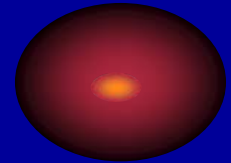
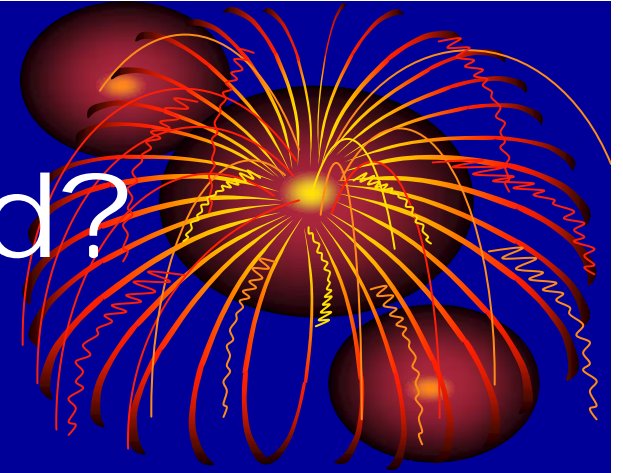


# TURBO-QAPP: software for a new generation

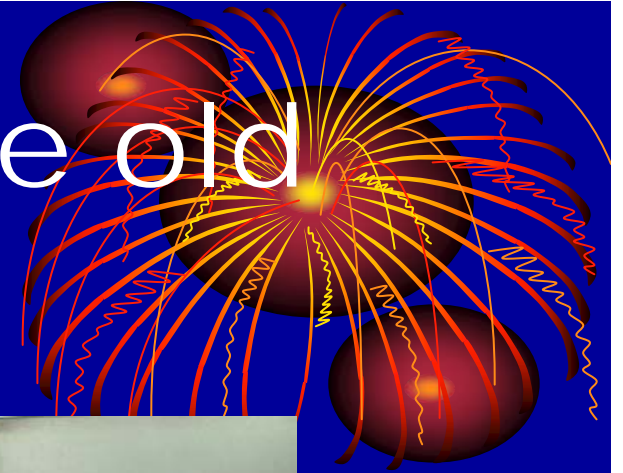
Melinda Ronca-Battista  
NAU ITEP Tribal Air Monitoring  
Support Center

# Why is this needed?

- Everyone wants to start sampling, BUT
- Data gathered before a Quality Assurance Project Plan (QAPP) is in place is SUSPECT
- Small staff sharing duties, so QAPP writing is difficult
- QAPPs are *mandatory*

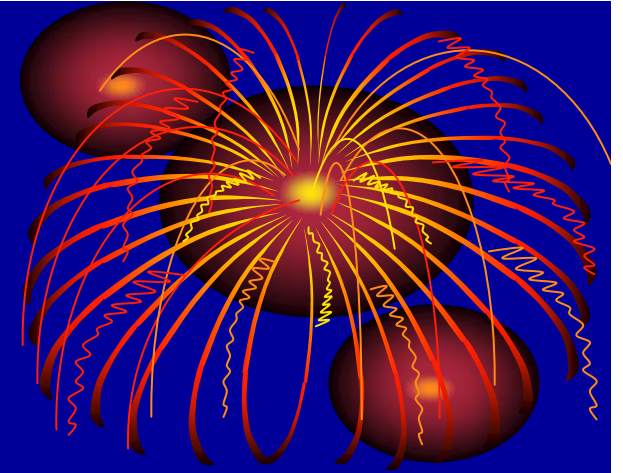


# Writing a QAPP the old way:



# If you are lucky:

- Everyone on the project writes and approves the QAPP
- The QAPP reflects what you actually plan to do and then do



The TAMS Center obtained  
\$50 k from EPA:

- The software designer for TEISS is completing the first test version of Turbo-QAPP
- OAQPS will "approve" it, so it will be acceptable\* by all EPA regions
- Will be FREE to all tribes



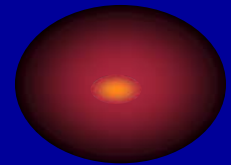
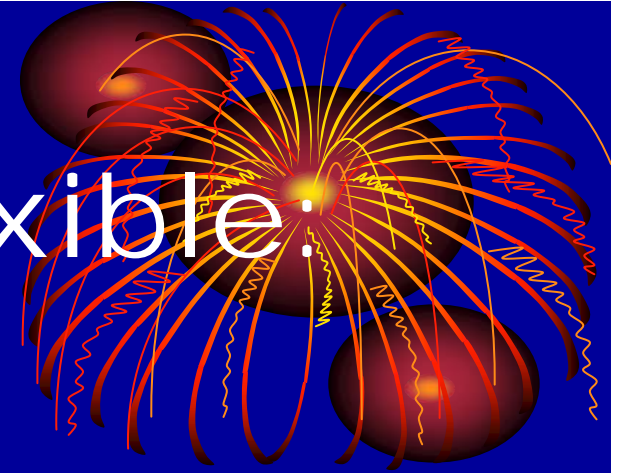
# The software makes it fun!



- STARTS with what must be the driving question—WHY are we making these measurements?
- Uses TAMS Center QAPP templates, so that example text can be used
- Tool tips, links, definitions, and references all included

# Turbo-QAPP is flexible:

- Multiple pollutants
- All FRM and FEM options
- "other" category
- Various organization types, sizes, working relationships

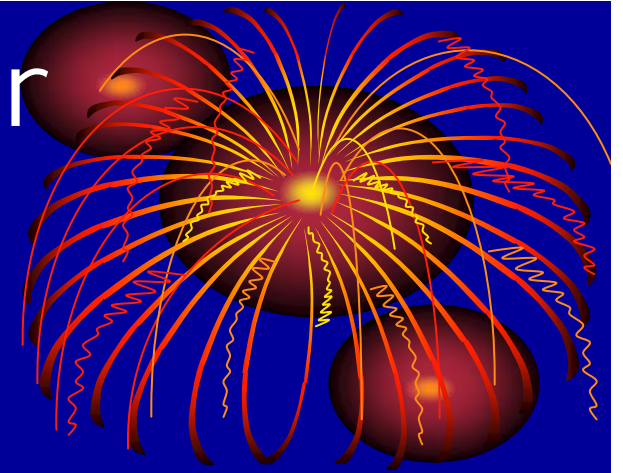


# Turbo-QAPP gives you assurance:



- Walks the user through all 7 steps of the Data Quality Objectives Process
  - Uses both EPA terms and their common sense translation—PLAN, DO, CHECK, FIX, WRITE IT DOWN
- Uses latest guidance from EPA
- Fully explained examples
- Excel formulas for copying
- Field data sheets, etc. for copying

# Software walks user through:



- Writing a QAPP
- Integrating QA with planning and implementation of your project
- Frees you up to actually do the work and look at your data!




File Tools Help

New Open Print Help

Navigation: INTRODUCTION | REC

PROJECT COMPONENTS


Introduction to the QAPP



Creating a QAPP for ... Ambient Air

Enter the name of your Tribal Office Tribal Office Name

Enter the name of tribal department Tribal air quality department



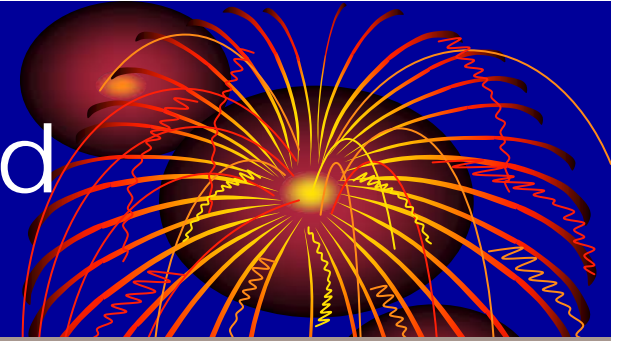
Project Progress

pnlProgressBar

Click <Next> to begin developing your Quality Assurance Project

Help Cancel Back Next Save and Exit

# Multiple pollutants and methods:



You must select at least one pollutant. If you choose more than one they will be incorporated in the same QAPP. You can also decide to go through the writing process more than once and write one QAPP per pollutant.

Insert the number of Monitors per pollutant  
monitors in this number.

- Ozone (O3)
- Carbon Monoxide (CO)
- Sulfur Dioxide (SO2)
- Nitrogen Dioxide (NO2)
- PM10 Filter-based standard conditions
- PM10- Continuous Local Conditions
- PM10 - Filter based local conditions
- PM2.5- Continuous Local Conditions
- PM2.5- Filter based local conditions
- PM Coarse- Local Conditions
- Other (lab analysis)
- Other (on site instrumentation analysis)

1
1
1
1
1
2
1

Select if you want to choose the method by name, designation number or method code (i.e. Beckman 866; RFCA-0876-012; 012)

- Name
- Designation Number
- Method Code

The list below shows the component(s)

Ozone (O3)

Methods can be edited if you have a special situation (for example, the Alaska shelters due to the extreme cold)

The list below is based on the component(s) you selected in the previous panel. Select the method(s) you will be using.

- Advanced Pollution Instr. 400/400A/400E
- Beckman 950A
- Bendix 8002
- Columbia Scientific Industries 2000
- Dasibi 1003-AH, -PC, -RS
- Dasibi 1008-AH, -PC, -RS
- DKK-TOA Corp. GUX-113E, GUX-113E-1
- Ecotech ML9810/EC9810, -9810B, -9811, -9812
- Environics 300
- Environnement S.A O341M
- Environnement S.A O342M
- Environnement S.A SANOA
- Horiba APOA-360
- McMillan 1100-1
- McMillan 1100-2
- McMillan 1100-3

Add

Edit

Remove



Project Progress

pnlProgressBar

Sampling Design | Rational for the Design | Project Schedule

### Sampling Design

This section describes the rationale for the locations of the measurements, the frequency of sampling, the types of monitors used at each site, and the location and frequency of the performance evaluations. The network design components comply with the recommendations in 40 CFR Part 58 Section 58.13, Appendix A and Appendix E. The following information below is provided as an example. Provide your QAPP location description and how it meets these recommendations.

The ozone monitor inlet probe should be as close as possible to the breathing zone. The sample inlet probe height must be 3 to 15 meters above ground level. The probe must also be located more than one meter vertically or horizontally away from any supporting structure.

The probe must be located away from obstacles and buildings such that the distance between the obstacles and the inlet probe is at least twice the height that the obstacle protrudes above the probe. The probe would be considered to be obstructed if an imaginary line extended 30 degrees up from the horizontal and rotated 360 degrees intersects any obstruction within 30 meters. Airflow must be unrestricted in an arc of at least 270 degrees around the inlet probe, and the predominant wind direction for the season of greatest pollutant concentration potential must be included in the 270 degrees arc. If the probe is located on the side of a building, 180 degrees of clearance is required.

Spacing from Roads - It is important in the probe siting process to minimize destructive interference from sources of nitric oxide (NO), including parking lots, driveways, and traffic alleys since NO readily reacts with ozone.

Example

Clear

#### Tip



If you do not want to use the example provided, click on CTRL + A to select the template text and click on Delete or Backspace. It is important that your objectives get met, and if not all of the following recommendations are met your site may still be acceptable consults with your EPA regional officer.

Cancel

Back

Next

Save and Exit

## Inspection of Equipment During Field Operations

Item	Inspection Frequency	Inspection Parameter	Action if Item Fails Inspection	Documentation ▲
Shelter temp.	Weekly, each visit	Thermometer	Check HVAC	Site logbook
Air Conditioner	Monthly	Adjust range	Check HVAC	Site logbook
Heater	Monthly	Thermostat	Repairman	Site logbook
Sample inlet	Every site visit	Clear opening	Clear obstruction	Site logbook
Meteorological sensors	Every site visit	Sensor output	Repair, calibrate	Site logbook
Sample pump	Each site visit	Vacuum	Repair	Site logbook
Dirty filter(s)	Each site visit	Clear flow	Clean	Site logbook ▼



Change Title

Delete All

Remove

View / Edit



### Tip



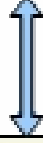
In the text field provided, give details of various equipment and component inspections. Fill or modify the table above to relate inspection information suit your program. You can change the names of the column and you can add rows to this table.

Calibration Hierarchy

NIST STANDARD REFERENCE PHOTOMETER



US EPA STANDARD REFERENCE PHOTOMETER



... STANDARD THAT IS MOVED – A **TRANSFER STANDARD**.  
... transfer standard is a transportable device or apparatus, which,  
... er with associated operational procedures, is capable of accurately  
... ucing O<sup>3</sup> concentration standards of O<sup>3</sup> concentrations which are  
... atively related to a primary O<sup>3</sup> standard. The transfer standard is  
... nterchanged for the ozone analyzer used to routinely measure  
... concentrations.

Annual 6-point verification and, if necessary, calibration—see the first row of the Calibration Criteria Table.

Compared every 3 months or at the beginning and end of ozone season, whichever is more frequent and possible. See the second row of the Calibration Criteria Table.



Use this space if you want to provide details to complement the diagram above such as specifying what type of apparatus you are using.

Network Reviews

Performance Evaluations

Technical Systems Audits

Data Quality Assessments

Others

## Performance Evaluations

Performance evaluations are a type of audit in which the quantitative data generated in a measurement system are obtained independently and compared with routinely obtained data to evaluate the proficiency of an analyst or laboratory. They may involve side-by-side intercomparisons of concentrations or flow rate, but they result in quantitative numeric values. In general, the difference between the parameter from your instrument is compared against the parameter from the auditor's instrument and a statistic such as relative percent difference is calculated.

A performance evaluation is a quantitative comparison of results between the tribe's equipment and equipment calibrated by another primary standard. This is done through the EPA regional office in the form of participation in the National Performance Evaluation Program (NPEP). Successful participation requires an agreement of less than 15% between the auditor's equipment and the tribe's equipment. This Ronca Environmental Office will participate in NPEP as feasible and as arranged and agreed to with the EPA regional office.



Example reports are provided for you to modify

## Data Management

Data management activity refer to data review, analysis, reporting, etc. The table below provides an example and guidance on how the data management could be divided.

Action/Event	Information recorded (what)	Recorded in (where)	By whom
Data Management- Data review <ul style="list-style-type: none"> <li>Value out-of-range checks</li> <li>QC results checks</li> <li>Maintenance conducted on schedule checks</li> <li>Data flagging</li> </ul>	<ul style="list-style-type: none"> <li>Completeness Checks – information completely recorded on site logs, field data sheets, QC sheets?</li> <li>Reasons for missing data</li> <li>Notes if any QC results missing or out of range</li> <li>Internal Consistency and reasonableness Checks</li> <li>Questionable data for a</li> </ul>	(Data and Data Management from Redbook audit form categories): <ul style="list-style-type: none"> <li>Data verification checklist</li> <li>Data review reports, ongoing and final by month</li> </ul>	

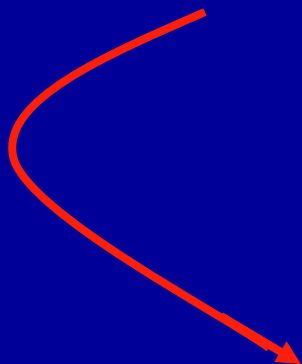
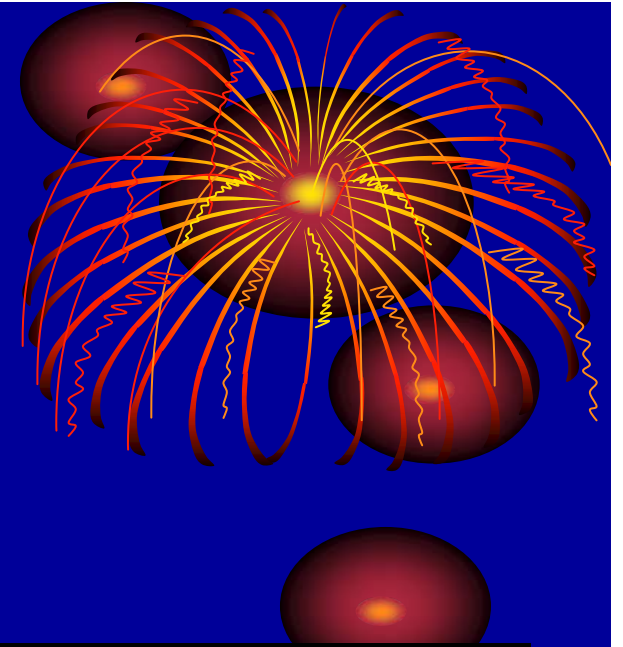
1 / 6

### Tip



This table is provided as an example and to help you construct you own table for your Air Monitoring Program - Data management. Add, modify or delete rows to create your own table.

Turbo-QAPP uses EPA numbering system and BOTH "real-world" and EPA terms



B10. DATA MANAGEMENT

B10. DATA MANAGEMENT SECTIONS

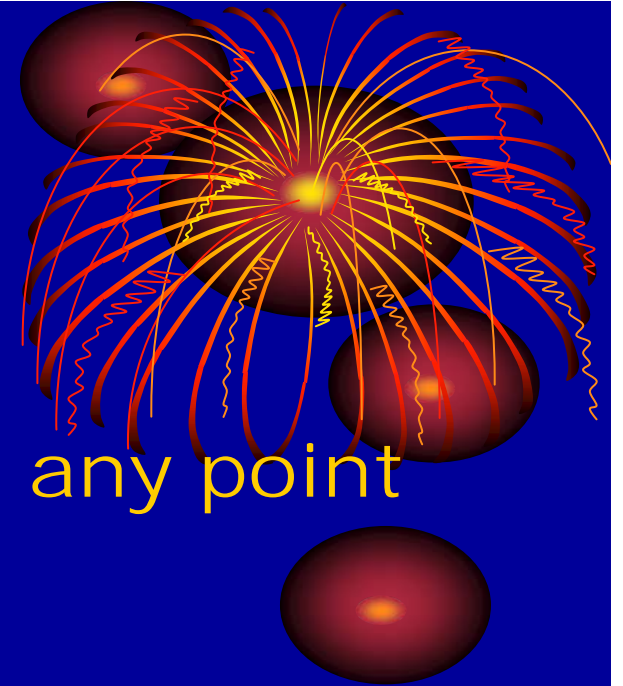
- ◆ Recording
- ◆ Transformation and Reduction (A)
- ◆ Transformation and Reduction (B)

How you will calculate and summarize your data

X

# Turbo-QAPP lets you:

- Export into Word or .pdf at any point and save, edit, or print
- Not hassle with TOC, EPA numbering, document control headers
- Turbo-QAPP saves your project so that you can go back later and add additional methods, change siting, etc.



# Tribes lead the way:

- START with QA (WHY are we making these measurements?)
- Early attention to QA help you SAVE time and \$
- Integrated pollutants/personnel
- Huge interest from state and local organizations
- EPA OAQPS is using TAMS Center model QAPPs in this software as applicable for states and locals



# Turbo-QAPP evaluation and testing:

- Since Aug approx 10 tribes have used turbo-QAPP so far, 1 has been approved
- Series of WebEx demos to EPA regions
- Available on CD here

