Software Release Notes for March 15, 2010 –
Exceptional Event implementation

The following changes have been made in AQS as of March 15, 2010:

- the AQS Archive database has been recombined with Production
- the Exceptional Event implementation
- the Data Conversion to the new exceptional event flags
- the new AMP360 (Raw Data Qualifier) report
- the Re-computation of Summary Level records based on the exceptional event flags
- the "Applicable Standard" Report Option is available for some Standard Reports

Archive loaded into Production

The maintenance of both an Archive and a Production database has been a resource drain, and, at this time, the separate Archive database has been eliminated. The data from Archive has been brought into the Production database.

Older data that came from the Archive database can be retrieved, but not updated. The Archive raw data (pre-1993) will only be open for update at scheduled periods and, during those times, current data would not be open for update.

Users that need to update pre-1993 data must notify user support, who will then plan and announce a time for opening the update. These special update periods would not be scheduled more than biannually.

Exceptional Event Implementation

The Exceptional Event Rule (EER) was published March 22, 2007 and became effective May 21, 2007. The EER allows the ambient air quality data which is submitted to AQS and used in making regulatory decisions, to be, in some cases, flagged and, where appropriate, excluded from calculations in determining whether or not an area has attained the standard. The data flagged as "exceptional" must have been affected by an exceptional event, which is defined as an event that affects air quality, is not reasonably controllable or preventable, is an event caused by human activity that is unlikely to recur at a particular location or a natural event, and is determined by the EPA in accordance with 40CFR 50.14 to be an exceptional event.

The exceptional event implementation has ramifications for different AQS user groups:

- state/local/Tribal users who enter exceptional event information or who would flag specific sample measurements with exceptional event qualifiers,
- EPA Regional Office users who would "concur" or "deny" the exclusion of specific sample measurements and
- AQS users who run standard reports
- AQS users who create ad-hoc reports via Discoverer

More details, including screen captures and explanations, are available in the *AQS Exceptional Event Tutorial* at www.epa.gov/ttn/airs/airsaqs/manuals/

The general flow is as follows:

Flag the sample data with the exceptional event qualifier – State/local/Tribal (via batch or on-line)

Define the exceptional event and associate this with the flagged sample data – State/local/Tribal (on-line)

Add concurrence flag – Regional Office (on-line)

The EPA Regional Office can add a concurrence flag to signify that it concurs with the exclusion of sample measurements due to an exceptional event This concurrence can only be done via online forms.

A “Concur” flag means that the Regional Office concurs with the exclusion. A “Deny” means that the Regional Office does not concur with the exclusion.

Certification is preserved when data is Concurred or Non-Concurred. The Certification of a Monitor-Year is only removed when the concentration value of a sample measurement is updated, but not when other fields are updated.

Sample values can be concurred or non-concurred with respect to the following existing standards:

Pollutant	Standards
O_3	8-hour 2008 1-hour Daily 2005 8-hour 1997
SO_2	24-hour 1971 3-hour 1971 Annual 1971
NO_2	Annual 1971
CO	8-hour 1971 1-hour 1971
Pb	Quarterly 1978
PM_{10}	24-hour 2006
$PM_{2.5}$	24-hour 2006 Annual 2006

Data Conversion to the new exceptional event flags

The data conversion to the new exceptional event flags, as previously discussed in the memo “Implementing New Qualifier Codes for Exceptional Events Processing, 9/29/08” is complete.

The old qualifier code types “EXC” and “NAT” were replaced with the new “REQEXC” or “INFORM” qualifier flags.

All “EXC” and “NAT” qualifier types were converted to “REQEXC” codes for criteria pollutants whenever the descriptions agreed. The EPA Concurrence was preserved as part of this conversion. “REQEXC” qualifier types are allowed only for criteria pollutants because only criteria have NAAQS which allow for exclusion of high values when determining design values.

For non-criteria pollutants, whenever the descriptions agreed, the “INFORM” qualifier types were used. The “INFORM” qualifier codes are for use with all non-criteria pollutants, as well as criteria pollutants when the values are not high enough to need exclusion.

Any future updates for these inactive “INFORM” codes will require the user to contact our office to arrange for the codes to be activated long enough for the data to be updated and then they will be made inactive again.

Event records were created for all old qualifier codes with concurrence. If the raw data values had comments, these comments became the event description. If the concurred values did not have comments, then generic event descriptions were created. Concurrence is no longer stored on the raw data table and is not displayed in Maintain Raw Data. Concurrence can be seen by running the new AMP360 report.

The table below gives the conversion values between old and new qualifiers. For the events that did not have a new code, the codes for criteria pollutants with concurrence were converted to "RL" and the concurrence preserved. For any qualifier converted to "RL", a comment was created to identify the original value. For all others, the old code was retained, as listed in the table, and entered in the reference table as an "INFORM" qualifier type.

Qualifier Description	Qualifier Code	REQEXC	INFORM
High Winds	A	RJ	IJ
Stratospheric Ozone Intrusion	B	RO	IO
Volcanic Eruption	C	RS	IS
Sandblasting	D	RL (if concurred by Regional Office); otherwise D (inactive)	D (Inactive)
Forest Fire	E	E (Inactive)	IL
Structural Fire	F	RP	IP
High Pollen Count	G	RI	II
Chem. Spills & Indust. Accidents	H	RC	IC
Unusual Traffic Congestion	I	RL (if concurred by Regional Office); otherwise I (inactive)	I (Inactive)
Construction/Demolition	J	RL (if concurred by Regional Office); otherwise J (inactive)	J (Inactive)
Agricultural Tilling	K	RL (if concurred by Regional Office); otherwise K (inactive)	K (Inactive)
Highway Construction	L	RL (if concurred by Regional Office); otherwise L (inactive)	L (Inactive)
Rerouting of Traffic	M	RL (if concurred by Regional Office); otherwise M (inactive)	M (Inactive)
Sanding/Salting of Streets	N	RL (if concurred by Regional Office); otherwise N (inactive)	N (Inactive)
Infrequent Large Gatherings	O	RK	IK
Roofing Operations	P	RL (if concurred by Regional Office); otherwise P (inactive)	P (Inactive)
Prescribed Burning	Q	RM	IM
Cleanup After a Major Disaster	R	RD	ID
Seismic Activity	S	RN	IN
Sahara Dust	U	RA	IA
Other event	Z	RL	IL

New AMP360 (Raw Data Qualifier) Report

The AMP360 can select by concurrence status, qualifier types, and qualifier codes.

It is intended that this report be used to see the status of data that has been flagged with an exceptional event qualifier and is awaiting RO action, data that has been denied exclusion, and data that has been accepted for exclusion, including ozone sample measurements that are flagged with the null data code "BG" (Missing ozone data not likely to exceed level of standard.)

Note: Ozone sample measurements that are flagged with the null data code "BG" and that receive Regional Office concurrence will count towards data completeness.

More information on the AMP360 is available in the ***AQS Exceptional Event Tutorial.***

Re-computation of summary level records

The addition of an exceptional event qualifier flag to sample values initiates (during the POST process) the re-computation of all of the summaries:

- at monitor-level:
  - NAAQS Averages
  - Daily Summaries
  - Quarterly Summaries
  - Annual Summaries;
- at site-level:
  - Daily Summaries
  - Quarterly Summaries
  - Annual Summaries.

All summary records are stored with identifiers that indicate whether the summaries include or exclude the sample values that were flagged with an exceptional event qualifier. When Standard Retrievals are done, the user will be able to select (from the Events Processing drop-down in the Report Options menu) which summary records will be retrieved. Summary records also have an indicator.

Note: Discoverer users – Any previously saved queries that deal with summary records will need to be updated to reflect the new Events Processing!

"Applicable Standard" Report Option available for some Standard Reports

Reports that use this summary data now have additional options for Applicable Standard and/or Events Processing on the Report Criteria Selection screens. The report selection criteria vary between reports.

For this AQS Report:	You can choose the **Applicable Standard*** to be applied to the report:	And you can choose one of the following options for Events Processing:
AMP450 (Quick Look Criteria Parameters)	Yes	Include Events OR Exclude Events OR Exclude Regionally Concurred Events OR Report All Event Records
AMP450NC (Quick Look All Parameters)	Yes	
AMP435 (Daily Summary)	Yes	
AMP230 (Frequency Distribution)	Yes	
AMP440 (Maximum Values)	Yes	
AMP260 (Reduced Frequency Distribution)	Yes	
AMP470 (Raw Values by Year)	No	
AMP355 (Combined Site Sample Values)	Yes	Include Regionally Concurred Events OR Exclude Regionally Concurred Events
AMP350 (Raw Data Report)	No	Include Events OR Exclude Events
AMP460 (Raw Data WF Parameters by Time)	No	
AMP350MX (Raw Data Max Values)	Yes	Include Events OR Exclude Events OR Exclude Regionally Concurred
AMP350NW (Raw Data NAAQS Averages)	Yes	
AMP300 (Violation Day Count)	Yes	
AMP360 (Raw Data Qualifier)	No	Concurred Data Only (Concurrence = Y) OR Non-concurred Data Only (Concurrence = N) OR Un-reviewed Data Only (No Concurrence Value) OR All Data (Concurred and Non-Concurred)

*List of Applicable Standards:

Ozone 8-hour 2008, Ozone 1-hour Daily 2005, Ozone 8-hour 1997, SO_2 24-hour 1971, SO_2 3-hour 1971, SO_2 Annual 1971, NO_2 Annual 1971, CO 8-hour 1971, CO 1-hour 1971, Lead Quarterly 1978, PM_{10} 24-hour 2006, $PM_{2.5}$ 24-hour 2006, $PM_{2.5}$ Annual 2006