

**Trading Partner Agreement
For Submission of Data to the US EPA Air Quality System
(AQS Submission Exchange)
September 21, 2007**

Partnership Overview

This is a unilateral agreement issued by the US EPA and applies to anyone attempting to submit data to the AQS system via the Exchange Network (a “submitter”). Data is submitted to AQS by State, Local, and Tribal agencies and other federal organizations and their representatives. Some of the data submitted to AQS is required by regulation and other data is voluntarily submitted; there is no difference in the submission process between regulatory and non-regulatory data. The goal of the AQS submission exchange is for data to be successfully transferred from the submitter to the AQS system at the EPA.

Purpose and Parties

The purpose of this Trading Partner Agreement (TPA) is to identify the key elements of the business process not documented elsewhere that the submitter and EPA will undertake as partners in exchanging AQS data via the Exchange Network (EN). It is intended to describe the specifics of the submission of AQS data from the submitter to the EPA via an EN flow.

The AQS submission flow is a regulatory flow (mandated by law) and this document does not supersede requirements associated with these submissions.

Definition of Data

The EPA requires and helps fund State, Local, and Tribal agencies to operate several networks of ambient air quality monitors. One of the operating conditions of these networks is that the data be reported to the EPA repository of ambient air quality data, AQS. These data have been reported for decades via various methods and the addition of the EN flow is a convenience to the submitting agencies allowing the use of a single technology for all submissions to EPA.

Data may be sent to the EPA for incorporation into AQS via an EN flow, via CDX web, or via on-line entry. All of these mechanisms allow for the transfer of data from the submitter to the EPA and do not completely fulfill the submission requirement. Following transfer, the AQS interactive application must be used to “load” and “post” the data (these are the error handling and data quality steps) after the data transfer is complete. Data may be submitted in any of four currently supported formats (see the AQS Submission FCD for more details). The remainder of this document only addresses the EN (node to node) flow.

Ambient air quality data submitted to the EPA generally consists of following information: the location and operation of monitoring sites, the description of monitoring equipment and methods, sample values measured in the field or from laboratory analysis, the results of quality assurance tests, and data related to the uncertainty, exceptional nature, etc. of measured sample values.

The complete contents (data elements) required can be found in the AQS Data Coding Manual at <http://www.epa.gov/ttn/airs/airsaqs/manuals/manuals.htm>.

The latest XML format, DET, and FCD can be found at the EN AQS web page: <http://www.exchangenetwork.net/exchanges/air/aqs.htm>.

Definitions of Roles and Responsibilities

It is generally the responsibility of the submitter to submit all required data by the reporting deadlines (described in 40 CFR Part 58). Submit means perform the data transfer (via the EN) and then process the data through AQS using the interactive application (e.g., the load, quality assurance, and post functions). It is generally the responsibility of the EPA to make the AQS node and application available to receive and process the data.

Dispute Resolution

Parties shall make a good faith effort to resolve any data exchange issues in a timely fashion.

Exchange Mechanism

AQS data is transferred from the submitter to the EPA using the EN submit method. (The data is “pushed” from the State, Locality, or Tribe to the EPA.) Details of message structure and process flow are given in the AQS Submission FCD. The data flow is one-way from the submitter to the EPA with a receipt and status messages returned by CDX to the submitting node on request. Files transferred using this method may not contain a blank space character in the filename (the space will get encoded during the network handoffs and will result in failure at AQS).

All data loaded into AQS must be loaded by a registered user with the appropriate authority. Thus the EN user making the submission (usually a node or node administrator) must have their EN ID associated with the AQS user ID of the person who will be processing the data after the transfer is complete. This association can be made by calling the EN help desk at 888-890-1995.

Exchange Schedule

The reporting deadline for AQS is generally that all data collected during one calendar quarter must be reported by the end of the following calendar quarter (there are exceptions / extensions to this deadline for certain types of data). However, data may be submitted at any time prior to the applicable deadline and in any volume. That is, smaller, more frequent submissions may be made.

AQS is operational continuously with the exception of a regularly scheduled maintenance window each Sunday night from 5:00 pm to midnight eastern time. AQS and CDX sometimes have periodically scheduled maintenance on Saturday mornings, or other times if necessary. AQS users are sent email notifications when periodically scheduled maintenance is planned. There are also unscheduled outages when EPA is not able to receive data. For the status of CDX, the helpdesk may be contacted at 888-890-1995. For the status of AQS, the helpdesk may be contacted at 866-411-4372.

Exchange Failure

An exchange failure means the data did not make it from the submitting node to the EPA AQS node. This may be the result of a communications failure between the Agency and AQS, or of the payload not passing XML schema validation performed at CDX.

If you encounter a communications failure, you may want to attempt the exchange again to ensure there was not a transient issue. You should notify the CDX EN helpdesk (888-890-1995) of persistent communication failures.

If you encounter an XML schema validation error, you should review the error log and make the commensurate changes to the XML file (or generator).

The inability to load data into AQS after the data transfer is complete can result from an application failure or a data quality failure, but is not an exchange failure. An exchange failure does not relieve the submitter from any reporting deadlines.

Record Retention

AQS submission files are archived at CDX until loaded into AQS or for 8 days, whichever is longer. They are immediately discarded from AQS local storage once their contents are loaded into the database. Since AQS allows both the entry of data via the on-line application and the processing of data in a different order than it was transferred by the EN flow, the concept of a “submission of record” does not apply. The data that is at production status within AQS is the official record and is stored permanently by EPA.

Data Stewardship

Data Ownership

Data submitted to AQS is always “owned” by the submitter. That is, EPA never unilaterally changes the submitted data. However, EPA will derive data from the submitted data and store it alongside the submitted data in the AQS database. Derived data include summaries, aggregates, and inferred concentrations of substances not submitted. EPA may also occasionally change metadata about the geographic locations of sites to keep them current. All data in AQS is available to any requesting party as soon as it is posted to production status (after the submission and quality assurance steps).

Use and Distribution of Data

AQS is the primary source of air quality data for the EPA and our partners and is used for assessing regulatory status, efficacy of control strategies, trends in air quality, and determining the health impact of ambient air on populations.

All data in AQS is public; that is, available to any requestor. Much of the data is pulled from AQS by other EPA and external systems and organizations and may be analyzed, presented, or re-disseminated by them.

Data Elements, Content, Coverage, and Quality

AQS is a mature system and has been receiving data for more than 30 years in different incarnations. The adaptation of the EN as a data exchange / transfer mechanism is a relatively minor evolution that does not impact the AQS business rules or data elements, content, or coverage. Recall that the EN flow is simply a mechanism to transfer data from the submitter to EPA and does not completely fulfill the submission requirement. The AQS interactive application must be used to “load” and “post” the data after the transfer is complete. The data content is described at the following sources:

The regulation covering data collection and reporting requirements is 40 CFR Part 58.

AQS submission file contents and business rules are described in the AQS Data Coding Manual at <http://www.epa.gov/ttn/airs/airsaqs/manuals/manuals.htm>.

The XML schema and the DET (data exchange template), which maps the XML tag names to the data element names in the AQS Data Coding Manual, can be found at the EN AQS web page: <http://www.exchangenetwork.net/exchanges/air/aqs.htm>.

Use of the AQS application to process data (loading, error correction, quality assurance, posting, obtaining job status, etc.) is described in the AQS User Guide at <http://www.epa.gov/ttn/airs/airsaqs/manuals/manuals.htm>.

All AQS submission files contain transactions. AQS is a transaction based system and each type of data reported (even in the XML format) is accompanied by an action type (insert, update, or delete). There is no "total replacement" (overwrite or insert) submission option.

After the data is transferred and the AQS application is used to load the data, the user may encounter load (not transmission) errors. Some of the most common are listed here.

Attempts to load data with an action type of "insert" will result in an error for each value that already exists (has a primary key conflict) in the database. Likewise, attempts to update or delete data will result in error if the corresponding primary key combination is not found within the database.

Each monitor in AQS is associated with a list of users who are allowed to update its data. If an unauthorized user attempts to insert (or update or delete) data for a monitor, an error for each data value attempted will result.

Simply because the submitted XML file passes schema validation does not mean it is without format errors. The schema has been kept simple to allow for its use in multiple flows. For example many numerical and text fields were left generic and may contain too many characters for a valid AQS value. The schema was also simplified to avoid having to make frequent updates. For example, most enumerated lists (valid value lists) were excluded from the schema to avoid having to issue updates when lists of values change.

Data Timeliness

All data submitted to AQS is either date stamped or expected to reflect current conditions (and is date stamped when loaded into AQS).

Agreement Administration

Period of Agreement

This document becomes effective as of the date on the first page and remains in effect until superseded.

Contacts

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