

Tribal Air Monitoring Outlook

US EPA/R&IE/CIE



TAMS Center

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Editor: Polly Hennessey

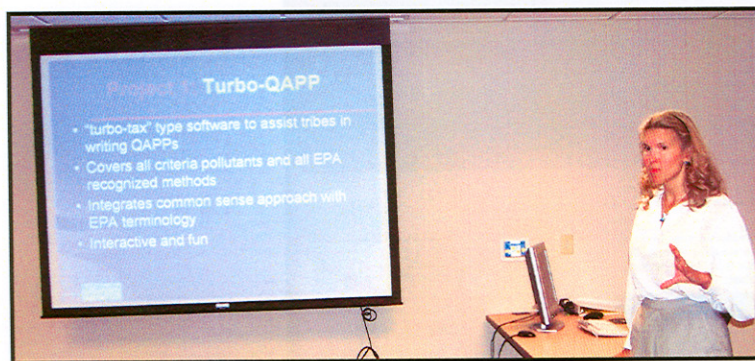
Turbo-QAPP

Sheer Excitement in a New Package

“Turbo-QAPP should help Tribes by providing most of our EPA QA guidance within a click of a mouse.”

Like all grantee organizations, Tribes are required to prepare Quality Assurance Project Plans (QAPPs) for all data collection activities. The Tribal Air Monitoring Support (TAMS) Center provides extensive assistance to tribes in their quality planning and preparation of QAPPs. New software developed with funding and technical direction from the TAMS Center is designed to walk users through the writing of a QAPP. This software, called “Turbo-QAPP”, prompts users to answer a series of questions similar to the Turbo-Tax program and results in a QAPP report in an EPA-approvable format.

The software is designed to ask the important questions first, such as “Why are we making these measurements?” Using this type of format allows the user to actually complete the development of data quality objectives following a systematic planning process. It focuses on specific plans for measurement methods, and offers default and example text, definitions and links allowing the user to be efficient and not spend time researching or formatting.



Melinda Ronca-Battista, QA/AQ Specialist, TAMS, demonstrating Turbo-QAPP at the TAMS/R&IE Learning Center, Las Vegas, NV.

All Federal Reference Methods (FRM) and Federal Equivalence Methods (FEM), their descriptions and designation numbers are included. Example text is provided for users to use as a starting point for all criteria pollutants, but the category of “other” allows users to write a QAPP for other purposes, such as monitoring for indoor radon in homes.

Selecting the component(s)

You must select at least one component. 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 component.

- Ozone (O3)
- Total Suspended Particulate (TSP)
- Carbon Monoxide (CO)
- Sulfur Dioxide (SO2)
- Nitrogen Dioxide (NO2)
- Lead (PM-10) — STP (Standard Temperature and Pressure)
- Lead (TSP)
- PM10—Local Conditions
- PM-10—Standard Temperature and Pressure
- PM2.5—Local Conditions
- PM2.5—Standard Temperature and Pressure
- PM Coarse —Local Conditions
- PM Coarse—STP (Standard Temperature and Pressure)

The program provides common-sense and experience-driven definitions for EPA terminology and statistics. Example spreadsheets and calculations are included for users to copy and modify and use. All equations are explained and EXCEL functions given, along with references from CFR and EPA guidance documents.

The screenshot shows the 'PRECISION CHECKS' software interface. The left sidebar lists various sections under 'PROJECT POLLUTANTS', with 'Ozone (O3)' selected. The main window displays the following information:

- Check Equation** / **Quarterly Prec.**
- Check Equation**: Precision is the measure of mutual agreement among individual measurements of the same property, usually under prescribed similar conditions. For O3, the intent is testing the O3 analyzer in the field at a known concentration between 0.000 - 0.100 ppm. The test must be performed manually at least once every two weeks. Precision tests also check for bias, defined as the systematic error (always high or always low). The following algorithms will be used to evaluate precision data. These algorithms are included in 40 CFR Part 50 Appendix A.
- Number of monitors in your network**: One Monitor, More Than One Monitor
- Number of checks conducted at each site**: Quarterly, Single Sample
- Criterion** / **Equation** table:

Criterion	Equation
Average Percent Difference. Each quarter, the average percent difference for each analyzer will be calculated from Equation 14.2.	$\bar{d}_j = \frac{1}{n} \sum_{i=1}^n d_i$
Standard Deviation. Each quarter, the standard deviation for each analyzer will be calculated from Equation 14.3 or using the STDEV function in a spreadsheet.	$S_j = \sqrt{\frac{1}{n-1} \left[\sum_{i=1}^n d_i^2 - \frac{1}{n} \left(\sum_{i=1}^n d_i \right)^2 \right]}$
2-Sigma Limit. The user (Ozone) will calculate the 2-sigma limit to precision in the calculator on Equation 14.4.	$\text{Limit} = \bar{d}_j \pm 1.96 S_j$

Turbo-QAPP is designed specifically for tribal air questions based on EPA Quality Staff guidance (R-5/G-5), TAMS Center Pollutant Specific model QAPPs, the OAQPS PM2.5 model QAPP and quality control requirements.

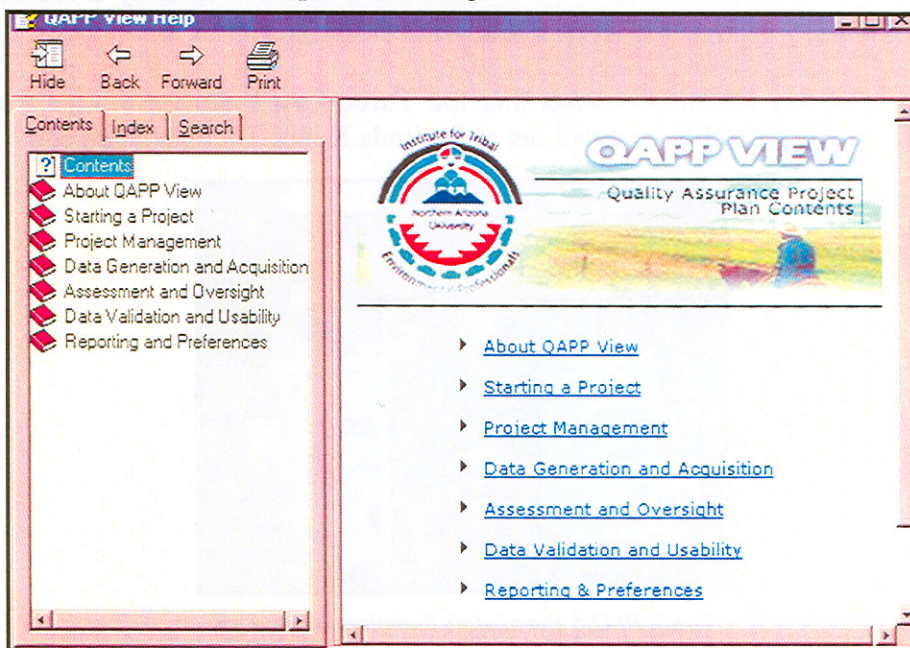
This automated solution simplifies and automates the process, while providing support to both small and large tribes. It will make writing QAPPs a value-added process that helps users clarify and communicate their goals. By streamlining the often-repetitive text entry and comparison process, users can focus on key parameters that impact the conclusions that can be drawn from their planned program. The QAPP IT solution is a complete stand alone application that includes context-sensitive “Help that really helps” files. The solution was developed in a way to allow for its integrations into other software packages, such as the Tribal Emissions Inventory Software Solution (TEISS).

Turbo-QAPP can handle multiple or single criteria pollutants in one QAPP. The selection of the criteria pollutant is made before the user starts to write the QAPP. The Turbo-QAPP generates drop-down pick-lists and guidance for the selected criteria pollutant(s).

Turbo-QAPP utilizes Microsoft’s Access as the database for storage and retrieval of QAPPS. This database is readily accessible to all and can be used on computers with low memory footprint and software requirements. This will ensure that Tribes using older versions of Windows such as Windows 98 will be able to create QAPP without having to purchase additional software to support the Turbo-QAPP. The system can also work with Microsoft MSDE (available free online) and MS-SQL Server.

Complete help files and links to EPA guidance are incorporated in Turbo-QAPP and are accessible at the click of the mouse. The Tribes will also be provided with a user’s guide that contains a tutorial.

Figure 9: Turbo-QAPP Help Files Dialogue.



The output of the Turbo-QAPP is in the form of hard-copy and Microsoft Word documents for electronic submittal. One of the main functions of the software is the ability to create reports that can be saved in Microsoft Word or at a minimum a text file that can be converted into Microsoft Word. At any point the draft QAPP can be exported into a Word file and edited within Word. The QAPP project can also be saved within Turbo-QAPP, so that if an additional monitor or station is added the user can use the program to revise their QAPP. Multiple tables and figures can easily be created with Turbo-QAPP and saved as part of the Word document.

Turbo-QAPP automates some of the most tedious aspects of QAPP preparation including:

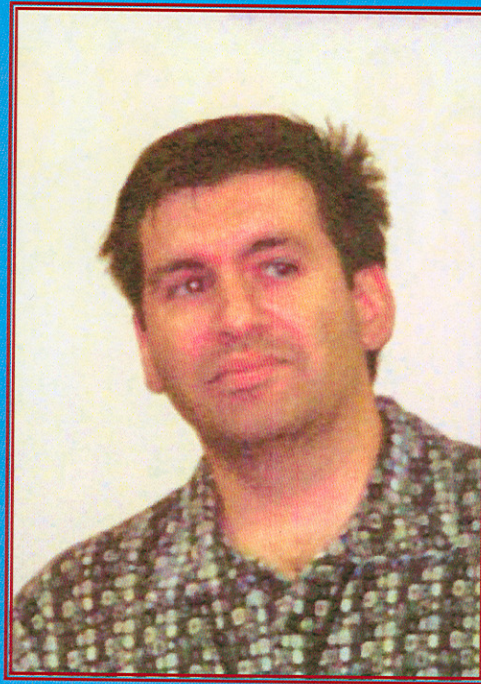
- ▶ Ensuring that different sections and tables with repeated or referenced information are consistent
- ▶ Ensuring that the table of contents and document control headers and sections are correct and complete
- ▶ Terms and their usage are those recommended by EPA
- ▶ Information required in various sections is included
- ▶ All 24 elements are included and complete
- ▶ Tracking where information is still needed, what sections are complete and enabling easy navigation throughout the QAPP and references by clicking on a table of contents “tree”

Turbo-QAPP was scheduled to be released for evaluation in early December 2005 and will be freely available to Tribes after its completion in the Winter of 2006.

If you have any questions concerning the Turbo-QAPP software, please call Melinda Ronca-Battista at 480-759-1544 or email her at Melinda.Ronca-Battista@nau.edu.



TAMS PM2.5 Particulate Samplers located on the University of Nevada-Las Vegas campus.



Joe Hameed

Former TAMS Team Member

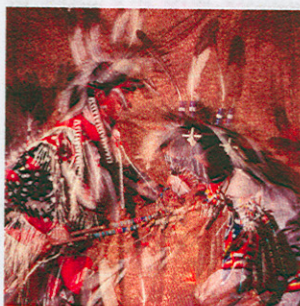
Joe Hameed, was with TAMS as an Air Quality Instrumentation Technician II from October 2002 until August 2004, when he accepted a position with the Clark County (Nevada) Department of Air Quality and Environmental Management (CC DAQEM) as an Air Quality Specialist/Enforcement Officer, has now been named as the new Air Quality Monitoring Supervisor for that department. In his new capacity he supervises ten individuals and is responsible for the planning, supervising and coordinating of program activities and operations. He also coordinates assigned activities with other divisions, outside agencies and the general public and provides highly responsible and complex staff assistance to the Las Vegas, Nevada, Clark County, Air Quality management staff. Congratulations to Joe from everyone at TAMS and EPA'S Radiation and Indoor Environments National Laboratory (R&IE), Las Vegas, Nevada.





Back row, from left to right, Jed Harrison, Ex-Officio, Director, R&IE; Douglas McDaniel, Ex-Officio, Environmental Protection Specialist, EPA, Region 9; Steve Terry, Miccosukee Tribe of Indians of Florida; Jim Woods, Makah Tribe, Washington State; Ryan Callison, Cherokee Nation of Oklahoma; George Dilbeck, EPA TAMS co-Director; front row, from left to right, Farshid Farsi, ITEP TAMS co-Director; Lynn Hall, Bad River Band of Chippewa, Wisconsin; Tony Basabe, Swinomish Tribe, Washington State; Mehrdad Khatibi, Ex-Officio, Interim Director, ITEP; Darrell Harmon, Ex-Officio, Senior Indian Program Manager, EPA OAR. Missing from the photograph: Bob Gruening, Ex-Officio, Air Program Manager, National Tribal Environmental Council, New Mexico; Stephen Hartsfield, Ex-Officio, Operations Coordinator, National Tribal Air Association (NTAA), New Mexico; Phil Lorang, Ex-Officio, EPA OAQPS, replacing Rich Scheffe. Also missing from the photograph new Tribal members to begin a 2-year term on October 1, 2005: Ondrea Barber, Salt River Pima-Maricopa Indian Community, Arizona; Steve Crawford, Passamaquoddy-Pleasant Point, ME.

Pictured above are current and Ex-Officio members of the TAMS Steering Committee, which was established in February 2000. The primary purpose of the Steering Committee is to provide input to Tribes concerning their air monitoring priorities. Quarterly meetings are held each year with the primary focus being on the TAMS Center and its progress and discussions on training courses and technical assistance to Tribes. The next quarterly meeting is tentatively scheduled for March 23, 2006, at the Radiation and Indoor Environments National Laboratory (R&IE), Las Vegas, NV.





Chief Seattle also known as Sealth of the Suquamish and Duwamish Tribes 1786-1866

This is the first in a series of articles highlighting historic and current American Indian notables and tribes.

*"...all things share the same breath—the beast, the tree, the man...
the air shares its spirit with all the life it supports."*

Chief Seattle, January 1854



The only known photograph of Chief Seattle, 1864.

Photo by: E. M. Sammis

"His eyes were large, intelligent, expressive and friendly when in repose, and faithfully mirrored the varying moods of the great soul that looked through them." A description of Chief Seattle taken from the *Seattle Sunday Star*, October 29, 1887.

Chief Seattle was a member of the Suquamish (people on the clear salt water) and Duwamish (inside or river people) tribes in what is now the state of Washington. His father, Schweabe, was from the Suquamish tribe and his mother, Scholitza of the Duwamish. These tribes spoke some form of the dialect of the Puget Sound Salish language, "known to its speakers as Lushootseed or Whulshootseed. It is important to note that on the coast, Salish is the name of a group of languages, not a tribe." He was considered, at a young age, a leader and warrior. His status was gained by defeating enemy tribes "coming up the Green River from the Cascade foothills and attacking the S'Klallam, a powerful tribe living on the north shore of the Olympic Peninsula."

The tribes lived in long, rectangular houses consisting primarily of cedar boards. These dwellings were home to extended families or groups related by marriage.

The Puget Sound tribes subsisted through hunting of elk, deer, seals and bear; gathering of root food and huckleberries, which were pounded into cakes for drying; and shellfish and salmon. “During the annual runs of the five species of ocean-going salmon native to this area, every able person turned out to help. Within a few weeks, a large part of a village’s annual food supply had to be caught, cleaned, smoked or sun-dried, and brought back to the houses to be stored for winter.”

It was into this complex and structured society that the first permanent Euro-American settlers began to arrive in the mid-nineteenth century. One of the first contacts Chief Seattle had with Europeans was in 1792 when Captain George Vancouver brought his ship, Discovery, into the Puget Sound area. From this encounter, the eight year old Seattle was to form an opinion that would, in later life, lead him to “advocate a peaceful coexistence with the settlers.” During the 1850s, the area began to prosper and grow and it was during this period that the name was changed from Alki Point to Seattle. History best remembers Chief Seattle for the speech he gave in response to a speech by then Territorial Governor Isaac I. Stevens. The speech was reported by Dr. Henry A. Smith in the *Seattle Sunday Star* newspaper in 1887.



Sunset on Puget Sound, 1898
Photo by Edward S. Curtis, 1868-1952

Chief Seattle’s grave marker reads:

“Seattle, Chief of the Suquamish and Allied Tribes, Died June 7, 1866. Firm Friend of the Whites, and For Him the City of Seattle was Named by Its Founders”



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