute (time stamp at the top of the webpage). The newest data is appended to the table

<http://www.pjm.com/pub/account/lmpgen/lmppost.html>

**Daily**

Day-ahead LMP: filter on row 8 for: Zone, Aggregate, Gen, Hub, interface (5 mb)

Storage Method: this is a daily file normally published in the afternoon. The entire file (applying filter as described above) will be stored into the table on daily basis

<http://www.pjm.com/pub/account/lmpda/20171023-da.csv>

Real-time LMP: filter on row18 8 for: Zone, Aggregate, Gen, Hub, interface (5 mb)

Storage Method: this is a daily file usually published with a couple of days of delay (e.g. day 1’s data published on day 4). The entire file (applying filter as described above) will be stored into the table on daily basis

<http://www.pjm.com/pub/account/lmp/20171019.csv>

Daily Load: all information in the file (4 kb)

Storage Method: this is a daily file updated once a day for the previous day’s data. The file is stored into the table on daily basis.

<http://www.pjm.com/pub/market_system_data/system/hourly_prelim_loads/daily/20171021_dailyload.csv>