

Attachment B

Applicability of AQS Metadata for NCore

This attachment provides information on the applicability of important metadata when setting up NCore sites, monitor records, and submitting data associated with NCore. This attachment focuses on key metadata that may be most useful to data users. AQS requirements for metadata are more exhaustive than the fields listed in this attachment and any required fields will still need to be populated, even if not specified below. For non-required fields, monitoring agencies are encouraged to supply other metadata that may also be useful to data users. Please incorporate this information into data reporting for your approved NCore station(s).

Site Level:

The structure of the AQS data base requires that a “site” be set up prior to setting up monitor records. A site record in AQS defines information about the location of a monitoring station such as the street address; latitude and longitude; and the AQS State, County, and site ID. Except for a few completely new stations, most monitoring agencies have successfully set up the appropriate site information in AQS. Of the available fields to populate in a Site Record, we are asking for your attention in assuring that the following fields are appropriately populated

Local Site Name – Although not required, we are asking you to populate this field with a descriptive name for your NCore station. This should be consistent with the site name identified in your NCore plan and may be associated with the site name identified on your own web site or on AIRNow. This should be populated with a name that is different than your 9 digit StateCountySite AQS ID. This will help in communicating your NCore station with data users not familiar with AQS coding structure. If your agency already uses a code in this field for your own purposes, it is not necessary to provide a more descriptive entry.

A couple examples of descriptive names provided in NCore plans are “Jefferson Elementary” for a site in Iowa and “Allen Park” for a site in Michigan.

Latitude and Longitude – Ensure the correct “Horizontal Datum” is populated with the coordinates. Monitoring agencies are encouraged to validate these coordinates with commercially available GPS units and/or by reviewing publically available satellite imagery such as on Google™ Earth..

Primary Monitor Periods – For PM_{2.5} as a NAAQS criteria pollutant (parameter code 88101) the monitoring agency must identify which POC is the primary monitor in the “Primary Monitor Periods” screen. This is required to be populated even if there is only one registered POC for parameter code 88101. At this time, no other pollutants use this screen.

Monitor Level:

Monitor records are set up for each measured pollutant or meteorological parameter being reported to AQS. Therefore, there is a many to one relationship between monitor records and a monitoring station. Please update the following fields, as necessary, for each pollutant measurement reporting to AQS from your NCore station.

Monitor Type – Each monitor operating at an NCore station will typically have at least two monitor types associated with it.

EPA-OAQPS will be responsible for adding “NCore” as a monitor type for NCore measurements being reported at each approved NCore station. Note: we will also remove “Proposed NCore”, where applicable. For NCore measurements that come on-line and begin reporting after the initial round of NCore monitor type

associations, EPA-OAQPS will periodically review NCore station data in AQS and add a monitor type of NCore for any remaining required NCore measurements being reported, but not already associated with a monitor type of NCore.

Each monitoring agency is responsible for populating a monitor type that provides the “Administrative Classification” of the monitor. For NCore stations this will largely be a monitor type of SLAMS since the majority of NCore stations are operated by State and local agencies. A smaller number of NCore stations are operated or coordinated with monitoring partners such as a Tribal Monitoring Program, the National Park Service, or EPA’s CASTNET Program. In these cases a monitor type of “Tribal Monitors”, “Non-EPA Federal”, or “CASTNET” can be used.

Measurement Scale – We are requesting you populate this field for each monitor reporting data to AQS. For Urban and Suburban NCore Stations, this will most likely be either Neighborhood Scale or Urban Scale. For Rural NCore Stations we are expecting the use of Regional Scale.

Monitoring Objective – All Urban and Suburban monitors reporting to AQS should use “Population Exposure” as the monitoring objective. Rural NCore stations should use the most appropriate choice between “Upwind Background”, “General Background”, “Regional Transport”, or “Extreme Downwind”. Other Monitoring objectives may apply, but are not expected.

Area Represented – For Urban and Suburban stations, populate this field with the appropriate code for either the CBSA or CSA, if applicable. For Rural Stations, this field should not be populated.

Sample Frequency – A sample frequency is required to be associated with each of the PM measurements. For filter-based measurements this is typically on a schedule of “every 3rd day”. However, some agencies may be operating their PM samplers on a daily schedule. Sample frequency does not need to be loaded for continuous measurements.

Data Level:

A few notes are provided below associated with submitting data records to AQS. Please incorporate these notes into your data reporting to AQS.

PM_{2.5} Continuous Measurements – A technical note on the use of parameter codes for PM_{2.5} continuous methods was issued on June 1, 2006. This technical note is available on the EPA’s AMTIC web site at: <http://www.epa.gov/ttn/amtic/datamang.html>. On July 24, 2008, a memo was issued on “Implementing Continuous PM_{2.5} Federal Equivalent Method (FEMs) and Approved Regional Methods (ARMs) in State or Local Air Monitoring Stations (SLAMS) Networks. This memo is available on the same web site listed above.

While monitoring agencies can operate either FEM’s, ARM’s - if one is approved, or well performing non-FEM/ARM PM_{2.5} continuous monitors, agencies should report their data to either 88101, if it is an approved FEM or ARM, or to 88502, assuming it is a well performing PM_{2.5} continuous method that is not approved as a FEM or ARM. Each NCore station should have either an FEM/ARM or well performing PM_{2.5} continuous method reporting to AQS so that these data can provide the high temporal resolution expected at NCore Stations for use in AQI reports and other assessments.

Method Code - Each data record includes a 3 digit method code that associates detail on the sampling and analysis method with a piece of data. Of particular note for NCore trace gas measurements of CO, SO₂, and NO/NO_y monitoring agencies should be utilizing the appropriate method code associated with the trace gas measurements that provides a substantially improved detection limit. Default Method Detection Limits (MDL’s) are provided for each commonly used trace gas method in the AQS data base. Monitoring agencies can also submit their own MDL, where applicable. Many, but not all of the method codes associated with trace gas instruments have a method code in the range between 500 and 600.

Table of Select AQS Metadata associated with NCore

AQS Metadata Field	Location of Metadata	Are Multiple Options Allowed	Does AQS Require this Field?	Expected Option(s) for NCore	Notes
Local Site Name	Site Level	No	No	We are requesting you identify your site name in AQS.	Please use a descriptive name.
Latitude	Site Level	No	Yes	8 digits, including 6 past the decimal place with a positive sign indicating above the equator (+xx.xxxxxx)	Ensure the correct “Horizontal Datum” is populated with the coordinates
Longitude	Site Level	No	Yes	9 digits, including 6 past the decimal place with a sign (+xxx.xxxxxx)	
Primary Monitor Periods	Site Level	No	Yes, but only for 88101	Always populate for PM _{2.5} (parameter code 88101)	
Monitor Type	Monitor Level	Yes	Yes	NCore	EPA-OAQPS will update or add “NCore” as a monitor type for each approved NCore station
				SLAMS, Tribal Monitors, Non-EPA Federal, or CASTNET	Monitors at each station should also identify one of the Monitor Types on the left.
				Other Monitor types such as IMPROVE, PAMS, or Trends Speciation may also apply	
Measurement Scale	Monitor Level	No	No – however, we are requesting you populate this field	Neighborhood Scale 500M to 4KM	Expect one of these for monitors at Urban or Suburban Stations
				Urban Scale 4 KM to 50 KM	
				Regional Scale 50 to hundreds KM	Expected for monitors at Rural stations
Monitoring Objective	Monitor Level	Yes	Yes	Population Exposure	For monitors at all Urban and Suburban NCore Stations
				Upwind Background, General Background, Regional Transport, or Extreme Downwind	Expect one of these for monitors at Rural NCore Stations
				Other Monitoring Objectives may apply for either Urban or Rural NCore stations; however, one of the above should be utilized at a minimum	
Area Represented	Monitor Level	Only one type of area (CBSA or CSA) can be listed per objective	No – however, we are requesting you populate this field	CBSA Represented	Urban Stations should use one of the following
				CSA Represented	
				Rural stations should not populate this field.	
Sample Frequency	Monitor Level	No	Required only for PM	Relevant sample frequencies include: 1 Every Day 3 Every 3 rd day	PM monitoring is required at a minimum frequency of one in every third day.