



Air Quality System

Precision and Accuracy Data Transaction Generator
Version 4.3
(AQSP&A)



Training Workbook

2005 AQS Conference

June 13 – June 17, 2005
San Diego

Background

- What about PARS?
- How does AQSP&A fit in with AQS?
- Software Used
 - Excel
- Hardware and Operating Systems

What about PARS?

- Many agencies use PARS, and may continue to do so.
- PARS does not run on newer operating systems (e.g Windows 2000).
- IMG will support PARS, but no new enhancements.

How does AQSP&A fit in with AQS?

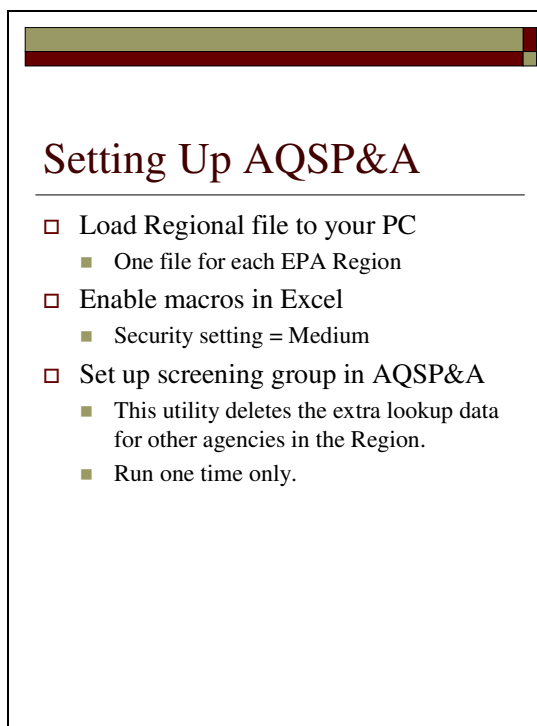
- AQSP&A is intended to simplify the creation of the 2 transactions for Precision and Accuracy data (RA and RP).
- AQSP&A is not a stand-alone database; it is not designed to store data.
- AQSP&A contains “reference” worksheets of valid monitors, valid protocol combinations (parameter, method, unit, sampling duration) and valid code values for several different fields on the RA and RP transactions.
- These reference worksheets are loaded from the AQS database.

Software used

- AQSP&A is an Excel workbook with Visual Basic for Applications used to automate validations, look ups, and generation of transaction files.

Hardware and Operating Systems

- AQSP&A runs on Windows 98, 2000, XP operating systems.
 - Files can be opened with Excel 97, Excel 2000, Excel XP (2002), and Excel 2003.



Load regional file to your PC

- 10 zipped files – one for each EPA regional geographic area are located on the AQS Web site under the Precision and Accuracy page.
- Files are similar, except that reference worksheets are loaded with monitor data specific to the screening groups located within each EPA Region's geographic area.
- User Guide file is also included with application.
- Download, unzip, and save the file before starting the application... do not try to run it from within the decompression application (e.g. WINZIP).
- Following this, you can double click the file and Excel will start automatically, or you can start Excel and open the AQSP&A file you just saved. You can rename, copy, or move the AQSP&A spreadsheet file as you wish... it is just like any other Excel file.

Enable macros in Excel

- When starting Excel, you may receive a prompt to enable macros.
- Excel security setting of "Low" = no prompt, macros are run.
- Excel security setting of "Medium" = prompt to enable macros or not.
- Excel security setting of "High" = no prompt, macros are not run.
- If macros are not set to run, the AQSP&A application will not work.
- To enable macros, open Excel and select Tools / Macro / Security. Select "Medium". With this setting, Excel will prompt you each time you open a file that contain Macros.
- Note: A macro is a set of instructions that runs "behind the scenes" when certain actions are performed.

Set up Screening Group in AQSP&A

- Click the set up screening group button.
- Choose one screening group from dialog window.
- All other monitors and associated reference data will be deleted, leaving only your screening group data.
- This is not a mandatory step... it's purpose is to make the file smaller, and to remove inappropriate states/counties/monitors from the look up tables. If you want to use the application without "setting up screening groups", you can. Everything will work ok, you will have choices outside of you screening group, however.
- Note: the set up screening group function in AQSP&A uses a VBA function new to Excel 2000; therefore Excel 97 users receive an error for this function. Call Bill Frietsche of IMG to receive a file specifically for your screening group(s).



Exercise 1

- Setting up AQSP&A on your PC
 - Download AQSP&A from the EPA website
 - <http://www.epa.gov/ttn/airs/airsaqs/>
 - Create a directory to run AQSP&A from... as a suggestion, use C:\AQSP&A
 - Unzip the file to this directory
 - Double click the file, and be sure to enable macros
 - Click Set Up Screening Group from the Help worksheet and choose your screening group
 - Note that you can use the application without deleting the other screening groups

AQSP&A Functionality

- Worksheets
 - One sheet for each transaction type (RA,RP)
 - 3 lookup sheets for codes and data validation
 - 1 sheet stores coding manual information
- 4 new menu buttons
 - Look up monitor
 - Register new Monitor / Method
 - Generate Text File of Transactions
 - Create Report

- The Coding Manual worksheet contains entries only for fields on transactions RA and RP.
- This application adds 4 new menu buttons to your Excel menu. These buttons work for AQSP&A only. If you have other Excel files open at the same time as AQSP&A, these buttons will still be visible when working on the other files. If you use them from other Excel files, they will not work (you will get error messages; but no harm is done).

Using the 2 transaction worksheets

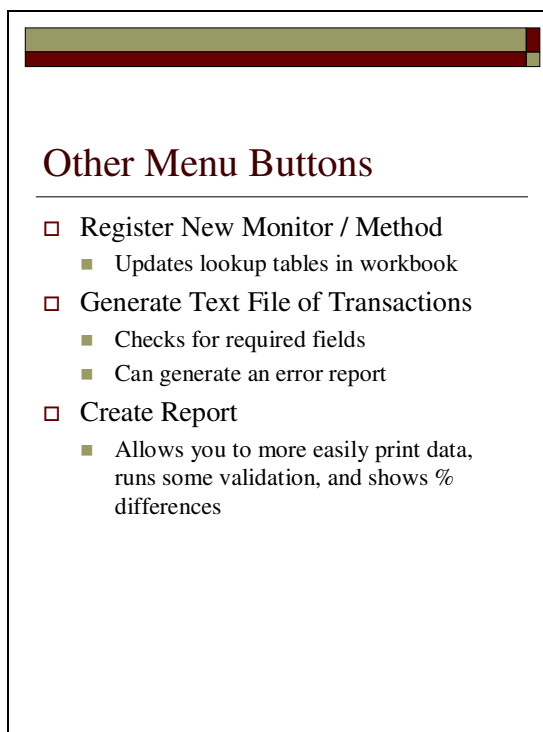
- Column Headings
 - Indicates mandatory fields
 - Right-click jumps to coding manual entry
- Drop down lists
- Look up Monitor button
- Right-click for code values
- Data validations

- The right click mouse button is used to activate drop down lists, or column definitions (the coding manual entry for the field).
- Use the look up monitor menu button (with focus on a blank field in one of the monitor id columns) to get a choice of monitors. The monitor id values will be added to the worksheet.
- Right-click codes values to see code definitions (e.g. Unit code “007” = PPM). Data validations are incorporated as much as possible to catch typos as data is entered. A validation routine will be run at text file generation time as well



Exercise 2

- Using the lookups
 - Right click Column Headings
 - Input a monitor id using the lookup monitor button
 - Right click for Monitor description
 - Input method, duration, and units using drop-down lists
 - Most recently used method code appears at top of drop down list
 - Right click these code values to see code definitions
 - Enter an incorrect value into a date field to see the warning message from data validation



Register New Monitor / Method

- The lookup tables are populated from the AQS production database, and are only as new as the version you have. If you have created new sites/monitors in AQS, or are using new methods, durations, or units that do not exist on the AQSP&A lookup tables for the version you have, then you will not see those new choices in the list of values on the transaction worksheets. To provide for this, the Register New Monitor / Method button is available to update the lookup tables in AQSP&A with new entries. This is a manual process where you have to type in the correct codes and descriptions. After adding new data with this menu button, you will then see those values in the drop down lists. Problems? Please call Bill Frietsche at (919) 541-5451.

Generate Text File of Transactions

- The Generate Text File of Transactions menu button checks for required fields (for a new record insert) and will warn you if errors are found. You can proceed anyway, or stop and fix the errors. Following text file generation, you can also generate a text file listing the errors.

Create Report

- The Create Report menu button generates a Word file. The Word file consists of most of the fields from the transaction, and includes the rows that are selected on the worksheet. Percent differences for actual and indicated values are calculated and included as well.

Miscellaneous

- ❑ Worksheet structure must be kept intact
- ❑ Using Cut / Copy / Paste
- ❑ Deleting Cell values
- ❑ Excel functions available
- ❑ Limited Reports
- ❑ Changes from last year include:
 - You can choose to generate the transaction file even if errors are encountered
 - Excel Version incompatibility should no longer be an issue (starting with v4.3)
 - Most recent method used at top of drop down list of values

Worksheet Structure

- The structure of the worksheets must be maintained. In other words, inserting columns, deleting the column headers, renaming worksheets, etc. will prevent the visual basic procedures from running correctly. Reformating cell patterns (color) and fonts is ok.
- The worksheet cells are all formatted as text. You may be able to change some of the formats without impacting the application's integrity, however test what you change before saving the file. Because transactions are text files, everything is treated as text throughout, and if this does not present you with problems, it is best to leave the formatting as text.

Using Cut / Copy / Paste

- When you cut/copy and paste in Excel, cell validations are included. To avoid overwriting validation formulas, you should use Paste Special / Values rather than Paste. Also, the right click menu of functions is not available because right click is being used for code look ups. Instead, use the Excel menu to access those functions (format, cut, copy, paste, etc).

Deleting cell values

- If you blank out values with a space, rather than delete, you will get validation errors in some places stating that you have an incorrect value (from the space). Use the delete key to remove cell values, rather than "spacing over them", and you will not have any spaces left as the field value.

Excel Functions

- The capabilities provided by Excel software are available for you to use... AQSP&A is just an Excel file. For example, you can import text files, add new worksheets, change fonts, specify print ranges, sort (don't sort the headers), copy, etc. When trying an Excel function for the first time, make sure you have a backup of your file in case.

Reports

- You can use the create report button, or the print capabilities inherent to Excel. The create report menu button will print out some of the fields for the selected rows in a Word document. The percent differences are calculated and also printed out.
- Other reporting needs, such as statistical summary information, are available from AQS after loading your data into AQS.



Exercise 3

- Create RA, RP transactions
 - Enter data on the worksheet(s)
 - Use the “Generate Text File of Transactions” menu choice
 - Include some errors and generate an error report
- Use the “Register New Monitor/Method” menu choice
 - Add new monitors, methods, etc.
- Create a Report



Questions

- User Support
 - Bill Frietsche
(919) 541-5451
or frietsche.bill@epa.gov
 - Application Help

- AQS Web site
 - <http://www.epa.gov/ttn/airs/airsaqs/>

- Thank you for your work, and for giving us your data!!