AQS Site and Monitor Configuration

AQS How-To Clinic

Site and Monitor Metadata

- ## Site
  - Basic Site Info (AA)
  - Site Street (AB)
  - Site Open Path (AC)
  - Site Sampler (AD)
  - Sampler Channel (AE)
  - Primary Monitor Period (MO)

- ## Monitor
  - Monitor Basic (MA)
  - Sample Period (MB)
  - Monitor Type (MC)
  - Monitor Agency Role (MD)
  - Monitor Objective (ME)
  - Monitor Sampling Schedule (MF)
  - Monitor Tangent Road (MG)
  - Monitor Obstruction (MH)
  - Monitor Regulatory Compliance (MI)
  - Monitor QA Collocation (MJ)
  - Monitor Method (MM)
  - Monitor Network Affiliation (MN)
  - Primary Monitor Period (MO)
  - Monitor Channel (MP)
  - Monitor NAAQS Exclusion (MX)

Data Entry and Maintenance

- On-line maintain:
  - Designed for editing one record at the time.
  - Provides validation of each field as it is entered, and "pick list" of valid codes (e.g. Method Code)
  - Validates all changes together on "Save"
- Batch Load
  - Processes files of records (possibly thousands)
  - Validation is iterative cycle – Submit-Correct-Resubmit
  - Changes are validated one record at the time.
- **Tip:** To create a new site or monitor, find one similar to the one you want to create, and 1) export it with AMP500, 2) use an external text editor to change the appropriate fields, and 3) submit via batch.

AQS Caveat

- Presently, because the AQS batch process validates changes one record at the time, certain changes are not allowed. Example:
  - Assigning a new PQAO: This requires an end date to be applied to the old PQAO-Agency, and a new agency to be assigned on a separate record; the validation rules will prevent this in batch.

- This is expected to be fixed by the end of 2014.

Primary Monitor Designation

- "Primary Monitor" in this context means the monitor at a site that will be used for NAAQS determinations.

- Primary monitors are required for pollutants where Design Values are computed at the site-level rather than at the monitor level (e.g. PM 2.5, Lead, and NO2) (These are "combinable")
  - i.e. AQS will not allow a monitor for these pollutants to operate for a site and date where there is no primary monitor designated.

- The primary monitor for a pollutant at a site can be designated in AQS on either the Maintain Site form or via the MO transaction in batch.

- AQS As a convenience, when the first monitor for a combinable parameter is created at a site, it is automatically set up as the primary.

QA Collocation Setup

- 40 CFR Part 58 Appendix A requires QA Collocation for certain pollutants and methods
- QA collocation is set up on either the Maintain Monitor form QA Collocation tab or the MJ Batch transaction.
- Each monitor of the QA Collocation pair must be set up separately; i.e. you must query each monitor on the Maintain form and tell AQS if it is the primary or collocated member of the pair, or submit two MJ transactions.
- For combinable parameters the primary for QA collocation should be the monitor designated as primary for NAAQS determinations (not presently enforced by AQS)
- **Important**: Only set up the QA monitor as "collocated"; do **not** set up other non-primaries on this form.

2014 Changes: Monitor Types (1)

- Monitor Type is now only used for "Administrative classification of a monitor" (SLAMS, Tribal, SPM, Non-EPA Federal, Industrial, and Other)

- A monitor can only have one monitor type at the time. (i.e. to assign a new monitor type to an existing monitor, you must close the old one first.)

Monitor Types (2)

- SLAMS: State or Local air monitoring stations for parameters (pollutants and/or meteorological data) addressed by 40 CFR Part 58.
- TRIBAL: Air monitoring stations operating under the authority of a Federally recognized tribal agency for parameters addressed by 40 CFR Part 58.
- SPECIAL PURPOSE: A monitor that an agency has designated as "Special Purpose" in its annual monitoring network plan for parameters addressed by 40 CFR Part 58.
- INDUSTRIAL: A monitor that is operated by a private industry entity rather than under the control of a State, Local, or Tribal government.
- EPA: A monitor that is operated by EPA or an EPA contractor for parameters addressed by 40 CFR Part 58.
- NON-EPA FEDERAL: A monitor operated by another Federal agency for parameters addressed by 40 CFR Part 58.
- OTHER: A monitor for a parameter **not** addressed by 40 CFR Part 58. (i.e. It will not be allowed for criteria pollutants or other parameters associated with a monitoring network such as NCORE, PAMS or NATTS.)

Monitor Network Affiliation (New 2014)

- Name of the network or program of the monitor (e.g. NCORE, NATTS, PAMS, CSN STN, IMPROVE, CASTNET, PSD, SCHOOL AIR TOXICS, TRENDS SPECIATION, NEAR ROAD, CSN SUPPLEMENTAL, SUPPLEMENTAL SPECIATION)

- Previously coded under monitor type.

- May have more than one value at the time or no value (Example: SLAMS criteria monitors often have no network affiliation)

- Coded as MN batch transaction

Monitor Method

- The Monitor Method is the method of collection and analysis implemented by an AQS monitor for a period of time.

- Makes the link between AQS monitors and samplers in the real-world stronger.

- Utilized for validation of Raw and QA data.

- New: Non FRM/FEM methods will not be allowed for regulatory monitors.

- Encoded in AQS a batch MM transaction.

NAAQS Exclusion (New 2014)

- Indicated that the monitor should be excluded from NAAQS determinations (Design Value calculations)

- Replaces "non regulatory" monitor type

- Coded as MX batch transaction

- Note: Will be used by EPA for official DV calculations, but only used by AQS for combinable parameters (e.g. PM 2.5, Lead, and NO2)

Speciation (New 2014)

- For speciation sampling, usually a sampler will collect an air sample using a filter that is analyzed for many pollutants.

- QA of the monitoring process requires that the sampler be subject to flow rate verifications and flow rate audits.

- Historically, these were coded for each pollutant / parameter, but now AQS allows these to be coded once for the sampler.

- This is accomplished by defining Samplers and channels, and allowing AQS monitors to be associated with them.

Speciation Setup in AQS

- AD transactions are used to define Samplers (Name or ID, Make, Model, number of channels)

- AE transactions define the characteristics of a channel on a sampler (e.g. Filter type, nominal flow rate)

- MP transactions associate an AQS monitor with a sampler channel.

- Submitting a QA "Speciation Flow Rate V" associates the flow rate verification with all of the monitors associated with the sampler channel.

- Submitting a QA "Speciation Flow Rate Audit" associates the flow rate audit with all of the monitors associated with the sampler channel.

Frequent Sampling with Single Filter Monitors

- Background:
  - For cost reasons, monitoring agencies may desire to collect the filters from PM samplers less frequently (e.g. 1-in-6 days) that the required sample schedule (1-in-3 or every day)
  - Present EPA guidance requires samples from distinct samplers to be submitted as separate monitors/POCs to AQS
  - Values will be combined at the site-level (by AQS for PM 2.5, or manually for PM 10) to calculate Design Values.
- Setup: Present: Configure all monitors with required sample schedule (i.e. 1-in-3 or every day), and Regional Office reviewers will look at site completeness rather than monitor completeness.
  - Planned: Data Completeness Report (AMP430) will be enhanced to calculate site-level completeness for PM monitors (Detailed memo will be published)

Questions and Answers: