

## Software Release Notes for April 24, 2009 – Changes to AQS based on the Revised PM 2.5 Standard

Software changes were implemented in AQS this past weekend. These changes were based on 40 CFR Part 50 Appendix N – Interpretation of the National Ambient Air Quality Standards for PM<sub>2.5</sub>.

Due to the revised PM<sub>2.5</sub> standard, the AQS PM<sub>2.5</sub> data summarization process had to be updated. This affects monitor-level 24-hour block averages, site-level daily summaries, site-level quarterly summaries, and site-level annual summaries. For PM<sub>2.5</sub>, monitor-level statistics have been combined to the site-level.

Site daily value records were created for all PM<sub>2.5</sub> data in AQS, regardless of sample date. Site daily values for PM<sub>2.5</sub> are from a site's primary monitor, and are combined with the values from that same site's collocated monitors for any days when the primary monitor is missing data. (Note that the designation of the primary monitor was done previously, and any QA your agency had done on the primary monitor designation does not need to be repeated.) Default primary monitor periods were established for all PM<sub>2.5</sub> sites based on the monitor with the minimum required collection frequency for a period of operation.

All quarterly and annual completeness calculations ignore the effect of exceptional event exclusions.

The percent completeness calculation includes exceptional events, but exceptional events are excluded from the summary data for arithmetic means and the 98<sup>th</sup> percentile calculations.

All PM<sub>2.5</sub> summaries were computed based on the new 24-hour standard (35 µg/cm instead of 65 µg/cm). (The standard is met when the 24-hour design value is less than or equal to 35 µg/cm. The design value is based on 3 consecutive, complete years of air quality data and is calculated by taking the average of the 98<sup>th</sup> percentile value for each of the 3 years. The 98<sup>th</sup> percentile is the daily value out of a year of PM<sub>2.5</sub> monitoring data below which 98 percent of all daily values fall.)

A new report, Combined Site Sample Values (AMP355), was added. It is currently available for PM<sub>2.5</sub>, and is intended only for combinable pollutants (e.g., PM<sub>2.5</sub> and, in the future, lead.) For PM<sub>2.5</sub>, the report will display combined sites sample values in an annual format. All values returned for a specific site for a year will be shown on one page. The values for each month will include the total number of values, the max value, and the mean value. Also on the report page are quarterly (total number of samples, max value, mean value, creditable days and % observations) and annual statistics (creditable days, % observations, weighted mean and 98<sup>th</sup> percentile.) Note: The default report option is to display an "\*" to mark values from collocated monitors.

**Discoverer users.** The following new tables are available:

Primary Monitor Periods V

Site Daily Values V

Site Annual Summaries

Site Quarterly Summaries

- To get information on POCs in the Site Daily Values, select both the Primary Monitor Periods V and Site Daily Values V tables.
- Primary Monitor Periods V table contains the field "Sample Day." When running a query in Discoverer, use "Conditions" to specify:  
Sample Day BETWEEN 'Begin Date' and 'End Date' or  
Sample Day >= 'Begin Date' and 'End Date' IS NULL