

# Frequently Asked Questions

## Short Term and Monthly Outage Graphs



This document is intended to assist market participants in understanding the daily and monthly outage graphs for 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 document will be updated from time to time and market participants should be aware that the information may be impacted by ISO Rule changes. Please contact [market.analysis@aeso.ca](mailto:market.analysis@aeso.ca) 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 daily 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. For most generating units MC and MCR are similar. Values are most divergent for generating units that primarily supply onsite load and only offer power net-to-grid. In these cases, the MCR may be considerably larger than the MC. The [current supply and demand \(CSD\) page](#) reports individual asset MCs with the exception of assets that offer net-to-grid. Instead, the MCRs of these assets are reported.

Some generating units do not report a MC. These include 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 [Daily Outage graph](#) displays outages across days. Information on longer term outages is provided in the [Monthly Outage graph](#) (all hours for each of the next 24 months). In addition to the Daily and Monthly Outage graphs, the [7 Days Hourly Available Capability](#) report presents the aggregate AC factor by fuel type for each hour over the upcoming seven days.

Outages that occur during a given time period are pro-rated on the Monthly Outage graph. 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. On the Daily Outage graph, outages that occur part way through a day and end on the next day are similarly prorated. For example, a 40MW outage that occurs today during 12 hours and tomorrow during 6 hours would show as a 20MW outage for today and a 10MW outage for tomorrow. Since the AC factor displayed on the 7 Day Hourly Available Capability report is calculated on an hourly basis, outages do not need to be prorated on this report.

### How often are the outage graphs updated?

The Daily and Monthly Outage graphs feature two time stamps – the time at which the outage records were received 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 the Daily and Monthly Outage graphs, as well as the 7 Days Hourly Available Capability report take less than five (5) minutes to reflect AC changes submitted by Market Participants. After updating, there is a lag of a few minutes while the graphs are calculated and the updated graphs are available on the website.

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

It has been observed that the Daily and Monthly Outages graphs have, on a rare occasion, not been updated every five to ten 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 “Outage records received as of” 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 “Outage records received as of” time on the outage graph, you should verify 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 for which your outage was entered. Check what change you would expect your submission to have on the outage graph, noting that outages are rounded to the nearest 10 MW.

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 nor the MSA will provide pool participant outage information, specifically whether it has or has not been included in the graphs.

### **What is the methodology followed to calculate outages or derates?**

Outage reports follow the same methodology to calculate outage volumes for all fuel types. These reports display all differences between each unit's MC and AC. Outage data is then aggregated by fuel type to create one final outage amount for each time block. After all outages are aggregated, the total is rounded to the nearest 10 MW.

The 7 Days Hourly Available Capability report follows the same methodology to calculate availability factors for all fuel types. The availability percentage for every hour ending is calculated as the sum of the AC divided by the total maximum capability (MC) of each fuel type.

The conversion of coal outages to 325 MW, designed as one way of protecting the identity of particular coal generating units, was removed in early 2015.

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

The outage graphs are based directly on the AC submissions received from pool participants through the ETS system. [Section 203.3](#) of the ISO rules requires that changes to AC are restated “as soon as reasonably practicable” for changes that impact the trading day. [Section 306.5](#) of the ISO rules 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 10 MW for each fuel type.

### **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 ETS to enter AC and MC values. Once a new generating unit has been registered in ETS, pool participants are required to input two (2) years worth of AC values. From the moment a unit is registered in ETS until it commences operations, the AC of the generating unit will be reflected on the Daily and Monthly Outage graphs as an outage.

While the generating unit is testing, the outage graphs will reflect its AC submissions during this time. [Section 504.3](#) of the ISO rules details how the AESO manages the commissioning and testing of generators. It states that the participants must submit final testing plans to the AESO at least thirty (30) days prior to commissioning.

In order for all market participants to 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 and placing the generating unit on the 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.

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 for two years out, as specified in Section 306.5 of the ISO rules. A generating unit that is planning to retire is required to continue entering AC values out for two years, recording an AC of 0 MW in each hour after the expected retirement date. These will appear as an outage for the corresponding periods in Daily 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 in the Daily and Monthly Outage graphs. The expected impact of transmission and other operating constraints (as well as outages) is reflected in the AESO's [24 Month Supply Demand Forecast](#).

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

The Daily and Monthly Outage graphs are primarily intended to be of use to 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. When possible, the AESO has posted outages under the data request section.