**COST PROPOSAL NARRATIVE** for RFP 21-66986 (Air Monitoring DMS)

This document describes specifically the items itemized in Attachment D. This document is not exclusive to Appendix A-E, Attachment F, F1, or other documents that provide individual responses to technical or business requirements in the RFP, but rather serves as a map for Attachment D.

Clarifications to Estimated Hourly Costs for Phases 0-3

1. Any time spent remote testing or iterating software on IDEM hardware or to resolve data format issues not clearly identified in RFP information and examples before UAT at end of phase 2 shall be considered development time.
2. Estimates for enhancements in this document are good faith, best estimates based on our experience with previous projects, and we have made our best efforts below to clarify our assumptions. However, some ambiguity exists with regards to some requirements yet to be clarified in Phase 0 (Requirements Definitions), and with data formats / Xpert2 logger logic not documented in the provided manuals (e.g, failure of the LM@NNN Xpert2 polling command to work as documented). It is assumed that additional hours *beyon our good faith estimates* that result from such scope clarification and documentation ambiguity shall be considered a change order and those hours would come from the Enhancements pool. Other relevant changes from specification documents approved in Phase 0 shall also be considered change orders (e.g., site/parameter configuration tables, etc) from the enhancement pool.

**Estimated Hours for Project Phases 0-3**

Our estimate of hours (including per site best guess estimates) for each key activity and requirement are as follows:

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Who | What | Notes | Phase 0 | Phase 1 | Phase 2 | Phase 3 | Ongoing Support (Gold Service) |
| # OF MONTHS |  |  |  | 2 | 2 | 1 | 2 | 5 |
| Engagement Manager / Customer Success Manager | Steve | Contract Mgt/Reporting |  | 8 | 8 | 12 | 12 |  |
| Technical Architect | Steve | Requirements Definition, Docs, UAT |  | 40 |  |  |  |  |
|  | Paul | Requirements Review |  | 20 |  |  |  |  |
|  | Steve/  Paul | Sprint planning (tech design, sites) |  | 16 |  |  |  |  |
|  | Paul | Sprint planning  (web site design) |  | 8 |  |  |  |  |
| Technical Project Manager | Paul | Config planning (server), UAT |  | 8 |  |  | 16 |  |
|  | Debra | Config planning (site) | 1 hour /site |  | 9 | 41 |  |  |
|  | Debra | Design/implement Trainings, Site Site Install Feedback |  | 32 | 24 | 24 | 24 |  |
|  | Randy | Customization Designs |  | 20 | 20 |  |  |  |
|  | Paul | Config planning  (web site) |  | 8 |  |  |  |  |
| Developer / Configuration Specialist | Paul, Subctr. | Server implementation, Scans |  |  | 12 |  |  |  |
|  | Debra | Site Implementations, UAT | 2 hours per initial site, 1 thereafter |  | 18 | 41 | 8 |  |
|  | Randy / Scott | Requirements Review,  Customization implementations |  | 20 | 98 | 101 | 92 |  |
|  | Paul | Standard Web Site Implementation | 6h+0.5 hr per site |  | 10.5 | 20.5 |  |  |
|  | Contractor | Web Site Enhancements to Standard AgileWeb |  |  |  |  |  | 80 |
| Data Architect | Paul, Debra | Data conversion planning, incl additional instrument types |  |  | 36 | 12 |  |  |
| Data Integration / Migration Specialist | Debra, Subcntr. | Data conversion implementation | 4 hrs/site first, then 2 hours/site |  | 36 | 82 |  |  |
|  | Debra, Subcntr. | autoGC and other non-continuous data import |  |  | 10 | 20 |  |  |

M&O costs after completion of each site implementation is covered in the Hosting Services listed on the “Other Costs” tab. For purposes of invoicing at the conclusion of each phase, this amount will be converted to a monthly rate, and months (or part thereof) will be billed with each Phase milestone. The remainder of Year 1 would be billed after system UAT. (e.g., if Phases 0-3 had billed 6 months of Hosting Services, the other 6 months would then be billed to complete Year 1).

**SaaS Products**

The base proposal includes providing the following AgileWeb products (along with hosting services, see below) as part of the Software as a Service (SaaS):

* AirVision licensed for up to 100 sites
* Direct Poll Drivers for 20 BAMS/T640s
* Small Sensor Drivers for 15 PA2
* Automatic Data Validation Processor and File Import Tool modules
* QA / Monitor Assessment Forms/AQS reporting module
* Component and Activity Tracking (Asset / Work Item) module
* File Hiker for auto-GC polling
* 30 Client user licenses
* AgileWeb standard public web site

Items that may be referenced in Appendix A but not quoted here include: Direct polling of Partisols and other instruments not listed above; Advanced Normalization Tool, AgileWeb ‘heat map’ option.

**Project Related Costs And Assumptions**

Project Management

On-Site Kickoff Meeting: one trip at two days, travel costs listed under “Other Costs” (mileage, per diem, hotel) based on IDOA rates and mileage, including days in transit.

Development of documents, estimated lengths:

* Project Implementation and Management Plan (mostly drawn from clarifications in this proposal and discussion with IDEM), estimated 20 to 30 pages.
* Enterprise Technical Requirements and Specifications- covering the Xpert2 logger, other sensors for Direct Poll or File Import, definition of data flows, interface specifications covering development not otherwise clearly stated in product manuals, estimated 20 to 50 pages. Version 1 document to be revised to Version 2 based on Xpert2 testing.
* Infrastructure Design- languages, database specifications, Client Desktop requirements, network requirements, server specifications and backup/DR methods; estimated 20 to 30 pages
* QC checklist for each QC test type (names of tests / phases, warning and invalid drift limits, etc); estimated 2 to 5 pages
* Automated Data Validation- *this will be left to the follow-up training, after IDEM has more experience with the base AirVision system, it is inadvisable based on our previous project experience to try to define these requirements on the front end of the project*
* System Configuration- Sites, Parameters, AQS codes, etc; estimated 15-20 columns by 1000 to 1200 rows (Excel), information mostly provided by IDEM.
* Operation Interface Design- description of user interface features and ‘tips and tricks’; estimated 5 to 10 pages
* Security and Permission Structure- definition of roles/groups and list of users and group memberships; estimated 2 to 5 pages.
* Disaster Recovery Plan (hosted) ; description of methods and annual representative testing; estimated 5 to 10 pages.
* Entity Relationship Diagram- provided in electronic form as an auto-generated tool, as well as subset table relationships for a few common data types (stored averaged data, security settings, scheduled tasks), the ERD is unnecessary as the AirVision database includes ‘flat table’ views (see Appendix A, Section 10) for most data query/export function that do not require understanding of an ERD or table relationships. Similarly, for data insertion, ‘flat’ import tables exist, in the event the user wants to develop third party applications for data insertions- again, understanding of table relationships are not necessary. Documentation of the most commonly used (approx. 10) Views and Import tables provided; est. 20 to 30 pages.

Training

Development of training materials and proficiency verification tests for three different roles (site technician, QA staff, system administrators)

Initial training: one trip at three days, travel costs listed under “Other Costs” (mileage, per diem, hotel) based on IDOA rates and mileage, including days in transit.

Follow-up training: one trip at three days, travel costs listed under “Other Costs” (mileage, per diem, hotel) based on IDOA rates and mileage, including days in transit.

Site/Parameter and File Import Configurations

Initial population of continuous and non-continuous air monitoring sites and parameters via scripts generated from a ‘fill in the blank’ spreadsheet data provided Agilaire and completed by IDEM from existing data (AQS codes, site / parameter names). This provides the base structure for data import/conversion and polling. IDEM personnel can adjust reporting digits, AQI program methodology/settings, wind rose reporting breakpoints, and other preference settings that require agency internal discussion and decisions in parallel or after site installations. The goal here is to balance ‘agency ownership’ of configuration management for the long term benefit of IDEM, while leveraging Agilaire expertise in the short-term to build the structure necessary to support the site installation / conversion schedule.

On-Site Installations (First 9 Sites)

Three trips trip at four days each, travel costs listed under “Other Costs” (mileage, per diem, hotel) based on IDOA rates and mileage, including days in transit.

Data Conversion

Agilaire will add necessary file import tool enhancements, configure and test file import templates for:

* 5-minute and hourly data for continuous monitoring sites based on RFP provided example file formats (note: AQS import is also an option, as the existing sample file does not allow for capture of AQS null codes or qualifier codes, while conversion via AQS files would). RFP requirement for import is 10 years of hourly and 5 years of 5-minute data. Because we are converting hourly, 5-minute, and operator/validator log files from LEADS-specific file formats and not from AQS, some customization of the File Import Tool is required.
* Import of Operator Logs via File Import Tool with enhancements to merge dates (no example file formats provided, format to be mutually agreed)
* Import of Validator Logs via Agilaire-authored SQL scripts or developed conversion tool.
* Import of historic auto-GC data from EZChrom/TotalChrom run files
* Import of non-continuous data from SaSS, Hi-Vol, URG, Suma.

Server Vulnerability Scans

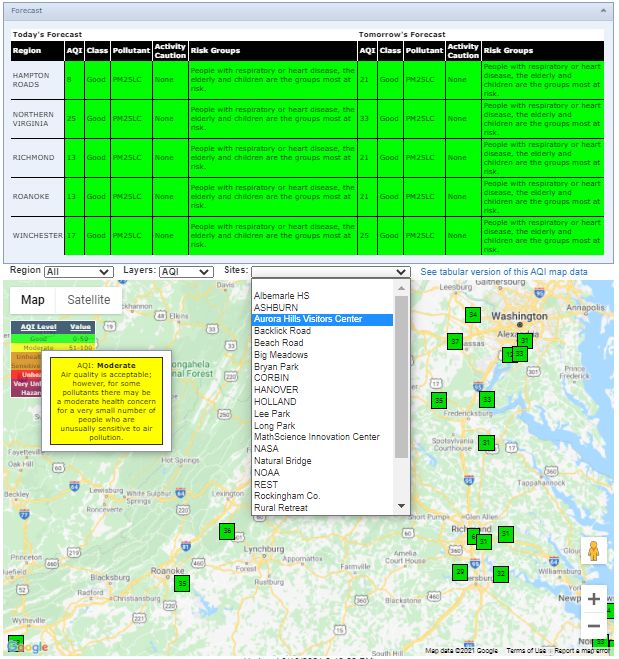
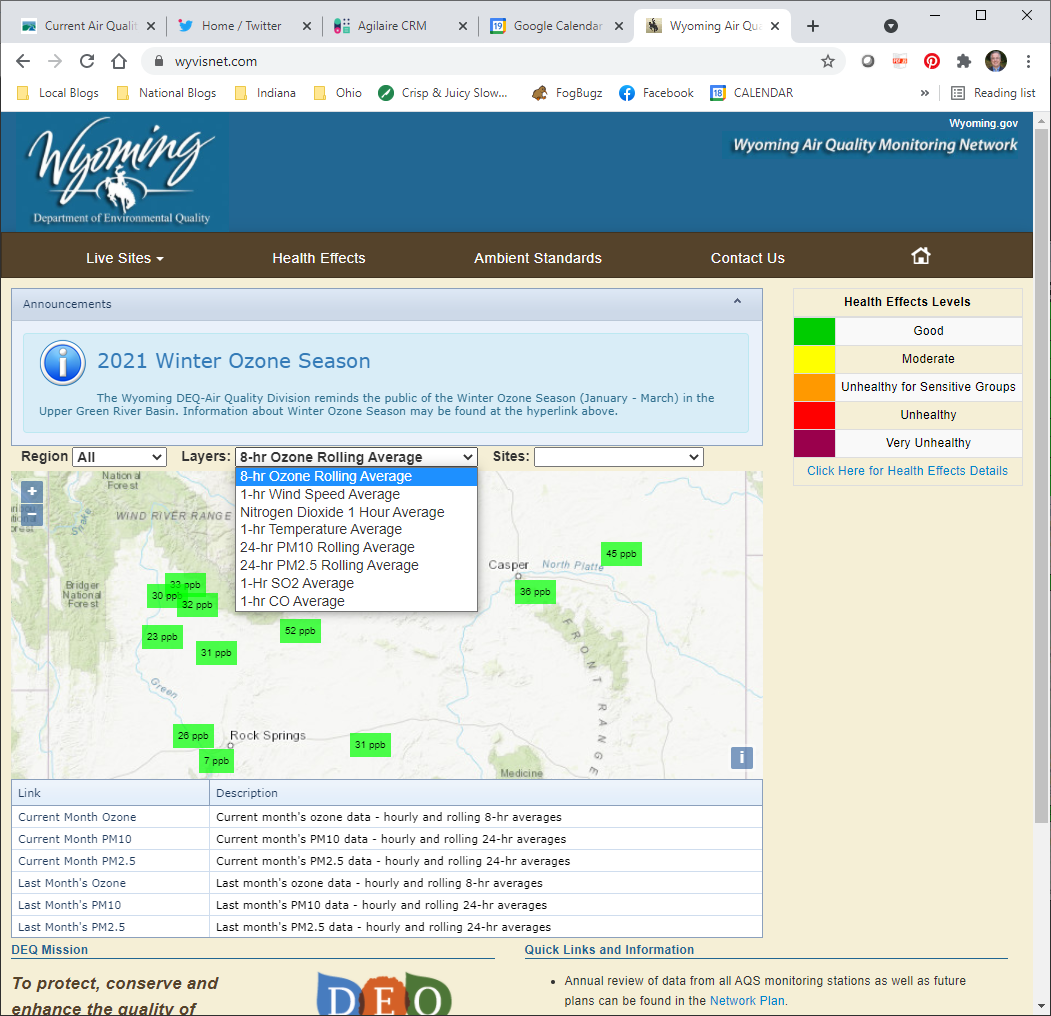
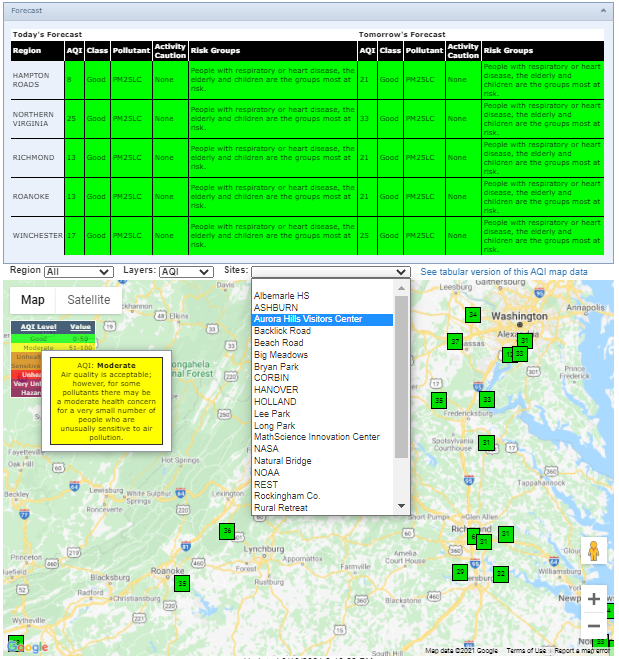
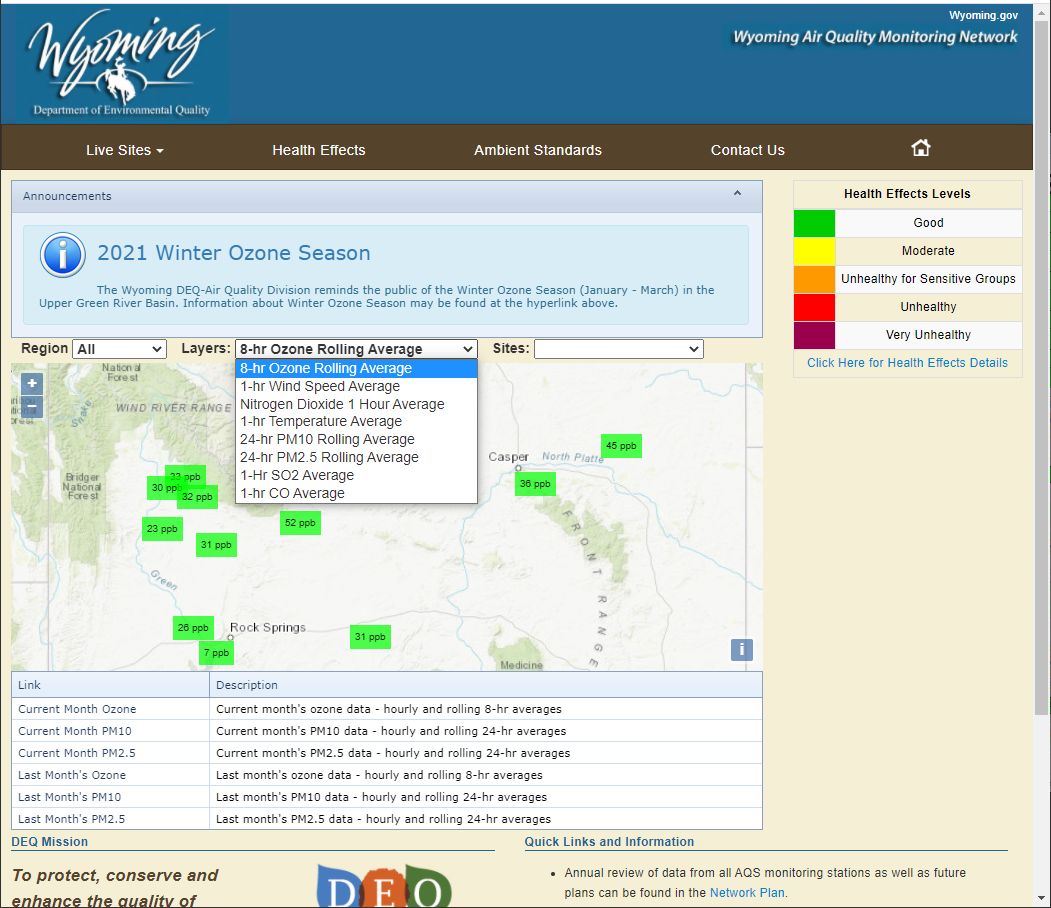
Agilaire has elected to use a third party to run vulnerability scans of the server. Agilaire will review High and Medium results for potential false positives, and provide a report to IDEM on the server status and any mitigation requirements for any item not determined as a false positive, as well as providing comments on Low priority findings and whether mitigation is warranted. This scan is in addition to the continuous monitoring Agilaire performs with the Trend Micro Deep Security product. Two scans will be performed in Phase 1/2 (baseline, and for UAT), followed by quarterly scans thereafter.

Phase 3 Web Site

The requirements of the new web site are not well defined, and the Addendum gave no hints other than to point at the existing LEADS site (which, when we tried to review it, the web site was completely offline, so we were unable to develop any kinds of requirements from it). Based on our experience with numerous other projects, we do not propose to try to exactly duplicate the existing web site, as requirements should be driven by **studied and thoughtful needs of the agency and the public stakeholders,** and not by just ‘what already exists’, when what exists may not have served the public well. Some specific critiques related to ease of use from a public user:

* Site has two top horizontal navigation bars, both in green (IN.gov and the web app). Scrolling down in the map makes the main application menu toolbar for the air quality information disappear from view. A web app that users can navigate to forecasts, layers (AQI vs. conc, vs. met data, etc) and report sets without having to use a secondary pull-down menu would be much less confusing. AgileWeb can offer this.
* AQI reports offer both AQI and ppb values, which not in line of the concept of the AQI itself (to make air quality values more understandable). The site throughout is a mishmash of scientific user and public user roles. AgileWeb does more to separate these roles.
* Main site page doesn’t show AQI values, which is the most important and most quickly sought piece of information by the public. “O3” can be confused as “03”, making some public users think the AQI is ‘3’.
* User can’t get to detailed site information by clicking on site, rather other pick list menus not intuitively found have to be used. AgileWeb uses a single click from the main map to drill down to site information, pictures, site specific reports, etc.

Compare instead to the more intuitive sites at Virginia (<https://www.deq.virginia.gov/air/monitoring-assessments/air-quality-forecast>) and Wyoming (<https://wyvisnet.com/>). Note that the section above maps can be used for forecast data, announcements, or both (collapsible sections).

Instead, we propose to first stand up a default AgileWeb site, complete with zoomable map, site representations with AQI color/values, additional layers for PM25 and Ozone concentrations, drill-down to site page information, the Site Report enhancement (described in Enhancements below), and some default quick report links for public users. This represents a suitable web site for most public air agencies that can be included in an existing State web page in an iframe.

IDEM would review the standard AgileWeb page, after which we would then enter into thoughtful discussion with IDEM about needs, provide examples of several other agency AgileWeb implementations and features used at several other large state agencies (regional forecast panels that can be collapsed, easier quick links for downloading data, easy to enter site-wide and site-specific announcement with start and end dates), and come up with a set of requirements that meet the current and future needs of the agency better. This is the same approach that has been used successfully with Wyoming, Virginia, and Georgia web sites. Details on AgileWeb features are in Appendix A, Section 9.

Our proposal includes an additional 80 hours of customization after stand-up of the AgileWeb site, which could cover both changes to the AgileWeb application and/or content pages, navigation frames, etc.

**Enhancements**

Enhancements Included (Phases 0-3)

The following enhancements are related to Core Requirements and hourly estimates and proposed requirements definitions are as follows. The State should closely review our proposed requirements and assumptions, as the cost proposal is based on these assumptions. Agilaire has an excellent track record of adhering to customization estimates and time schedules once all information is made available (confirm with our references), and our proposed estimates are made in good faith, somewhat pessimistic, and based on our experience with dozens of customizations made to AirVision over the last 10+ years.

1. Average Data and Logbook Polling (est 20 hours)

AirVision has already demonstrated the ability the ability to collect average data records and Operator Log entries from the Xpert 2. Some work remains to improve the handling of data triplets (see Appendix A, Section 3.b.1) and some testing is needed to resolve the question of the Operator Log command (one didn’t work per CCSAIL manual, one always returned all operator logs), but we expect this effort to be minor. Some work may need to be done to handle the “short” records the Xpert 2 returns for some 5-minute periods:

*Short record example, not detailed in CCSAIL manual: 2,20/12/02,01:30:00,0,8,P,0,51,K,99000,,*

*Operator logs, current test results (information needed from IDEM on LM@ command, or we would have to implement a workaround to always use the LM\* command)*

*[Sutron IDEM (2)]: --> Requesting: #00020001LML002010<0x03>*

*[Sutron IDEM (2)]: <-- Response:*

*#00010002*

*NAK,72<0x03>*

*[Sutron IDEM (2)]: --> Requesting: #00020001LM@9918<0x03>*

*[Sutron IDEM (2)]: <-- Response:*

*#00010002*

*NAK,72<0x03>*

*[Sutron IDEM (2)]: --> Requesting: #00020001LM@34<0x03>*

*[Sutron IDEM (2)]: <-- Response: ??<0x03>*

*Get all logs:*

*[Sutron IDEM (2)]: --> Requesting: #00020001LM\*82<0x03>*

*(ALL logs are sent).*

1. Telemetry Input of Calibration (QC Check) Data (est 20 hours)

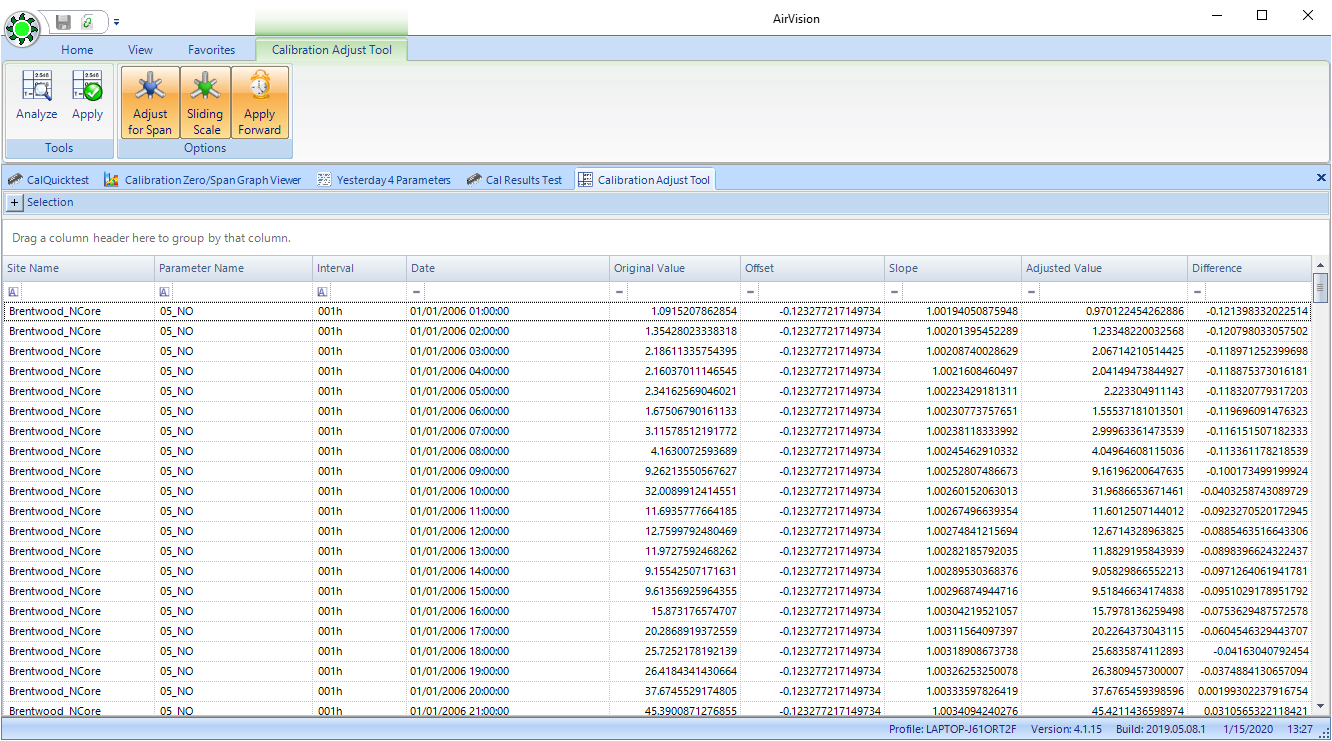
The ZENO manual does not provide examples of the return of QC check data. Our understanding from inference of other documents and previous work leads us to believe that the normal status codes embedded with the 5-minute average data (K=normal, Q=QA check, P=maint) are replaced with level indicators (M, R, S,T,G) when the data is active for that phase (e.g., during the ‘gas buildup’ phase of the span, “Q” is given, but when data changes to “M”, that is the actual calibration value).

e.g., our assumption of data stream for a 20-minute zero/span with 10-minute span (last 5 mins as span data) and 10-minute zero (last 5 minutes as zero data) and 5-minute recovery would be roughly similar to:  
  
Date,Time,01RecID,BIT,101Name,101Qual,101Val  
03/27/2016,11:05:00,01,0,101,K,0.0121  
03/27/2016,11:10:00,01,0,101,Q,0.0452 🡨QC check starts here  
03/27/2016,11:15:00,01,0,101,M,0.1598  
03/27/2016,11:20:00,01,0,101,Q,0.0097  
03/27/2016,11:25:00,01,0,101,G,0.0009  
03/27/2016,11:30:00,01,0,101,Q,0.0055 🡨gas flow ends, recovery stage  
03/27/2016,11:30:00,01,0,101,K,0.0122 🡨QC check complete, normal sampling here

We propose to enhance our File Import Tool to specifically search for these flags and turn the results into AirVision calibration records. Some additional complexity may exist to distinguish to label the cal ‘type’ in reports (e.g., distinguish “Cal” from “SpanZ” or “Precision” checks). We may try to resolve that during file import, or simply hard-code the cal type in the custom reports (which may preclude correct labeling in other existing AIrVision calibration reports). Such details can be worked out with IDEM during requirements / enhancement negotiation phase.

1. Data Correction From Instrument QA Data (est 40 hours)

A number of approaches can be used to correct incoming data from the Direct Poll system. AirVision already contains a Cal Correction Tool used by a few agencies to adjust data based on zero/span results. Existing AirVision capabilities include the ability to do zero adjust only, zero/span (slope) adjustment based on cal ‘before’ or ‘after’ data, or to apply zero and ‘sliding span’ (slope) based on slopes calculated by zero/span checks to each side.



DEM RFQ Approach

Agilaire proposes that the File Import process (after Direct Poll collection from the Xpert2) will receive a custom enhancement to allow for incoming data to pass through another processing stage to calculate, store, and possibly apply regressions (could be automatic, could be manual, depending on IDEM requirement definitions). This tool would support multi-point checks (we propose up to zero plus five upscale points), with a choice of either regressing the data as either a linear fit, second order, or third order (cubic) polynomial, as well as exponential (y= A exp(B\*x)). We have assumed the process is only driven from 5-point checks, and requires manual approval / action to “activate” the new slope/intercept going forward (and may need to be retroactive back to the 5-point calibration)- final requirements TBD.



File Import



AirVision Server



Engineering Units



QA Check Results

Adjustment

QC Check Data

1. Enhancements to File Import Tool for historical data input (20 to 40 hours)

The RFQ requires import of various types of data from native / LEADS output formats, not from AQS, so in some cases the File Import Tool will require some small level of enhancements:

|  |  |
| --- | --- |
| File Type | FIT Enhancement Needed |
| 5m / 1m average data | Extract site information from header, manage string-based flag (AMB, PM), import slope/intercept into historical slope/intercept table (related to Item 3). Use POC as additional identifier for site in case of co-located data, similar to the way our AQS import tool does. |
| QC check data | Extract engineering unit data (ppb/ppm), start times, cal check type and import into AirVision calibration database. |
| Operator Logs | None, Fits existing FIT logic. |
| Validator Logs | New import type (importing to Annotations). Must concatenate date/times to single field for import, determine average interval from Data Type, |
| 2BTech, | None, native import template exists |
| Tisch Hi-Vol, URG, SuperSass, Suma | None, AQS Import |
| Partisol Filter Run | None, native import template exists |
| Auto-GC data | None, native import template exists |

1. Automated QC Check Reports (est 80 hours)

The RFQ provides a format, but little explanation of some of the fields, and where some of the represented data comes from. While AirVision provides a number of calibration reports and graphical trends (see Appendix A.1), they do differ significantly enough from our reports (individual phases as columns, POC codes, date and time formats) that we will propose four new reports to fulfill the RFI requirement.

Clarifications for each report:

* The source for “Stab” (stability?) values is unknown (and does not exist in the example format for data import/conversion), and so is not included in our design.
* Per other references in RFP, voltages to be eliminated in favor of all reports based on concentration values.
* ProcMeth to be removed (in LEADS it is always “Traditional”, so this seems an unnecessary field/requirement).

Individual Report Requirements:

Cal/Span/Zero History Report: Consists of one report section, with page breaks between sites. We propose moving site name to header above data columns. Region appears to not be used and will not be included. Calibrations would need to be identified by one of four types (“Cal” if 5 phases, “SpanZ” if results contain the M and G phases, “Span” if results contain the M, T,G phases.

The business logic behind the “Precision” type line is unclear. Can be discussed during requirements / enhancement negotiation phase.

Data columns in the report shall be:

* Parameter Name
* POC Code
* Date (MMM dd yyyy format)
* Time (24-hour military format with time zone for site)
* Type (sequence name, determined by number of phases identified in a single group of continuous averages with Q/M/R/S/T/G flags).
* “CAL” to be denoted with darker blue cell color.
* Status (green/”Passed” if difference of all phases < limit, red/”Failed” if not)
* Values (*eng. units*) for M,R,S,T,G phases as present.
* T Concentration (column to be eliminated now that cal values are eng units)
* Slope/Intercept from previous cal (slope/int relevant to eng units only)

The business logic behind “Reject Data” columns is unclear. Can be discussed during requirements / enhancement negotiation phase.

Calibration Results: Report contains header block with site name, region, county name, date/time of check (starting time, first records with “Q”), Parameter name, AQS pollutant code and POC. A block is given for Status (pass/fail with colors, pass if all differences < limit, fail otherwise).

Business logic for “Reject Ambient Data” is unclear (although the action is self-explanatory, how the user selects this, if this is a per site/parameter setting applied automatically or a manual process, this can be discussed during requirements / enhancement negotiation phase).

The report then consists of four sections:

1. *Monitor Outlier-* Grid with levels (M, R,S,T,G) as rows, columns for three runs, apparently. Values given in mV (but RFP indicates voltages being eliminated, in new system, so will now be concentrations). Unclear how the data stream for three consecutive checks would be given (would there be a “K” stage inbetween? Or an unbroken sequence of Q/M/R/S/T/G averages?). For the three runs, an average is compiled. A difference is calculated, but difference from what exactly is unclear , this can be discussed during requirements / enhancement negotiation phase). “Stab” is undefined as to where it comes from, and does not exist in the historical data import format, so we assume it will be eliminated from the new report format.
2. *Calibrator Outlier-*  Unclear where the values come from. Are they manually entered as target values, or collected from the calibrator by the Xpert2 and appear in the regular data stream? If so, where? To be discussed during requirements / enhancement negotiation phase). Again, “Stab” is undefined as to where it comes from, and does not exist in the historical data import format, so we assume it will be eliminated from the new report format.
3. *Concentration At Each Level-* Combines data from both, calculating differences from calibrator values (again, from where?) and Ideal Instrument Conc by using the recorded slope/intercept from previous cal. Again, voltages to be replaced with engineering units per RFP. From these values, a new linear correction is calculated, and assumed to be applied for data going forward. We are unclear if this calculation and new slope would need to be calculated and applied immediately when the calibration data is polled, or if the operator would review this report first, and then approve the new slope / intercept, and if it would be from that moment forward, or if it would need to be applied retroactively to the cal start time. To be discussed during requirements / enhancement negotiation phase).
4. A fourth section then shows a table of ideal values and differences and the calculated slope, seeming to reiterate data from above. Again, references to voltages to be eliminated.s

Span Results

Similar to above, but only shows M, T, G levels.

Zero-Span Results

Similar to above, but only shows M, G levels.

1. Automatic Invalidation of Data Based on QC Results (20 hours)

An existing tool in AirVision was written for CEM sources to perform calibration drift checks and backward / forward tag data based on exceeding those drift limits. The existing code can serve as a starting point for a similar utility (to be run manually and/or as a scheduled task) to invalidate data based on zero / span / prec drift limits or variations of slope/intercept values that are out of spec, as listed in Attachment L, “Cal Drift Limits”

1. Station Information Report (8 hours).

Per the RFI Addendum: *Air Quality Station Information should include EPA site number, location, site coordinates and site photos (overall and 8 cardinal directions).*

This “report” may be best implemented as an enhancement of the existing AgileWeb site information page (expanding from the current one image to nine images), depending on if the audience for this ‘report’ is primarily IDEM internal or public.

Future Enhancements

The following enhancements are related to Additional System Requirements, and for the most part require additional definition and development of detailed requirements before estimating number of hours. They may be incorporated into Phase 0-3, or postponed depending on schedule focus and finalized requirements.

1. Additional Fields for PAMS data (may require no enhancements, more requirements needed)

Currently, AirVision stores properties for PAMS data hours, including measured valued, flags, blank type, retention time, MDL, and sample acquisition time (different than the hourly average). Currently carbon number is not stored (but could be encoded in the parameter name). We are reviewing the addition of carbon number into the schema, as it may be needed for cross-flagging of related compounds from failed PAMS CCV checks (ref: PAMS conference call 3/29/21). Retention time is stored, and should be equivalent to ‘sorting order’ as it implies elution order. ‘Column information’ is likely to imply PLOT vs BP, which could be encoded either in the parameter name, or as a parameter group (e.g., PAMS\_BP, PAMS\_PLOT as parameter type), so the user running a report could filter parameter names by PAMS, BP column, or PLOT column. Thus, no customization may be necessary, depending on the intent of the IDEM with regards to nomenclature, or their expected intent of use of this meta data (e.g., more than just helping someone running the Data Editor or running reports filter through the list of parameters for selection and external API/SQL queries?)

1. Balance Recording (20 hrs)

Based on the Metler XP protocol document, our proposed enhancement would, for Client computers with RS-232 ports, allow the Sample Data Editor form to (once a record has been created) select the “Tare Weight” or “Final Weight” cells, and select a button or hotkey, which will then send a read request to the balance using the “Stable Weight” command. No other commands to the balance are planned for implementation. The returned value will then be pasted into the field, and a popup alert would display if the balance did not respond. *We would prefer to receive a test balance for factory testing, but if this is not possible, we can simulate the balance response and then resolve issues with field testing via remote access.*

1. Balance Checks (8 hours, added to / requires “Balance Recording” above)

The original RFI Addendum clarifies that the balance is to be checked against a standard every 10 filters. It is unclear from the requirement if our application is supposed to maintain that count, or if the user is supposed to track that (and if so, business logic needs to be defined if there is ‘carryover’ of the count between weighing sessions, or perhaps more simply each session would likely start with a standard). We propose that each session would start with the weighing of a standard, and a notification provided after each 10 weighing in the same session. If each balance has a different standard, an editor can be provided to enter the standard values, and at each session, the user will have to pick which standard they are using.

Once prompted, the user will use the button / hotkey, and if out of range, an error message will be given on the screen. Our assumption is that tests do not need to be logged historically, but this capability (and a report) can be added during requirements / enhancement negotiation phase.

Additional checks can be added based on requirements (e.g, for lab blanks and field blanks to ensure weight differences are within expected ranges).

1. Label Printing for Filter Samples (16 hours, added to / requires “Balance Recording” above)

This enhancement would be added to the existing Sample Data Editor to:

* Autogenerate a sample ID whenever a new sample is added manually
* Add a ribbon button to the Sample Data Editor to print labels (Avery 5161/8161, via a standard 8.5 x 11” printer page) for list of sample records / IDs selected via mouse in the Sample Data Editor. Two labels will be printed for each sample. We assume Code 128-A as the barcode method.
* If a user has designated a sample in the editor as a field blank or lab blank, the sample ID can be updated to include a prefix to the sample ID (e.g., “F” or “L”). Labels will include the number and a generated barcode matching the sample ID.

The RFI / RFQ does not reference any requirement for AirVision to read the barcodes.



**Hosting Services (Ongoing Support, M&O)**

Agilaire’s approach to technical support and ongoing service may be different from IDEM’s historical experience with LEADS. We do not utilize hourly billing in our support contracts, as we find that ‘being on the timecard’ can create hesitancy for an agency customer to seek out support, and could go down a wrong path creating a larger issue or more work to resolve, compared to being able to receive the right answer quickly, and move on with their day. For this reason, our telephone/email technical support (answers on editor / report, usage, troubleshooting communication issues, recommendations on best approach, e.g., how best to set up a new instrument or security profile) is unlimited in our support agreements. Similarly, upgrade service for fixes and feature enhancements to the licensed products are included, to avoid the user base lagging behind on versions that are difficult to support.

The only additional hours that can come into play is if a customer asks us to do significant configuration work (e.g., setting up a new site from scratch that’s significantly different from an existing site) or any of the other exclusions listed in our SLA (listed below). This works for most customers who enjoy the ‘ownership’ provided in AirVision’s open configuration system, and copy/paste functions generally make most work easy. In some cases, some agencies prefer to include a bank/pool of additional engineering hours to turn these tasks to our engineering / support staff- these our our “Gold Service” plans, and usually include a bank of 40 hours per year. These hours are not strictly tracked- most customers utilized very close to the bank each year, and unused hours are informally credited to the next year. Specific tracking, however, is available if required by contract.

With our SaaS service, we provide a single annualized cost that incorporates:

* Hosting Services (server, server checks, quarterly reporting, OS updates, backups, etc)
* Software as a Service (SaaS), e.g., use of AirVision license with options as listed
* Unlimited telephone / email support on usage issues or problems as detailed in the SLA
* AirVision and related product upgrades and application by Agilaire staff.
* Optional “Gold Service” additional 40 hours per year of services out of scope of normal support agreement (e.g., configuration changes, refresher training or training for new personnel, etc) - Because of the structure of the IDEM RFP, we consider the Enhancements pool to take the place of this feature.

**Service Level Agreement (SLA)**

Agilaire will provide a DAS/DMS (Data Acquisition System/Data Management System) that functions 24 hours a day, 7 days a week. This contract includes support services from Agilaire for a one (1) year period from the execution date of the contract. Agilaire shall perform services as specified below within the agreement term period.

1. **Hosting Services.** Agilaire will provide a Tier 3 dedicated server environment for the AirVision application (SaaS), including MS-SQL 2012 license. Remote access by DOH staff and contractors via AirVision Client software to defined server destination. By default, server will only accept connections from IP ranges defined by DOH staff, but other IPs can be added to the access control list (e.g., to support connection from sites or personnel working from home).  
     
   The hosting partner provides a highly reliably platform with:

* Latest generation E3 Haswell / E5 Sandy Bridge processors.
* High speed (100 Mb) redundant data networks.
* No single point of failure across multiple data centers.
* Storage to accommodate the on line storage of a ten (10) years of hourly data and 18 months of sub-hour data (1 to 5 minute).
* Server Hardware replacement in under 4 hours, 24/7.
* Redundant power backup.

1. **Support Services.** Agilaire will provide the following support services during the term of the Support Agreement on the current version of the licensed software and hardware as supplied by Agilaire:  
   1. **Routine Server Checks.** Agilaire will receive reports each morning on the polling status from the previous day and review them for missing data sets. Agilaire will initially review the issue on the server, and contact DOH if the issue cannot be resolved server-side (e.g., modem problem or site power). Agilaire will also review server logs each week for errors or other conditions that need resolution on the server or needs to be brought to the addition of DOH personnel. Quarterly vulnerability checks will be performed with the Qualys software, and Qualys Severity 3+ vulnerabilities will be addressed.
   2. **Unlimited Telephone Support**. Agilaire will respond to email and telephone inquiries and problems encountered that affect the use of the licensed software and hardware as well as provide support services for the licensed software 24 x 7 including all holidays. Agilaire’s support may consist of any or all of the following, as Agilaire deems necessary:

* + 1. Telephone consultation with DOH staff.
    2. Referring DOH staff to relevant manual provisions.
    3. Examination of system and programs as required.
    4. Modification or replacement of programs by program patches or updates.
    5. Analysis of and response to the problem after a review of appropriate documentation submitted by DOH upon Agilaire’s request.

Agilaire support assumes working with one or more primary contacts at DOH that have attended training on the covered product. DOH or its contract representative will fully cooperate with Agilaire’s support staff in order to diagnose and resolve problems. With the DOH’s, Agilaire may use the DOH’s computer, software, internet connection, modem, and telephone line for support of the covered software.

Routine requests for support will be resolved by Agilaire as outlined in this SLA. Emergency requests involving problems with data acquisition or recovery, shall be assigned the highest priority by Agilaire and resolved as outlined in this SLA.

If DOH wishes to install additional software not purchased from Agilaire on the covered system, DOH should consult Agilaire regarding possible interference.

* 1. **Software Upgrades/Supplements**. This contract includes upgrades to the standard product and any licensed modules. These upgrades generally provide both enhancements and may also contain fixes to issues encountered by DOH or other users of the product. Agilaire would apply all updates in a timely fashion after release and testing, and provide such updates to DOH via FTP download on Agilaire provided FTP server.

1. **Exclusions.** The following are excluded from this service agreement:

* 1. For significant amounts of time spent on other services and expenses for all other materials and parts that are not covered by this agreement, Agilaire may charge for additional and unusual effort at its current hourly billing rate plus reasonable travel expenses if applicable. However, this additional cost must first be communicated to DOH and approved in writing. Examples include:
     1. Failures of hardware (not related to the 8872 data loggers or the AirVision server) not covered under this agreement (e.g., modems, third party loggers)
     2. Site-related problems (electrical, power, environmental, or any other hardware that is not purchased from Agilaire or with which Agilaire’s hardware is interfaced).
     3. Lack of operator-level preventative maintenance.
     4. Lack of operator having attended standard training on the product.
     5. Accident, disaster, abuse, misuse, or operator error.
     6. Alterations, modifications, attachments, parts or repairs not performed or provided by Agilaire or under Agilaire’s direction.
     7. Issues related to third-party software including the operating system not otherwise covered under our standard support agreement.

**Response Times and Resolution of DAS/DMS Issues**

Common issues and required response and resolution times are shown in the following Table 1. The response and resolutions timelines identified in Table 1 are goals that Agilaire will strive to meet; however, circumstances outside of Agilaire’s control may delay response and resolution times. If instances occur where these times are not met, this will not be a breach of the SLA by Agilaire.

**Table 1 Common Issues and Required Response and Resolution Times**

|  |  |  |  |
| --- | --- | --- | --- |
| **Issue Category** | **Prioritization** | **Required Response Time** | **Typical Resolution Time** |
| Report won’t generate | Low | < 2 business hours | < 1 business day |
| Report generates, but questions about results | Low | < 2 business hours | < 1 business day |
| One user can’t log in | Low | < 2 business hours | < 1 business hour |
| Data polling behind or 1-2 sites missing | Medium | < 1 hour during business hours,  < 4 hours after hours | < 1 business hour |
| All data polling has stopped | Medium | < 30 minutes during business hours, < 2 hours after hours | < 30 business minutes |
| No users can log in | High | < 30 minutes during business hours, < 2 hours after hours | < 1 hour |
| Complete server hardware failure | High | < 5 minutes during business hours, < 30 minutes after hours | < 4 hours |