

A G E N D A S



LRAPA
Lane Regional Air Protection Agency

LANE REGIONAL AIR PROTECTION AGENCY
BUDGET COMMITTEE MEETING
MONTHLY BOARD OF DIRECTORS MEETING
THURSDAY MARCH 10, 2022
11:00 A.M

Note Location → VIA ZOOM

By Video: <https://us02web.zoom.us/j/82551664224>

By Audio: +1 253 215 8782

Meeting ID: 825 5166 4224

[Note: Start times for agenda items are approximate.]

BUDGET COMMITTEE MEETING

1. (11:00 a.m.) **Call to Order**
2. (11:05 a.m.) **Introductions**
3. (11:10 a.m.) **ACTION ITEM:** Election of Budget Chair and Vice-Chair for 2022
4. (11:15 a.m.) **BUDGET PRESENTATION** [VIEW BUDGET DOCUMENT HERE](#)
5. (11:30 a.m.) **DETAILED Q&A**
(with follow-up questions to be addressed in the weekly Friday updates)
6. (12:30 p.m.) **ADJOURNMENT OF BUDGET COMMITTEE MEETING**

[15-minute break]

BOARD OF DIRECTORS MEETING

1. (12:45 p.m.) **Call to Order**
2. (12:48 p.m.) **Adjustments to Agenda**
3. (12:50 p.m.) **Public Participation** *(time limited to three minutes per speaker)*

A. Comments on an Item on Today's Agenda

- B. Comments on a Topic Not Included on Today's Agenda** (Note: This is an opportunity for the public to bring up unscheduled items. The board may not act at this time but, if it deems necessary, place such items on future agendas. Issues brought up under this agenda item are to be limited to three minutes' speaking time by the person raising the issue. If additional time is necessary, the item may be placed on a future agenda.)

- C. **Comments from Board Members** (Note: This is an opportunity for ***Board Members*** to bring up unscheduled items regarding today's public comments, and/or written/electronic comments they have received. The board may not act at this time but if it deems necessary place such items on future agendas.

4. ACTION ITEM:

(12:55 p.m.) Consent Calendar

- A. Approval of Minutes for February 10, 2022 Board of Directors Meeting [VIEW MATERIAL](#)
 B. Approval of Expense Reports for February 2022 [VIEW MATERIAL](#)

REPORTS:

5. (1:00 p.m.) Citizens Advisory Committee: [VIEW MATERIAL](#)
(Interview 4 CAC applicants and Appointments)
6. (1:30 p.m.) Director's Report of Agency Activities for February 2022 [VIEW MATERIAL](#)

DISCUSSION:

7. (1:40 p.m.) Old Business
Follow-up PERS (Julie Lindsey)
8. (1:50 p.m.) New Business
9. (2:00 p.m.) Adjournment of LRAPA Board Meeting

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MINUTES
LANE REGIONAL AIR PROTECTION AGENCY
BUDGET MEETING

March 10, 2022

VIA - ZOOM

ATTENDANCE:

Board: Joe Pishioneri-Chair, Jeannine Parisi-Vice Chair, Terry Fitzpatrick, Howard Saxion, Mike Fleck, and Joe Berney.

Absent: Matt Keating, Jenna Knee, and Chrissy Hollett.

Budget Committee: Adam Rue – Chair, Steve Schmunk-Vice Chair, Ruth Linoz, Dawn Kinyon, Dylan Plummer, Michelle Webber, Iva Pfeifer, Marianne Dugan, and Lisa Arkin

Others: Marlene Hockema, Minutes Recorder.

Staff: Travis Knudsen, Julie Lindsey, Steve Dietrich, Debby Wineinger, Colleen Wagstaff, Robbye Robinson, Max Hueftle, Lance Giles, Chris Coulter, Aaron Speck, Jonathan Wright, Katie Eagleson, Cassandra Jackson, and Trinidad Cardenas.

1. OPENING: Chair Pishioneri called the meeting to order at 11:02 p.m., attendance was taken, and a quorum was met.

2. INTRODUCTIONS:

Chair Pishioneri noted that there were new members attending the meeting and asked that each member introduce themselves as their names were called.

3. ACTION ITEM:

Election of Budget Chair and Vice-Chair for 2022

ACTION: Jeannine Parisi nominated Adam Rue as Budget Chair, seconded by Mike Fleck; vote passed unanimously.

ACTION: Chair Pishioneri nominated Steve Schmunk as Vice-Chair, seconded by Mike Fleck; vote passed unanimously.

4. BUDGET PRESENTATION:

Steve Dietrich initiated a slide presentation of the LRAPA Proposed Annual Budget for FY 2022-2023 stating he would review the first six slides and **Julie Lindsey** would conclude the presentation. **Dietrich** opened with a background of the Lane Regional Air Protection Agency (LRAPA) which was created in 1968 to improve and maintain air quality in Lane County, reflecting local priorities

and goals while meeting federal and state air pollution control requirements and health-based standards. With the support of its member jurisdictions, Lane County and the Cities of Eugene, Springfield, Cottage Grove, and Oakridge, LRAPA conducts its mission to protect and enhance air quality through a combination of regulatory and non-regulatory programs and activities. **Dietrich** continued by stating he planned to run a brief overview of LRAPA programs organized by the funds that support them starting with those in the general fund then the special revenue fund grants followed by Airmetrics which is an enterprise fund.

DISCUSSION: Q&A on Overview

Joe Berney asked for clarification of a “believe it or not” statement made by **Dietrich** to which **Dietrich** responded it was a good comment emphasizing that in spite of wildfires and other exceptional events, LRAPA had successes.

Steve Schmunk questioned if Airmetrics was a separate business which **Dietrich** confirmed stating the business actually builds and sells its product. **Ruth Linoz** queried the history of Airmetrics and how it got its start. **Dietrich** responded that LRAPA had an employee with the necessary knowledge, and they were able to develop the technology.

POINT OF ORDER: **Mike Fleck** noted that **Chair Adam Rue** should be leading the meeting which **Pishioneri** acknowledged, and the gavel was handed to **Chair Rue**.

Julie Lindsey proceeded with the budget presentation stating they would answer as many questions as they could and if not they would gather information to provide answers at what is being called Friday updates. **Lindsey** presented a timeline for the budget process pointing out that the committee is now at the March 10th meeting with the next meeting scheduled for April 14th and a May 12th meeting if needed. She stated the budget is split into a fund view:

- General Fund
- Special Revenue Fund
- Targeted Airshed Grant Fund
- Enterprise Funds

Additionally, she stated that LRAPA had requested to join the Oregon State Retirement System; PERS has the request and would be working on an agreement. As soon as the agreement is received it would be submitted to the Board for final approval.

Lindsey added that there would be two immediate, one time only, capital improvement expenses for HVAC for the main building and parking lot improvements.

Furthermore, **Lindsey** pointed out a change in the layout of the budget proposal and the flow. She stated that they would be reviewing employee benefit plans to include PERS, salary, and health insurance.

Chair Rue opened the meeting for further discussion regarding the budget. In response to chat questions that were submitted during the presentation **Lindsey** explained that Caselle is a software company that LRAPA is considering switching to as it would be more efficient and accurate; therefore, references in the budget to training relate to Caselle. **Jeannine Parisi** asked about contingency funds for PERS and was assured that they had been designated. **Iva Pfeifer** asked how the beginning balance is determined and **Lindsey** responded it is the ending balance from the previous year which was kept in reserve.

Howard Saxion commented on Airmetrics stating it was unusual for a government agency to be the manufacturer of air pollution equipment as well as doing service and questioned the business plan. **Dietrich** acknowledged that it was a unique situation especially since most units are being sold internationally. **Trinidad Cardenas** responded that he is working with **Lindsey** regarding a business plan for Airmetrics to come up with an organized way to present what they do and how they plan to make money. One item for consideration is partnering with an existing company that currently produces equipment.

Dawn Kinyon questioned if it were the company's policy to present an unbalanced budget and ask the committee to suggest edits that would make it balance. **Lindsey** responded that the budget was not unbalanced but drawing down on its reserves. **Kinyon** replied that state budget laws require balanced revenues and expenditures, and the budget does not present them as such. **Mike Fleck** noted that the budget does balance, and the use of reserve funds is a common process but added he did have concerns regarding the actual balancing of monies and there were items that could be discussed for fiscal health. **Joe Berney** added his concerns to those of Fleck suggesting additional ideas for consideration of which one would be federal infrastructure funding. **Berney** also asked the current value of the LRAPA building and land to which **Lance Giles** responded \$1.44 million. A question was posted as to why the budget has a rent line item if LRAPA owns the building and it was noted that rent is for a shop that doubles as storage. **Parisi** questioned if LRAPA would be getting grant funding or using a grant servicing organization. **Lindsey** answered that grants are wonderful but require a lot of time and even with a grant management company she would still be spending quite a lot of time on them.

Parisi expressed a concern regarding the deficit and how it related to Title V and Airmetrics. **Lindsey** stated Airmetrics is accounted for separately and since she prefers to be conservative in budgeting she would prefer not to have to use contingency funds. **Berney** indicated he thought this would be a good time to for Airmetrics to start a joint venture as it is a rapidly moving environment. **Ruth Linoz** questioned if there would be the potential to explore a review of partners' dues and make appropriate adjustments. **Lindsey** responded that the board approved a look at new methodology.

ADJOURNMENT:

Chair Rue adjourned the meeting at 1:40 p.m.

(Record by Marlene Hockema)

Continuing the tradition, on each Friday, we will respond to the Budget Committee members' inquiries on the proposed FY23 budget. Below is a list of the current questions as well as staff's responses. If need, additional discussion on the questions can happen at the next scheduled budget meeting.

QUESTIONS

LRAPA - GENERAL FUND:

Does the Budget meet Oregon Budget Law?

The budget has been reviewed by our CPA. The budget has been deemed to meet Oregon Budget Law.

Where does the Beginning Fund Balance come from?

The beginning balance is the ending balance from the previous year. Each fund has an ending balance.

Please explain Caselle Finance Program. Caselle is the governmental financial program LRAPA is installing. Currently, we use a very old system that is not set up for fund accounting. Caselle is set to go live January 2023.

Capital: Can the federal infrastructure plan be used to help with planned capital?

The infrastructure plan is heavily focused on local and state transportation improvements, internet reliability improvements and security measures, water and sewer improvements, and a host of other efforts. We will be pursuing funding strategies once we get an updated quote back from the HVAC company.

Capital: Where can I find each fund's annual contribution to building and equipment upgrades? Does the one-time budget request for HVAC upgrades have previous years reserves that will be used for part of the replacement? Are they now in the current budget? (e.g., If a vehicle has a five-year life one fifth should be in the budget for replacement of that vehicle). The budget document notes; pg13 "Future costs associated with new capital improvements are and will be projected and included in the operating budgets". I am not seeing the line item specific to this.

For Capital, AirMetrics and the Title V program both have an annual interfund transfer that helps cover overhead and capital expenses for LRAPA. These amounts are listed in each program's budget. On pages 17 and 18, you can see the Transfer In on the general fund summary as well as the Transfer Out for each program on the individual program's summary. The detail budgets also have these amounts.

The reserves for capital are part of the general funds beginning balance. We do not have individual reserve accounts for capital replacement. However, this is planned as part of the FY24 process once we get the new financial system in place. The new financial system offers an asset management module.

The comment on page 13 refers to the budget line in the general fund for the capital improvements planned for FY23. On pages 17, on the general fund summary presents a specific line for capital as part of the proposed FY23 budget. More information on the projects and the priority of the improvements are found in the schedule on page 22. Our Technical Services Manager, Lance, can add to this information if needed. Lance has been working with the HVAC Tech on work needed and quotes.

If the owed building contributes to the administration of grants and AirMetrics, then would not each fund budget have a rental or share of facilities line item?

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It is important to note that AirMetrics is housed in a separate building that is not owned by LRAPA and the enterprise fund pays the expenses including rent for this space. LRAPA shares in this rent payment due to LRAPA using the "shop" for storage of a monitoring trailer as well as document and equipment storage.

Monitoring and Enforcement From the budget I am unsure what part of operations is devoted to these distinct activities.

Monitoring and enforcement are activities budgeted for in the general fund. Director Dietrich oversees both programs. In addition, the monitoring program has 2.0 additional staff members that are funded through the general fund as well as various contracts and programs funded by revenues received by DEQ and EPA. Additionally, the lab supplies budget is assigned to this program. For enforcement, there is an additional .3 FTE assigned and is funded through the

general fund. It is important to note that any revenues received through enforcement activities are forwarded to Lane County in the spring of each fiscal year.

TITLE V PROGRAM:

What were the three Title V companies that shuttered?

- Winnebago had their TV permit terminated on August 20, 2020, after closing permanently on July 31, 2020.
- Arauco announced their closure to LRAPA on February 27, 2020, closed May 1, 2020, and had their Title V permit terminated on July 1, 2020
- Sierra Pine's Title V permit was officially terminated on December 19, 2018.
- Thunder River LLC (formerly Pacific States Plywood) had their Title V permit terminated on September 7, 2018.
- Monaco Coach, Coburg, July 16, 2014

What is the anticipated new source?

- Seneca Sawmill Company (now owned by Sierra Pacific Industries). They are currently on an ACDP and applied for a Title V permit in October of 2021.

AIRMETRICS ENTERPRISE FUND:

Can LRAPA share a current business plan for AirMetrics?

We are still working on this request with the AirMetrics Manager. While the plan is to update the fund's business plan, a current plan is not readily available. Director Dietrich and Julie Lindsey are reviewing and will provide an update.

What is the history of AirMetrics? Who owns the intellectual property of the enterprise?

AirMetrics is a government enterprise operated by Lane Regional Air Protection Agency. Revenues are generated through sales of the MiniVol portable air sampler, related parts consumables and accessories, and calibration and support service. The MiniVol is a filter-based, battery powered air sampler capable of sampling for PM2.5, PM10 and Total Suspended Particulates. The original MiniVol was a working prototype designed and produced by a project consultant working for LRAPA as a contractor in late 1987. The contract was focused on designing and conducting a field test of PM-10 samplers based on the original prototype. EPA was interested in the results of the study and funded production of additional units for further research and development. In 1992, encouraged by national interest in the sampler, LRAPA created AirMetrics as an enterprise to sell and distribute the MiniVol. In 1993, EPA established the Saturation Monitor Repository to make saturation samplers more widely available to state, local and tribal agencies. The repository consisted of 115 saturation samplers, including support equipment which air agencies could borrow to conduct special field studies.

For AirMetrics, in August 1994, a patent is granted for the invention listing the contractor as a co-inventor. EPA pursued the patent as an important technology transfer effort. The contractor's interest was licensed to LRAPA. Between 1990 and 1996 approximately 500 air samplers had been produced. To date AirMetrics has sold over 8,200 MiniVol samplers. Customers include environmental consultants, mining companies, regulatory agencies, environmental justice groups and universities around the world.

In September of 2002 lagging sales and increasing fixed costs forced LRAPA to re-think the AirMetrics business model and implement a new manufacturing strategy. At this point in time AirMetrics had a net loss of approximately \$35,000 and was projected to lose much more by the end of the fiscal year. LRAPA wanted to continue the enterprise if it could be made profitable, so major changes were in order. LRAPA decided to adopt a "lean production" model. The basic premise of the model is to do more with less. Key elements of "lean production" include commitment to eliminating waste, simplifying procedures, and speeding up production. Lower fixed costs allowed AirMetrics to reverse the price increases that were stifling sales by taking the MiniVol out of the "low cost" utility sampler niche.

The MiniVol TAS sold today includes many improvements over the sampler sold in the early 90's, including improvements that were in response to customer wishes, initiated by the

designer to improve the function of the sampler, and others to reduce manufacturing costs, including using a high efficiency pump, a more compact and rugged enclosure, Li-Ion battery technology, and a 50% reduction in size and weight. Starting in January of 2008, AirMetrics began selling a new “hybrid” version of the MiniVol incorporating all the above improvements. This version of the MiniVol is called the MiniVol TAS (Tactical Air Sampler). The enhancements were consistent with the original patent claims which were based on unique functionality and component integration.

The Licensing Agreement, when in place, intended to serve a common interest for the partnership between the Licensor of the intellectual property, and the Licensee. The Licensee was required to make best efforts to produce, market, and sell the patented device, while the licensor was expected to provide technical expertise and support for the device and subsequent improvements. The re-design (MiniVol TAS) is a good example of the common interest for the party’s collaborations in the product’s longevity. At the last re-design, the Licensor invested over 3000 hours in design, engineering, and production of prototypes, and AirMetrics invested in upgrading the electronics, and calibration/validation of the inertial particle separators. The license agreement along with the patent expired in 2011.

Is there a profit and loss statement for the business?

On page 25 of the proposed budget, the AirMetrics budget shows three years of actuals (note, FY21 is still an unaudited number) as well as an annual operating surplus or deficit of the program. We also produce a to-date actual revenue and expenditure report for the board monthly that can be accessed. This shows a current profit/loss for the fund.

Please define ‘social justice’ and how this is an area of opportunity (found on page 11).

The term social justice found on page 11 of the proposed budget document and mentioned in the presentation is directly related to environmental justice, especially when the discussion is about some of the activities LRAPA is engaged in. One of these activities includes providing accurate ambient air monitoring data that can be used to inform the public on air quality in their neighborhoods. Years ago, the AirMetrics enterprise developed low cost and reliable particulate matter air samplers that could be deployed and maintained easily. This effort needs to continue, especially in underserved communities that may be exposed to a higher percentage of anthropogenic pollution coming from nearby industry. One possible opportunity for AirMetrics is to expand the technology of ambient air monitoring to include air toxics pollutants for all communities with a focus on underserved populations.

GRANTS: TARGETED AIRSHED

Please point me at discussions or reports related to the efficacy of this effort. Is the grant making a difference? Below are highlights from the grant information presented to the board January 2022.

Task 1 – Coordination, Outreach & Project Management

- Overall outreach impact: Across heating upgrades, firewood sales, air purifier distribution, and Firewise education, Oakridge Air has served over 670 residents of Oakridge.
- Partnership development: We have engaged with the leadership and staff at St. Vincent de Paul in Oakridge to help educate potential upgrade recipients and to identify homes with wood heat, especially in the mobile home parks.
- Research with OHA, UO and OSU: Oakridge Air continues to host and facilitate collaborative research efforts with Oregon Health Authority, University of Oregon and Oregon State University. Currently, we are coordinating with OHA to replicate the health analysis for additional years pre-2015 and 2020/2021. Lane County Public Health will host the data for this next analysis which should assist in the overall efficacy and integration of the analysis and results. With our university partners, we are utilizing some UO seed funding to continue the foundational building of research that will combine social/outreach elements (education, feedback, leadership development, wildfire preparedness/response) with quantitative/technical research in indoor/outdoor air quality monitoring and understanding of the changes, positive or negative, associated with the heating upgrades and air purifier distribution.
- Reader board: A second grant is expected that will among other activities will manage outreach and communications for smoke safety and purchase a new reader board that will help get the word out to the community for important smoke information.
- Best practices toolkit: As part of the EPA TAG funding, we are developing a guide for the benefit of other heating upgrade/stove changeout and community partnership programs. The goals are to focus on home heating upgrades (especially pilot cohort) to ensure we capture lessons learned/takeaways from setting up the program and identify big decision points and reference why those decisions were made and if subsequent changes have been made. Home heating upgrades topic areas include systems design, outreach, branding, trust building, organizational partnerships, equipment, contractors, auditing, cohort participants, connecting with the rest of the program, funding forward thinking, overcoming staffing changes at the City: With city leadership transition, we anticipate spending more time over the coming year to assist in the transition with oncoming city staff and community outreach, and anticipation of approval of TAG 2.

Task 2 – Home Heating Upgrades

- After our first full year of engagement, the Home Heating Upgrade Coordinator has overseen:

- 25 homes energy audited
- 4 certified wood stoves installed
- 7 ductless heat pumps installed
- 4 updated electrical panels installed
- 3 homes have been fully weatherized
- 3 completed their final audit
- Schedule challenges: Upgrades have been slow to schedule because most vendors are scheduling
- 3-6 months out due to ongoing and increasing supply chain and labor challenges.
- Updated Vendor Application: We made some changes and updates to the vendor application in response to increased experiences with vendors to address specific challenges. The primary update to the retainer was allowing stove and DHP installers to graduate from the requirement once they achieve 5 successful installations.
- Page 2, Section D: updated that subcontractor use will follow Oregon laws
- Page 3, Section H: Wood heating devices taken by any vendor needs to be rendered "inoperable", scrapped, and photo & receipt documented
- Page 4, Section I: Weatherization Requirements: Weatherization estimates must follow Bonneville Power Administration Residential Weatherization Specifications. Our auditor is recommending updates and will be evaluating installs to this standard. Additionally, these specs need to be referenced in the estimate. If they're not, the HHUC (Guen), will let you know and request it be added.
- Page 4, Section J: Termination due to non-compliance/error: instances of error/incomplete are on a three-strike system: not complete what was paid for 3 times, we will have to let the vendor go from the program. If the same mistake is made twice, we will have to let the vendor go from the program.
- Page 4 & 5, Sections K & L: For vendors that apply for permits: after the install is complete, Oakridge Air will request copies of the permits from the City of Oakridge and these will stand in as a "temporary audit" to release the remaining 10%. For these same vendors, after 5 successful installs, the 10% won't be withheld, and the full remaining amounts will be released after the final invoice is received.

Task 3 – Community Firewood Program

- Deliveries are ongoing, and there are 30 remaining cords for sale.
- The program has delivered over 100 cords of wood since July, 2021, the most successful season for the program.

Task 4 - Enforcement

- Increased communication with OPD to ensure they have the info/resources needed to be successful sharing about the program including providing OPD with printed materials.
- Increased coordination between OPD officers and LRAPA field team.

Task 5 – Education

- School curriculum and teacher partnerships: Emma will support the Oakridge Air program with school education specifically and connect to other community communication and education efforts.
- Coloring Contest: A coloring contest/raffle is scheduled to take place in February through March 2022 to initiate engagement between Oakridge Air, the elementary school students, the Oakridge Library, and a number of generous local businesses donating prizes.

Task 6 – Air Purifiers

- Residential purifiers: Replacement filter postcards are going out monthly to recipients with reminders to clean or replace their filters by picking them up at City Hall. To date, 62 residents have picked up filter replacements.

AIRMETRICS

These slides contain a brief history of the MiniVol, a product that is the foundation of the AirMetrics Enterprise for the Lane Regional Air Protection Agency. The MiniVol was designed to attain supplemental air quality data and identify locations best suited for permanent monitoring sites.

The MiniVol is a complete embodiment of the enterprise mission statement: AirMetrics is dedicated to providing practical and innovative solutions to ambient air monitoring problems.

The product was truly innovative, it bridged informational gaps and created the “saturation monitor” market that is still evolving today.

AIR METRICS

“Saturation monitors are non-reference, non-equivalent sampling methods for measuring PM, CO, and NO_x. The samplers are small, lightweight, battery operated, rugged, weatherproof, portable and relatively easy to set up and operate. Because they are comparatively inexpensive, easily deployed, and have a wide range of siting capabilities, it is customary to “saturate” a geographical area with samplers to assess the air quality in areas where high concentrations of pollutants are possible. Such information is helpful to air pollution control agencies in evaluating their ambient air monitoring networks for consistency with the 40 CFR Part 58 air quality surveillance regulations.”

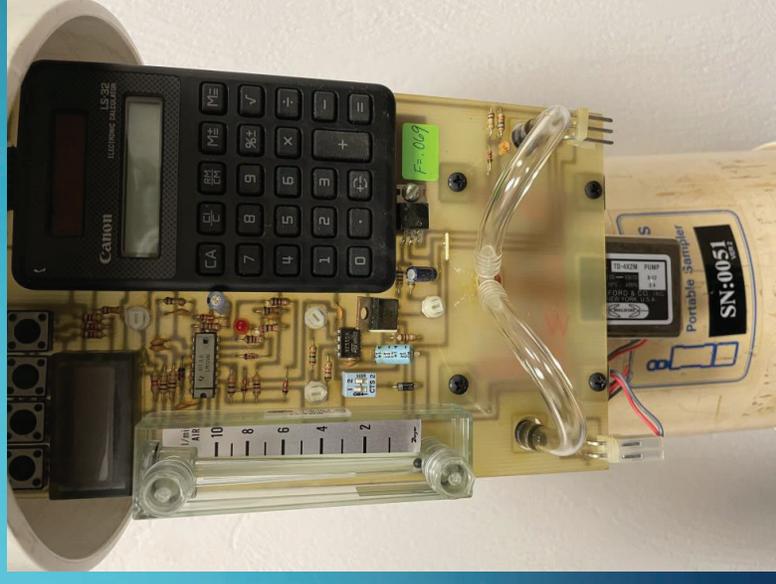
- EPA Saturation Monitor Repository 98-TA31A.04

AIRMETRICS

In 1990 the first MiniVol version was raw, it consisted of a pump, hose timer and basic flow-meter kludged together on a circuit board. (Picture unavailable)

Version 2.0 seen here consisted of the same pump, circuit board and flow-meter but the hose timer was replaced with a time totalizer and calculator as the user interface.

The unit was designed to sample at 5L/min using PM2.5 & PM10 inertial impactors. The first 5 versions of the MiniVol were also capable of sampling for CO and NOx.



AIRMETRICS

In 1993 Version 4.0 was introduced featuring a programmable timer instead of a calculator. This version was redesigned eight times but the programmable timer remained an integral component of the system.

The programmable timer's easy-to-use functions are an upgrade from the hose timer and calculator but extremely low tech when compared to digital interfaces and touchscreens characteristic of today's samplers.



AIRMETRICS

In 1993 the EPA established a Saturation Monitor Repository, to make saturation samplers more widely available to state, local and tribal agencies.

The repository consisted of 115 saturation samplers and support equipment which agencies may borrow to conduct special field studies.

AirMetrics served as the repository for EPA Region 10 (Pacific Northwest) serving Alaska, Idaho, Oregon, Washington and 271 Tribal Nations.

AIRMETRICS

Between 1990 – 2007 approximately 12 versions of the MiniVol sampler were designed. In 2005 Version 5.0 was launched with a high-efficiency AirMetrics Brand pump and newly implemented microcontroller.

Version 5.0 is the last model to feature 6" sewer pipe and a cumbersome, 10LB latch-on battery pack.



AIRMETRICS

In 2008 a streamlined version of the MiniVol was introduced to the market. The MiniVol TAS (Tactical Air Sampler) a sleek package built on the original platform, still featuring the same programmable timer and flow-meter.

The MiniVol TAS did not integrate the CO & NOx monitoring capability but instead can be customized for toxics monitoring.



AIRMETRICS

The MiniVol TAS is an improvement over previous models but new technology has not been implemented. Relying on old technology threatens the sampler's viability.

Procuring obsolete circuit board components poses a challenge to production of the MiniVol TAS.

An innovative product with a highly relevant concept 30 years after inception has become an archaic instrument in need of a radical redesign.



AIRMETRICS

EPA Saturation Monitor Repository 98-TA31A.04

Kenneth Jones TRC Environmental Corporation

Neil Berg U.S. Environmental Protection Agency

Stan Sleva & Susan Murchie TRC Environmental Corporation