



- 1 -

## **Frequently Asked Questions (FAQ) Short Term and Monthly Outage Graphs**

Version 2.0, Last updated September 3, 2009

This FAQ is intended to assist market participants in understanding the short term and monthly outage graphs that address generating unit outages in Alberta. Both graphs are available at <http://ets.aeso.ca> under “current” reports. An archive of historical outage graphs is not provided. This FAQ will be updated from time to time and market participants should be aware that it may be impacted by ISO rule changes. Please contact Ron Smith ([ron.smith@aeso.ca](mailto:ron.smith@aeso.ca) or (403) 539-2595) if you have any questions or concerns.

### **What is an “outage”?**

Since the introduction of the Market Policy Implementation (also referred to as Quick Hits) in December 2007, the short term and monthly outage graphs have been based on the difference between “maximum capability” (MC) and “available capability” (AC) of generating units as submitted by pool participants or their designates in the AESO’s Energy Trading System (ETS).

Note that “maximum capability” differs from “maximum continuous rating” (MCR). The latter is defined as maximum net power output that can be sustained by a generator and such values are posted for most generating units on the AESO’s website.<sup>1</sup> For most generating units MC and MCR are similar. Values are most divergent for generating units that primarily supply onsite load and only offer net to grid. In these cases the MCR may be considerably larger than the MC.

Some generating units do not report an MC. These include wind generating units, small power producers and generating units smaller than 5MW. Outages at generating units that do not report an MC value are not included in the outage graphs.

### **How are “outages” aggregated across different time periods?**

The short term outage graph displays outages across different time periods. These time periods simulate commonly traded products (on and off peak for Same day, Next Day, Balance of Week, Next Week, Balance of Month). Information on longer term outages is provided on the Monthly Outage graph (all hours for each of the next 24 months).

---

<sup>1</sup> [http://ets.aeso.ca/ets\\_web/ip/Market/Reports/CSDReportServlet](http://ets.aeso.ca/ets_web/ip/Market/Reports/CSDReportServlet)

Outages that occur during a given time period are pro-rated. For example: a 100MW outage that begins half way through February and ends half way through March will show on the monthly outage graph as a 50MW outage in each of February and March. Outages that occur part way through an on-peak or off-peak period are similarly prorated. For example, a 40MW outage that occurs today for one half of the off-peak period and for one quarter of the on-peak period would show as a 20MW outage in the off peak period and a 10MW outage in the on-peak period.

### **How often do the outage graphs update?**

The short term and monthly outage graphs feature two time stamps – the time at which the graph is being viewed and the time at which the graph was last updated. All changes to AC submitted to the AESO prior to the “last updated” time will be reflected on the graphs. Currently (March 2009), the short term and monthly outage graphs update every five minutes. After updating there is a lag of a few minutes while the graphs are calculated and the updated graphs are available on the website. For example, a graph with a “last updated” time of 09:50AM may not appear on the website until 09:54AM and will be replaced by a graph “last updated” at 09:55 AM at approximately 09:59AM.

### **The time stamps on the outage graphs do not seem to be updating. What should I do?**

It has been observed that the short term and monthly outages graphs have, on a rare occasion, not been updated every 5 minutes. If, after refreshing the graph, the last updated time is more than 20 minutes contact [info@aeso.ca](mailto:info@aeso.ca). The problem will be investigated.

Any compliance related matters stemming from the requirements of the Fair, Efficient and Open Competition Regulation, should be directed to the Market Surveillance Administrator.

### **The time stamps on the outage graph are updating normally but my recently submitted outage does not appear on the outage graph. What should I do?**

If the time at which you submitted an outage is after the “Last updated” time on the outage graph then take no action. Your outage has not been included on the outage graph but will be included on the next update.

If the time at which you submitted an outage is prior to the “Last updated” time on the outage graph we suggest you follow these next few steps.

- Check that your submission of new AC values was made correctly in ETS. This can be verified by logging into ETS, and viewing your submission in the Outage Scheduling tab, for the specific time period that your outage was entered for.
- Check what change you would expect your submission to have on the outage graph, noting that:
  - outages are pro-rated across the time period (for example, an outage for one hour in today during the on-peak period will show as an outage on the short term graph of 1/16<sup>th</sup> of the magnitude).
  - outages are rounded to the nearest 10MW
  - coal outages are converted on a percentage basis to a hypothetical coal unit with an MC of 325MW.

If after completing these checks the outage graph may still be accurate since a countervailing outage of similar magnitude may mean the net impact may have been submitted at a similar time. If you still believe there is a problem with the outage graph contact [info@aeso.ca](mailto:info@aeso.ca) and the matter will be investigated. Investigations in the past have, in almost every instance, confirmed that the outage graphs are functioning correctly. Note that neither the AESO or MSA will provide pool participant outage information, and specifically whether it has or has not been included in the graphs.

### **How are generating units classified between “gas-other” and “gas cogen”?**

All co-generation and combined cycle facilities that have a gas fired component are classified under gas-cogen. All other gas fired generating units are classified under gas-other.

### **Why are coal outage or derates reported based on a size of 325MW?**

Before reporting coal outages, each coal outage or derate is converted to a percentage of the generating units MC and then multiplied by 325MW. After all these “outages” are aggregated the total is rounded to the nearest 10MW. Note that an outage at the smallest coal generating unit (approximately 143MW) and the largest coal generating unit (approximately 450MW) will both show on the outage graphs as a 325MW outage.

The conversion of coal outages to 325MW was designed as one way of protecting the identity of particular coal generating units, which are both few in number and in some cases of identifiable size. 325MW was selected as an “average” or representative size.

### **How accurate is the outage information underlying the outage graphs?**

The outage graphs are based directly off the AC submissions received from pool participants through the ETS system. ISO rule 3.5.3.2 requires that changes to AC is restated “as soon as reasonably practicable” for changes that impact the trading day. OPP 606 requires that at the beginning of every month planned outage schedules are submitted for the next 24 months. Revisions must be submitted to the AESO as soon as the decision is made to change the initial schedule.

The outage graphs are subject to a small delay due to calculation and posting and are rounded to the nearest 10MW for each fuel type. Coal outages are reported based on a representative generating unit size of 325MW.

### **A new generating unit is coming online in the next few months. Is the generating unit included in the outage graph?**

New generating units are only included in the outage graphs once they have the access to the ETS to enter AC and MC values. Pool participants are only able to access ETS once they have a valid Supply Transmission Service (STS) contract in place. Typically, this occurs on the first day of the calendar month during which the generating unit is expected to start generating. Once the pool participant has access to ETS they are required to input two years worth of AC values. At this time the short term outage graph will reflect the time before the generating unit commences operations, as an outage.

While the generating unit is testing, the outage graphs will reflect its AC submissions during this time. The participant will submit the test plan to the AESO at least 10 days in advance for generators of capacity less than 150 MW, and at least 30 days in advance for generators of capacity equal to or greater than 150 MW.

[http://www.aeso.ca/downloads/OPP\\_603.pdf](http://www.aeso.ca/downloads/OPP_603.pdf). Typically, testing and commissioning activities for simple cycle gas generating units are relatively short. Testing and commissioning activities for coal generating units and some cogeneration generating units (where commissioning may be staged) may last a number of months.

In order that all market participants know when a new unit is reflected in the outage graph the AESO has adopted the business practice of including the asset name in the “asset list”<sup>2</sup> and placing the generating units on the “Current Supply & Demand”<sup>3</sup> (CSD) page. Note that while a generating unit may be added to the CSD page its total net generation may not be displayed until the AESO has verified it is receiving accurate data.

---

<sup>2</sup> [http://ets.aeso.ca/ets\\_web/ip/Market/Reports/AssetListReportServlet?contentType=html](http://ets.aeso.ca/ets_web/ip/Market/Reports/AssetListReportServlet?contentType=html)

<sup>3</sup> Link to CSD page



- 5 -

If a unit was added to the CSD page prior to having all their SCADA operating, Total Net Generation (TNG) and Dispatched (and accepted) Contingency Reserve (DCR) would display a dash instead of zero.

**An existing generating unit is expected to retire in the next two years. How is this reflected on the outage graphs?**

Generating units connected to the system are required to enter AC values out for two years, as specified in OPP 606. A generating unit that is planning to retire is required to continue entering AC values out for two years, recording an AC of 0MW in each hour after the expected retirement date. These will appear as an “outage” for the corresponding periods in short term and monthly outage graphs.

Once the generating unit has “retired” the pool participant is no longer required to enter AC values and the generating unit will no longer show in the outage graphs. At this time, the AESO has adopted the business practice of changing the generating unit’s entry in the asset list to show an ‘Operating Status’ of retired and removing the generating unit from the CSD page.

**Based on the ISO Operating Policies and Procedures I believe a generating unit will be constrained down. How is this reflected in the outage graphs?**

Transmission or other operating constraints that reduce a generating unit’s ability to supply energy are not outages (they do not reflect the generating unit’s AC). Consequently, they are not reflected on the short term and monthly outage graphs. The expected impact of transmission and other operating constraints (as well as outages) is reflected in the AESO’s Year-End Supply Demand Projection.<sup>4</sup>

**Why is an archive of historical outage graphs not provided?**

The short term and monthly outage graphs are primarily intended to be of use for market participants in forward trading which does not require an archive capability. An archive of outage graphs is available to the AESO to check for accuracy and for the MSA in the event of an investigation.

---

<sup>4</sup> [http://ets.aeso.ca/Market/Reports/Manual/AiesGraphs/year\\_end\\_supply\\_and\\_demand.html](http://ets.aeso.ca/Market/Reports/Manual/AiesGraphs/year_end_supply_and_demand.html)