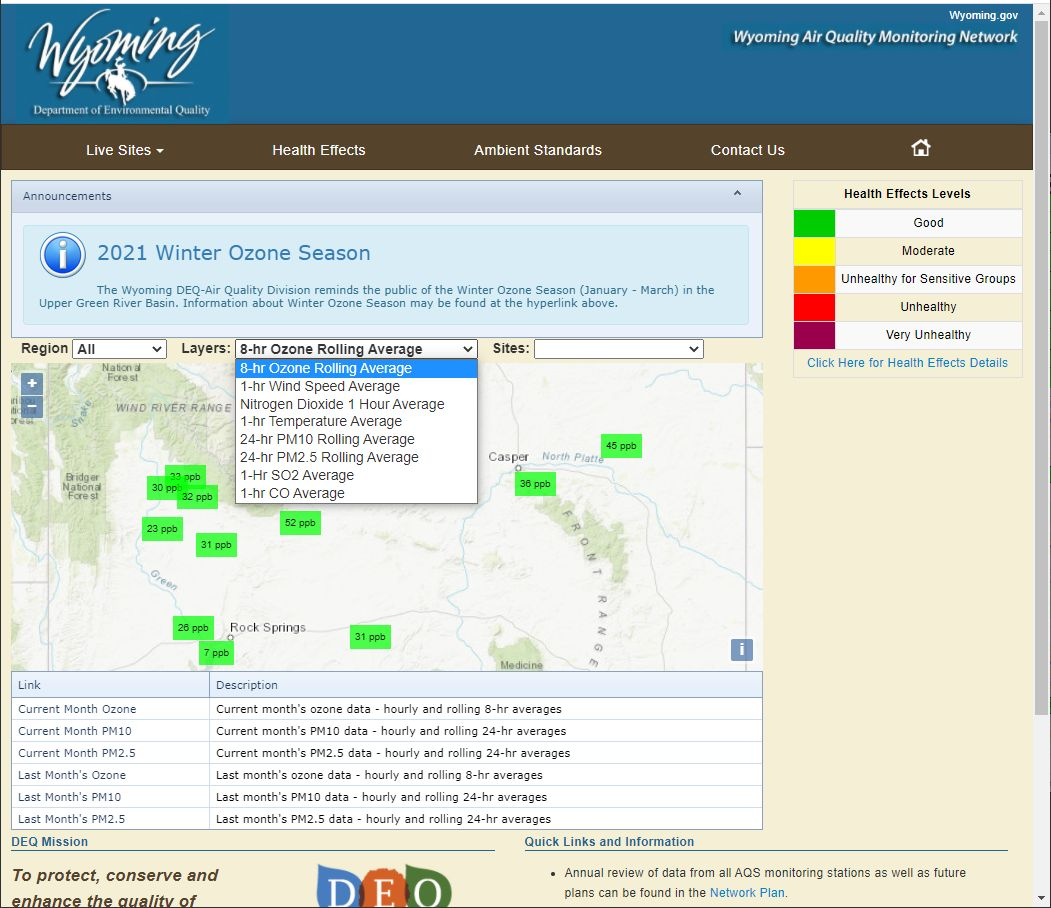
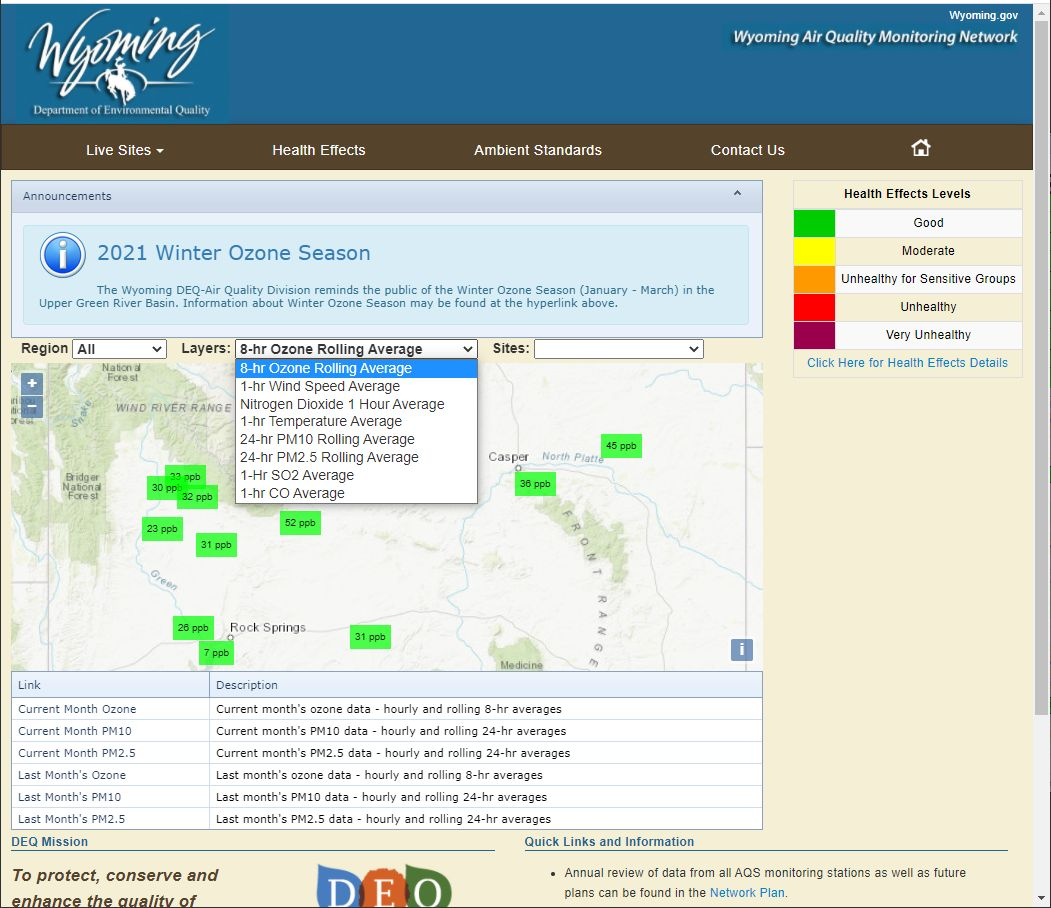
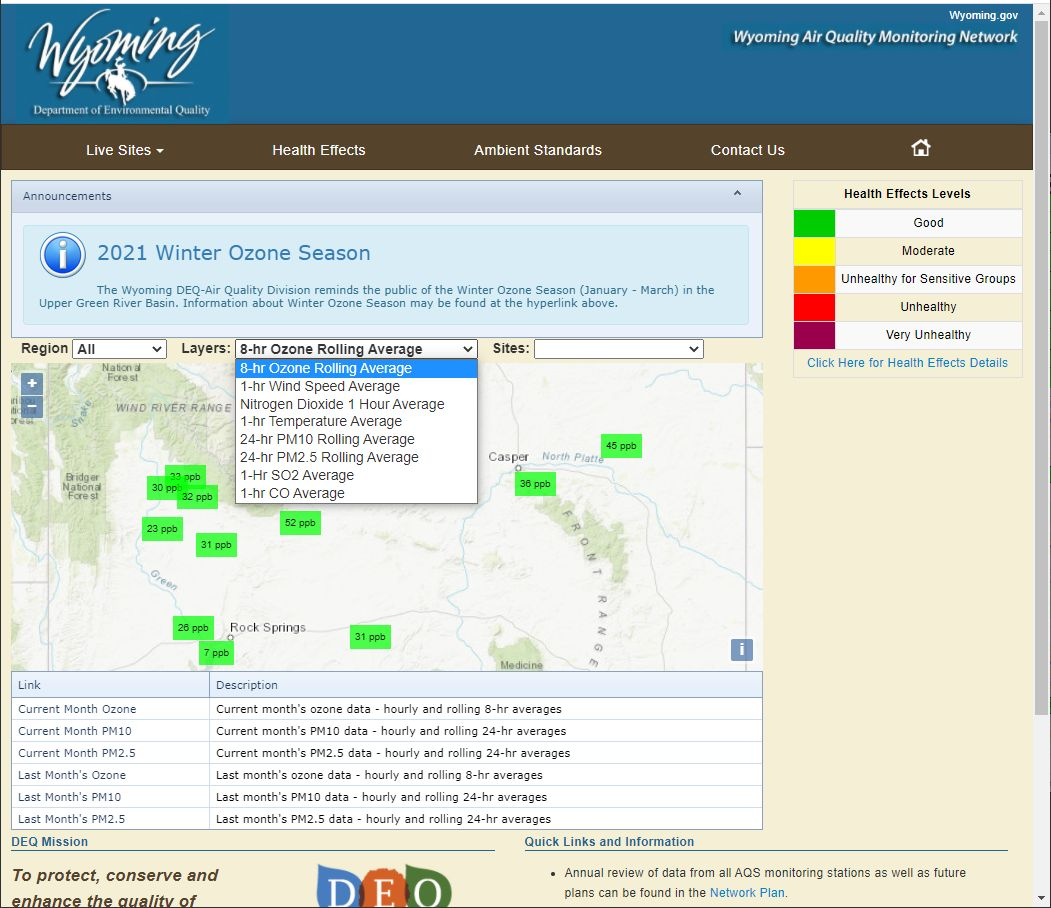
**** **RFP 21-66986 – IDEM Air Data Management System: Technical Proposal Attachment F**

**Respondent:**

|  |
| --- |
| **Agilaire LLC** |

**Instructions:** 

Request for Proposal (RFP) 21-66986 is a solicitation by the Indiana Department of Environmental Management (IDEM) in which organizations are invited to compete for contract amongst other respondents in a formal evaluation process. Please be aware that the evaluation of your organization’s proposal will be completed by a team of State of Indiana employees and your organization’s score will be reflective of that evaluation. The evaluation of a proposal can only be based upon the information provided by the Respondent in its proposal submission. Therefore, a competitive proposal will thoroughly answer the questions listed. The Respondent is expected to provide the complete details of its proposed operations, processes, and staffing for the scope of work detailed in the RFP document and supplemental attachments.

Please review the requirements outlined in Attachment J – Scope of Work carefully. Please describe your relevant experience and explain how you propose to perform the work. For all areas in which subcontractors will be performing a portion of the work, clearly describe their roles and responsibilities, related qualifications and experience, and how you will maintain oversight of the subcontractors’ activities. **In addition to this template, the Contractor must also complete Attachment F1 - Technical Requirements Matrix.**

Respondents must organize their proposal in the exact order of questions provided in this document followed by their answers. **A completed Technical Proposal is a requirement for proposal submission. Failure to complete and submit this form may impact your proposal’s responsiveness.**

1. **Introduction, Background, and Experience (Scope of Work Sections 1 and 2)**The Indiana Department of Environmental Management (“IDEM”) is seeking to enter into a contract with a single vendor (“Contractor”) to provide all services detailed in Attachment J - Scope of Work. IDEM desires a new Air Data Management System (known as the “Air DMS”).

1. Please acknowledge that you understand IDEM’s vision and needs for the Air DMS and your potential role as a Contractor, including what services are expected and the high-level requirements of this Contract.

IDEM seeks to upgrade their Air DMS with a commercial off-the-shelf (COTS) system, potentially with customizations to meet IDEM needs (see “Cost Proposal Narrative” for details), and with a quick implementation schedule. The software components would include a state of the art air quality data management system with automatic data validation, easy to use graphical data review / QA editing tools, a reporting suite to meet the wide requirements of air quality monitoring, policy, and forecasting staff, and a public web site that is easy / intuitive and provides both quick/easily understood AQI information as well as detailed data for stakeholders with more detailed needs. This system needs to integrate with the existing Xpert2 data loggers, as well as providing a future path for upgrade to more state of the art data loggers like the Model 8872.

Services critical to this project include:

* Detailed pre-planning and formalization of enhancement requirements in Phase 0
* Implementation assistance (setup of AirVision sites, parameters, reporting profiles, users, etc), which will form the foundation for quick and easy site deployments (add IP/port, confirm data collection, and historical data import)
* Initial training, competency verification, and follow-up training / configuration updates
* Support agreement with highly-rated customer support, ongoing upgrade service (including enhancements, new instrument drivers, and updates to support the system in evolving technology trends (e.g., Windows OS updates / new versions, potential new communication technologies, etc). Vendor offers unlimited telephone / email / remote support of the application software was well as the logger / site node software, coupled with product updates for a single annual fee. This agreement is part of a multi-agency partnership, where agencies have true input into the development path and ongoing growth of the AirVision application.

2. Please describe your company and proposed project staff’s background and experience and how it will benefit IDEM in this Contract. Please distinguish between your experiences and any subcontractor’s experiences. Additionally, for project experiences, be clear if you served as a prime contractor or subcontractor. Include the following information, at a minimum:

1. Describe experiences in which you have delivered services similar in size, scope, and technical components. Describe how that experience is relevant to the services in this RFP.
2. Describe your relevant experience with city, county, state, and federal government agencies, especially for system implementation efforts.
3. Based on your experience, detail any best practices with respect to the scope of this RFP that you would like to share for the IDEM’s consideration.

Agilaire has provided and supports air quality data management systems for 32 states and 50+ local tribal agencies, most for the duration (15 years) of the company’s existence. In the last 10 years, Agilaire has executed 7 large scale data upgrade projects as the prime contractor in each case (Georgia, Wyoming, San Joaquin APCD, Imperial Irrigation District, Great Basin APCD, Mexico City/SEDEMA, and Virginia, a LEADS user), and is in the midst of completing an upgrade for Clark County, another LEADS user. So, AirVision is well acquainted and recently experienced with the process of replacing existing DMS and onboarding new users and the nuances of confirming requirements to meet customer expectations. Specific details of some of these projects are listed in Appendix C. Agilaire served as the prime contractor in all cases.

The same highly Agilaire staff involved in each of these projects would be utilized for the IDEM project. Best practices (other than those already incorporated in proposed IDEM project planning requirements) from these projects to share include:

- Testing of communication with third party devices (e.g., Xpert2) to include all edge cases early in the contract to identify necessary updates to data collection/import code.

- Develop requirements for any software customizations iteratively with customer and approval of finalized requirements; however, development remains an agile methodology so that preliminary deliveries of code can be adjusted for small omissions in the requirements document (see example in response to #10 at the end of this document for how we adapt to situations not identified in initial requirements despite best efforts and practices).

- Prioritized development- initial efforts on enhancements required for site transitions, including initial design, prototype coding, and testing potentially while final requirements are being edited (agile development)

- Development and agreement of a specific list of UAT testing requirements at the commencement of the contract.

1. **Minimum Requirement (Scope of Work Section 3)**Please clearly explain how the Respondent meets the minimum requirements in Section 3 of Attachment J - Scope of Work. For each description, please be clear about the client, your role on the project, whether you were the prime contractor or subcontractor, and time period the relevant work took place that meets the requirement. The minimum requirements are listed below. For Minimum Requirement #1, please specify whether you are describing how you meet component a. or b.
2. The Respondent must meet one of the two below requirements to satisfy Minimum Requirement #1.
   1. The Respondent must have demonstrated experience within the past two years implementing the proposed software/technology platform(s) chosen to develop and implement IDEM’s Air DMS; OR
   2. The Respondent must have demonstrated experience within the past two years implementing an air monitoring system of similar size and scope.

Agilaire meets both requirements, having implemented projects of similar size and scope with the proposed software and technology platform (AirVision, AgileWeb, Direct Polling, File Import Tool, and managing customizations). Within the last two years, the relevant projects, detailed in Appendix C are:

* Virginia DEQ (hosted system, web site, extensive customizations, LEADS data conversion)
* Wyoming DEQ (hosted system, web site, with third party data sources, some web customizations).
* In addition, Agilaire is currently in implementation of another LEADS system conversion for Clark County, Nevada. That project is expected to be completed by summer or fall of 2021 (the County is managing the schedule of the site rollouts, our work on software customizations, training, and base system delivery is mostly complete, primarily awaiting the County’s final plans for their web site).

1. **Technical Requirements (Scope of Work Section 4)**
   * 1. Please acknowledge that you have fully completed Attachment F1 - Technical Requirements Matrix.

Comply, see attached Attachment F1.

* + 1. At a high-level, please describe in narrative form how your solution meets the requirements outlined in Attachment F1 - Technical Requirements Matrix. In your answer, please include information on technology stack and all aspects related to data migration, services, integration capabilities, interfaces, management, and access features.

See Appendix A for a complete description of system capabilities, underlying technologies, interfaces, access features, etc, and how our system meets the requirements of Attachment F1 and IDEM future needs.

* + 1. Please provide the details of your proposed technical architecture. Ensure to describe how your proposed technical architecture meets the requirements. Please provide both a narrative and graphic response. If necessary, provide a separate attachment titled, “Proposed Technical Architecture.”

See Attachment A, **Section 1.a.ii for proposed system architecture diagram and narrative**.

* + 1. Please describe in detail the data architecture of your solution, including how the proposed solution’s data model will be used and/or extended to meet IDEM’s needs. Ensure to describe how your proposed data architecture meets the requirements; as well as the integrations and your migration strategies. Please provide both a narrative and graphic response. If necessary, provide a separate attachment titled, “Proposed Data Architecture.”

AirVision has an existing data architecture and schema, improved and honed over its 130+ user base and 15 years with air quality networks. It incorporates schema to support including site webcam / visibility camera data, document attachments, asset tracking, work item tracking, indelible raw data, QA transaction (monitor assessment) data, database flat views for external SQL-based query/reporting, table and key constraints, a Data Access Layer (DAL), and the ability to archive data out of the database to external files in a way that it can be imported decades later even if related natural keys (site names, parameter names) are changed. All data is incorporated into the single SQL database, so a single backup contains everything necessary to restore the entire system, even down to details such as customer Client color theme selections.

For AQS-related data sets, AirVision has an AQS Import tool allowing our project staff or the end user to import AQS transactions, including 1-Point QA and QA monitor assessment transactions. For non-AQS data, AirVision has a Generic File Import Tool (FIT) which can be used to migrate average data, non-continuous (e.g., PM/TSP filter, air toxics) data, logbook data, and QC check data (zero, span, precision, multipoint) from common delimited files, with the ability to author ‘import templates’ to adapt the FIT to customer file layouts. See Appendix A, Section 3.a for details on the FIT.

Some extensions of the database schema may be required to meet customizations as described in “Cost Proposal Narrative”, such as adding a field in Parameter Templates to denote the IDEM data triplet number, and extensions to support proposed IDEM import formats (averages, annotations, logbook antries). However, Agilaire has extensive experience in managing ongoing additions to the AirVision database schema without disrupting the software for the existing customer base, while maintaining a single code line and not creating “orphan” code / products. Additional features only needed by one customer can be controlled via feature activation keys to appear (or not) in the menu system, data fields, etc, and schema updates are automatically managed via the AirVision installation / update .msi files.

* + 1. Please provide a full inventory of all software assets required for your solution. Please include, at a minimum, software descriptions, versions, the number and type of licenses needed, and your experience working with the asset. **Please do not include any pricing information in your response.**

The hosted server / SaaS system will be provided with AirVision with the following modules:  
- Automatic Data Validation Processor (ADVP)

* Generic File Import Tool (FIT)
* Component and Activity Tracking (CATS) aka Asset / Work Item Tracking
* Monitor Assessment (QA Transactions)
* AgileWeb
* File Hiker for autoGC data file transfer  
    
  The only third party component required for AirVision operations is the MS-SQL database engine, which will be provided by Agilaire as part of its SaaS / hosting environment. AgileWeb utilizes Open Street Maps for map data, but this does not involve installation on the server.
  + 1. Can the proposed product or solution integrate with the state's local Active Directory or Azure AD for single sign on?

No, AirVision maintains its own separate username / group list at this time.

* + 1. Please describe the cloud hosting options for the proposed solution and refer to any experiences where this was implemented.

AirVision standard hosting includes the above listed software as a service (SaaS), as well as the following services:

* Weekly server checks (performance, error logs, etc)
* Nighly backup to local disk and separate cloud storage (separate from hosting company)
* Continuous security monitoring and intrusion protection with quarterly ID reporting
* OS and AirVision upgrades as mutually scheduled with customer.
* Agilaire operates 24 cloud hosted servers, including statewide systems for five state agencies: Wyoming, Georgia, Virginia, Tennessee, and Kansas.
  + 1. Please describe the data backup, business continuity, and disaster recovery options to be prescribed for the proposed solution. Also, please outline the processes clients are expected to follow when experiencing each.

Our hosting services include daily backups both to local disk (for fast recovery) and backup to a secondary cloud service (for the case of total server hardware failure). See Agilaire standard DR plan for hosted systems **in Appendix D.** Worst case restoration of server hardware is within 4 hours of notification of outage, and system restoration within 24 hours. However, our history has been 99.5% uptime (some downtime for Windows OS updates, scheduled with customer to the fullest extent possible) with the longest outage being a single event of ~ 2 hours to move one state agency to a new server when a security vulnerability was found in a virtualization layer (which was only used on that one server, and we have not used since).

* + 1. Please outline all assumptions made in order to support the proposed solution and the details provided in this technical proposal.

See Appendix A “Cost Assumptions Conditions and Constraints.” See also Cost Proposal Narrative for clarification of assumptions for enhancements.

* + 1. Additional Terms and Conditions related to Cloud-based systems that the State expects to execute with the successful Respondent(s) are provided in Attachment K1, K2, and K3. Depending on your proposed System, you could be required to agree to one or more of the following sets of Additional Terms and Conditions:
* Attachment K1 – IOT Additional Terms and Conditions - Infrastructure as a Service Engagements (IaaS)
* Attachment K2 – IOT Additional Terms and Conditions - Platform as a Service Engagements (PaaS)
* Attachment K3 – IOT Additional Terms and Conditions - Software as a Service Engagements (SaaS)

Please indicate in your response below which of these sets of Additional Terms and Conditions you believe applies to your proposed System. Review these Additional Terms and Conditions and indicate acceptance and/or any redlined edits, via Track Changes. It is the State’s strong desire to not deviate from the Additional Terms and Conditions that provided in these attachments and as such the State reserves the right to reject any and all requested changes. Any or all portions of this RFP and any or all portions of your response may be incorporated as part of the final contract.

In addition to your response below, Respondents are also required to review and respond to the questions included in Attachment L, IOT Cloud Provider Questions Form.

We elect Attachment K3, **SaaS** terms as clarified per Attackment K3 markups, Attachment L, Attachment F1 and any other relevant parts of our proposal. Attachment L (IOT Cloud Provider form) is responded to in detail as an attachment.

1. **Project Methodology, Sprint Cadence, and Project Schedule (Scope of Work Section 5)**
   1. Please confirm your understanding of the project methodology outlined in Section 5 of Attachment J – Scope of Work. Please describe how it aligns with your overall project approach.

The proposed project methodology matches well with our approach used with previous projects, including:

* More time spent on project front end defining requirements and planning
* Initial training and involvement of customer staff in the integration phase
* Feedback and integration of ‘lessons learned’ from initial site implementations to improve template for future implementation of similar sites while maintaining installation pace.
* Identification of any project choke points or critical schedule paths and resolve with immediate communication / ad hoc meetings with client, decisions, and implementation of resolutions to maintain project pace.

Variations from the IDEM we would recommend include:

* Provision for additional configuration training session based on feedback obtained during site deployments. It is common for customers to identify additional requirements once training uncovers advanced capabilities in AirVision they were unaware of, or because the focus is initially on data communications and migration.
* Because of the accelerated schedule, Agilaire staff will populate the server configuration (sites, parameters, AQS codes, etc) via scripts prepared from spreadsheet data provided by IDEM, and relegate IDEM staff to smaller ‘tweaks’. This can free up IDEM staff to focus on other elements of the transition, although staff will still remained fully trained on configuration management. Again, this approach can be adjusted based on weighing the IDEM desire for system familiarity against the accelerated deployment schedule. This ‘front end’ configuration of the system also allows for the process of importing historical data to begin earlier, and potential issues with historical data import to be identified earlier in the project.
* Allow for a ‘post project’ training to cover details of advanced features that are not the focus of the initial replacement project (ADVP rules, Asset / Work Item tool, Monitor Assessment, etc). We have found that the focus on primary data acquisition and AirNow/AQS reporting functionality and QA/QC data flow in the first 4-6 months allows for initial training of these secondary items to be forgotten, and the ‘refresher’ training allows better focus by customers on these features, integration of these tools with their learned knowledge of base AirVision capabilities, as well as offering a forum for questions and answers of the base system resulting from increased use.

The only variations requested from IDEM that has not normally utilized by previous Agilaire DMS replacement projects (but is accepted and included in our scope) would be:

* Provision for testing IDEM staff (“Proficiency Verification”), which we agree as beneficial.
* Individual planning meetings for each individual site (Usually this is batched into groups of sites after the initial example/template sites). At most sites, the AirVision side will be fully configured by the time of the first site installation, so the cutover is primarily setting the IP, enabling polling, verifying incoming data, and historical data import.  
  1. Please confirm your understanding of the sprint cadence outlined in Section 5 of Attachment J – Scope of Work. Please describe how it aligns with your overall project approach.

The proposed plan and cadence matches our approach on our previous similar implementation projects, which required fast execution of initial data collection components (server, base configurations, telemetry testing) while integrating various degrees of enhancements / customizations to meet project requirements. In the same way, agile development methodologies allowed for schedule critical path development to begin and proceed overlapping phases, including some code prototyping and initial development of data telemetry enhancements needed in Phase 1 while in Phase 0 requirements definition and testing.

In general, high priority and critical path items (e.g., data collection enhancements) are the initial development focus, so reliability testing can take place while other less critical path items (e.g., reports) are coded. Regular reports between Supplier and IDEM staff will ensure both parties are updated on progress, identify any current project challenges or bottlenecks, and serve as an opportunity to clarify development approaches.

With regards to site installations, in the state of Virginia project, our general pace at peak (before COVID pause) was to do 3 to 4 sites per week, complete with logger replacement and rewiring (and migration from analog to digital data collection), with a one week pause before the next batch of sites. In this case, since there is no logger replacement or rewiring, managing 5 sites per week is easily achieved.

* 1. Please confirm your understanding of the project schedule outlined in Section 5 of Attachment J - Scope of Work. Please detail any feedback you have regarding the project schedule or any potential challenges you may foresee in the current project schedule, assuming a project start date of June 1.

Our understanding of the Project Schedule and how it aligns with particular dates and milestones are described in the following detailed schedule:

|  |  |  |  |
| --- | --- | --- | --- |
| **Phase** | **Ending** | **Activity** | **Notes** |
| 0 | June 1 | Agilaire provides configuration spreadsheet templates to IDEM for sites and parameters (AQS codes, etc) for Xpert2 sites. |  |
| 0 | June 8 | Kickoff Meeting. IDEM to provide configuration data per above. Review requirement definitions in RFP, discuss other gaps in RFP information. | Web site requirements can be done here or later in the project. |
| 1 | June 8 | IDEM to provide test Xpert2 and additional information required for telemetry testing. |  |
| 0 | June 18 | Agilaire provides Technical Requirements and Specifications for IDEM review. Followup meeting (virtual) to develop secondary (dependent) requirements. | Dependent requirements include ADVP rules, network connectivity, report configurations, data migration plans, UAT topics, etc. |
| 0 | June 25 | IDEM provides feedback / comments on TR&S. |  |
| 1 | June 25 | Telemetry testing complete; high priority development of necessary code changes |  |
| 0 | July 2 | Agilaire provides Enterprise Architecture Design and Configuration and relevant ERD documents (Views, APIs) for IDEM review |  |
| 0 | July 9 | IDEM feedback / comments on TR&S; Agilaire provides Data Migration Plan and Site Implementation Checklist for IDEM review |  |
| 0 | July 16 | IDEM provides feedback on Data Migration Plan and Site Checklist; Agilaire provides Training plan and UAT checklist for IDEM review. |  |
| 0 | July 23 | IDEM provides feedback on training plan and UAT; Agilaire provides Proficiency Testing Plan. |  |
| 0 | July 30 | Initial User Training for Site Conversion Staff |  |
| 0 | July 30 | IDEM feedback on Proficiency Testing Plan |  |
| 1 | July 30 | Server provisioning complete; base configurations of sites and parameters with AQS codes uploaded. Code changes for Xpert 2 telemetry complete. |  |
| 1 | Oct 1 | Conversion of 9 representative sites (implement, site UAT, data migration, sign-off), including autoGC site; feedback from each installation incorporated into revised implementation plans for that site type for Phase 2. | Approx 2 per week in August - September. |
| 3 | Oct 1 | Preliminary web site launched for first 9 sites for IDEM feedback. |  |
| 3 | Oct 22 | IDEM feedback for web site |  |
| 2 | Nov 1 | Conversion of 45 remaining sites (implement, site UAT, data migration, sign-off), including autoGC site; | In parallel with Phase 1 as each representative site type is completed and implementation plans are updated. “Cascade” plan listed below. |
| 3 | Nov 12 | Remaining data migration | In prep for UAT |
| 3 | Nov 19 | Implement remaining sites on web site and web site updates from feedback. |  |
| 3 | Nov 19 | All core (quoted) enhancements delivered. |  |
| 3 | Dec 3 | UAT by IDEM | To allow time for any corrections by Dec 31. |
| 3 | Dec 17 | Quality Gate and Project Close-Out |  |

Below is an example (not final) Phase 1/2 cascade plan for a 12 week period. Assumes staff suitable to run a Phase 1 installation and 4 Phase 2 installations concurrently in the same week, either as multiple teams, or just implementing with the same team(s) on different days of the week (2 teams likely needed due to travel time). Since UATs for other than the 9 template sites are run by IDEM staff with only Agilaire assistance, we would assume no two sites would be running UATs on the same day. Note that arrangement of sites is strictly by provided priority and does not consider possible geographic / travel optimizations (which would depend on the number/organization of IDEM field teams).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Week** | **Site Type** | **Site Description** | **Parallel 2** | **Parallel 3** | **Parallel 4** | **Parallel 5** |
| **1** | O3 (Col) | Michigan City- |  |  | Boonville | Bristol |
| **2** | BAM | Lafayette-Greenbush St |  | Leo HS | Potato Creek SP | Inglefield |
| **3** | T640 Collocated | Hammond-167th St. | Valparaiso | LaPorte E Lincolnway | Sandcut | Albany |
| **4** | SO2/T640/BZ/Met | East Chicago - Marina | Leopold | Ind-Ft.Harrison | Whitestown | Avon |
| **5** | O3/SO2/NO2/BAM/TEOM/BC/Met | Gary-IITRI | Fairland | Noblesville-191st | Granger-Beckley | Helmsburg |
| **6** | CO2/BAM/Met | Larwill | Bloomington-Binford | Elkhart- Prairie St | Fishers | Columbus-Rocky |
| **7** | O3/CO/NO2/T640/BC/UFP/Met | Indpls - I-70 E | Ogden Dunes | Kokomo-E Vaile | Anderson | Ind-W 18th |
| **8** | NCORE | Indpls-Washington Park | Charleston SP | Ft Wayne Beacon | St. Philips | Flora |
| **9** | AutoGC/O3/Met | Indpls-Washington Park | West Union | Plummer | Mechanicsburg | New Albany |
| **10** |  | South Bend-Shields Dr | Ind- E 16th | Ind-Southport | Ind-Harding | Terre Haute-Lafayette |
| **11** |  | Evansville-Buena Vista Rd | Hammond | Dayville | South Bend Shields | Evansville Buena Vista |
| **12** |  | Jeffersonville - Bates | Jeffersonville-Bates Bowyer | Portage- Hwy 12 | Hope | Evansville-Lloyd |

Coordination and continuous update of schedules, identification of conflicts or roadblocks, confirmation of responsible parties, and other project flow is maintained by regular project reports (weekly in Phases 0-2) with weekly calls to review and discuss critical items. An example of a typical project report is listed at the end of this document.

* 1. Please describe your understanding of the phased approach of this project. (as described in Section 5 Attachment J). Please describe your experience with projects that followed a similar phased approach, including any lessons learned.

The phased approach, with an initial planning/requirements stage, initial training, followed by deployment to initial ‘test sites’ (and representative of variations of later sites), and then ‘cookie cutter’ deployment to the final sites matches our implementations with other statewide / large scale projects, with additional suggestions as listed in 4.1 above.

Our most recent completed project, State of Wyoming, used a phased approach with Phases (and larger subtasks) defined as follows:

Phase1: Kickoff Meeting, Requirements, Server Startup, Initial Training

* Task 1: Stakeholder Group Discussion, Initial Requirements
* Task 2: Plan Communications, Database, and Website, Final Requirements
* Task 3: Design, Test, and Build
* Task 4: Implement with Initial Test Sites
* Task 5: Initial Training

Phase 2: Addition of Monitoring Sites to System

Phase 3: Addition of Remaining Monitoring Sites to System

Phase 4: Acceptance Testing, Transition to Permanent Hosting Plan

Regular status reports and followup calls were part of the initial phases, and worked to keep the time-critical requirements of requirements definition, configuration information, and telemetry testing (in this case involving additional third party stakeholders) on schedule. Some issues arose with the third party data submitters, but were identified early due to the focus on early data telemetry testing. Agilaire was able to adapt to compatibility issues without negative impacts to the schedule.

In many cases, it has been found advantageous to do some ‘early phasing’, e.g., stepping out of a ‘waterfall’ approach and begin preliminary work earlier to identify missing information or refine requirements documents. In this project, we would anticipate some early phasing to include:

* Begin configuration of site/parameter/logger setups based on data from IDEM received early in Phase 0, so the server is fully configuration for site implementations, polling, and data import well before Phase 1 start.
* Begin design and development of enhancements for site communications and data import early in Phase 0.
* Enable preliminary web site as soon as first 5+ sites are polling to commence discussion of web site requirements, so that any necessary development can be completed by end of 2021.
  1. Please describe your approach to completing Phase 0 of the project. Please detail how you will meet Phase 0’s goals and Contractor responsibilities.

See responses above.

* 1. Please describe your approach to completing Phase 1 of the project. Please detail how you will meet Phase 1’s goals and Contractor responsibilities.

A more detailed schedule of milestones, activities, and dates are listed in response to #3

* 1. Please specifically describe how you will provide implementation training, implementation process guides, proficiency verification, and a Site Implementation Checklist to enable IDEM Team Members to implement the setup of the remaining station/hardware inventory in Phase 2.

A more detailed schedule of milestones, activities, and dates are listed in response to #3. Training outline is listed in Appendix A, Section 13.c. Proficiency verification tests will be developed based on three roles (site technician, QA staff, system administrator) and be completed before the first site installations. Our approach would be such tests would allow the use of resources (manuals, Agilaire online tutorial videos, etc) to fully mimic the availability of such resources in regular situations and encourage the use of these available and helpful resources.

The UAT checklist proposed for this project is found in Appendix A, Section 13.b.

* 1. Please describe your approach to completing Phase 2 of the project. Please detail how you will meet Phase 2’s goals and Contractor responsibilities.

A schedule of milestones, activities, and dates are listed in response to #3.

* 1. Please identify the two staff members who will be point individuals for Phase 2 of the project.

Phase 3 will be cooperatively managed by three staff members as follows:

* Debra Grey – primary project management, site configurations, and assistance to IDEM field staff
* Paul Yankey – manage any server site issues, polling testing, assist Debra with excess configuration work.
* Steve Drevik- assist Debra and Paul with any excess work; primary for auto-GC site configuration.
  1. Please describe your approach to completing Phase 3 of the project. Please detail how you will meet Phase 3’s goals and Contractor responsibilities.

A schedule of milestones, activities, and dates are listed in response to #3.

The definition of the web site requirements will be approached as in previous projects- as soon as the first test sites are online and acquiring data (mid-Phase 1), Agilaire will stand up a basic AgileWeb implementation with hourly AQI map display, site pages, and some example report links. IDEM will designate staff to work specifically on the web site requirements, and a web meeting will be held to show both current IDEM site functionality, as well as go through a tour of other AgileWeb sites in an ‘interview’ process to determine how best to configure AgileWeb to meet IDEM needs. At this point, IDEM will also be instructed as to how the web site can be integrated with other branding/frames within IDEM web sites. Requirements will be finalized, and each team will have milestones and a schedule to move the web site from initial prototype to final form by the time of Phase 3.

With respect to external data users, AirVision can offer a number of email or FTP reports, including Basic Data Export, AQS reports, etc. If desired, a customization could be offered to mimic the existing LEADS output/

1. **On-Going Support and Enhancements (Scope of Work Section 6)**

Please acknowledge your understanding of the warranty period laid out in Attachment J – Scope of Work. Explain the Respondent’s approach in providing a warranty on delivered solutions.

For this, we wish to clarify the differentiation between product warranty vs. warranty of the project configuration work. The SaaS agreement includes ongoing unlimited telephone / email support on the AirVision system, as described in our Support Scope of Work (Appendix D).

For the project configuration work (e.g., site/instrument configurations and settings) involving engineering time that is normally excluded from regular technical support, we understand and agree with the provision of providing that coverage from 90 days after each site UAT (and extended as needed where changes are required). This matches our approach from previous projects.

Please describe your experience and your proposed approach to fulfilling the responsibilities for each of the following M&O activities:

1. System Maintenance
2. System Performance Monitoring and Reporting
3. Incident Management

See “Hosting Services” in “Cost Proposal Narrative”. You can also review our Hosting Policies in Appendix D.

With respect to issue tracking and management- Agilaire utilizes an internal system for tracking both software issues requiring software changes as well as planned and requested enhancements. The list is reviewed routinely, and provides automatic notification to development staff, testing staff, release management, and project management staff in an integrated way. Issues specific to single agencies or groups of agencies can be tagged with that agency name, so that customer can be notified when fixes become available. We do not plan to duplicate this system with another separate tracking system for this project, but this system can provide the basis for our regular project reports as shown in the example at the end of this document.

Please identify the staff member who will be the point individual for M&O activities.

* Hosting / SaaS M&O activites will be overseen by Paul Yankey, VP and Hosting Director.
* Any project configuration support / 90 days warranty activities would be overseen by Debra Grey, Projects Director.
* General application usage questions or issues can be reported to Rena’ Dykes, Support Director.

Please acknowledge your understanding of the responsibilities of the Contractor as they relate to enhancements.

For our proposal, we have broken enhancements into two categories:

* Core System Enhancements- These represent enhancements that are critical to Phase 0-3 implementation and have estimates of hours included in the Cost Proposal. This includes 80 hours for web site development and customization, based on IDEM requirements to be developed in Phases 0-2.
* Additional System Requirement Enhancements- These represent enhancements that are not considered mandatory for the RFP, and require additional definition by IDEM to provide accurate estimates. For that reason, estimates of hours are not included in the Cost Proposal. While they may be addressed during Phase 2 or 3 (depending on completion of Core System Enhancements and must be weighed against risks of completion of the project schedule), because there would be a desire for a ‘code freeze’ before the Enterprise UAT, they would likely be planned for implementation after the completion of Phase 3.  
    
  The specific enhancements of each group, initial understanding of requirements, estimates, and other details are listed in “Cost Proposal Narrative”

Please describe which time tool or method you will use to meet the requirements listed in Section 6.4 of Attachment J - Scope of Work.

Agilaire normally provides all technical support on an unlimited basis, and normally quotes and provides other engineering services (additional configuration, code customization / enhancements) on a pre-agreed fixed price proposal, so Agilaire does not and is not required to track number of hours for any project to date. As this project will require hourly time tracking per activity and task, we would likely utilize a shared Excel document specifically for this project, much as we do currently for our base timesheet for payroll (which only tracks work vs. vacation vs. sick hours currently). It’s likely we would integrate the IDEM tracking into our existing payroll document.

1. **Project Deliverables and Key Activities (Scope of Work Section 7)**

Please describe any potential challenges you may face in order to successfully submit project deliverables and complete key activities.

Adherence to the RFP schedule requires quick turn-around by IDEM on design documents, requirements documents, training plans, and requested configuration information. It will be critical that both parties ensure their responses are complete, utilize clear language, and if any questions about nomenclature exist, that they seek clarification before providing the requested information, to avoid time wasted in additional questions and iterations of documents.

Please provide any feedback you may have regarding the project deliverables and key activities.

No additional notes other than those listed above.

Please provide examples where you submitted similar deliverables for a similar client and/or for a similar project.

Example regular project reports (as precursor to project conference calls) and an example development specification is attached to the end of this document.

1. **Project Governance (Scope of Work Section 8)**

Please confirm your understanding of the project governance structure as laid out in Attachment J – Scope of Work. In your answer, please cite any past experiences working under a similar project governance structure.

We understand that the IS PMO Project Manager to be the key contact, supported by the other four IDEM teams (Executive, Finance, IS, Air Quality). We have worked on some projects where IS/IT are the project leads, some where Air Quality are lead supported by IS/IT, but in most cases, a majority of the work and information requests and review fall to the Air Quality team, the final end user and major stakeholder of the system. While it is critical to maintain the PMO Project Manager on all communications and decisions, it is also critical, with such a tight schedule, to maintain a ‘parallel’ communications path (e.g., Agilaire technical staff will generally communicate directly with Air Quality team, but cc’ing PMO Project Manager on emails and other documentation). This arrangement very much mirrors our project with Wyoming DEQ and our current project with Clark County, NV.

As noted above, while there may be daily email discussions to maintain project pace, these will be coupled with regular project reports with followup virtual meetings to review the reports, obstacles, etc, involving the Air Quality team, PMO Project Manager, and other teams as needed based on the pre-agreed agenda.

Please confirm your understanding of the deliverable and review acceptance protocol as laid out in Attachment J – Scope of Work.

Acceptance tests (UATs) are to be performed on a per-site basis, as well as a system-wide (enterprise) UAT as part of Phase 3. It is critical to lay out the requirements of that UAT *during the contract phase* to avoid scope creep that can critically affect the schedule laid out in our proposal. The UAT list provided in Appendix A, Section 13.b is based on our history of 7+ previous large scale projects, while adapted for IDEM specific requirements.

1. **Project Management (Scope of Work Section 9)**

Please confirm your understanding of the collaborative approach to this project and describe your plan to be a collaborative partner with IDEM in all aspects of this project.

We agree, and our references can all attest to our history of being a collaborative partner, both during the implementation phases, as well as the ongoing support relationship we and our customers enjoy together. This can be easily confirmed through any of our References.

Please confirm your understanding of the meetings, status reports, and milestone announcement requirements as specified in Section 9.1.2 of Attachment J - Scope of Work.

Understood, our general approach is to begin with weekly status reports and online meetings during Phase 0 and Phase 1, the more critical phase, and then determine an appropriate meeting schedule for later phases. Because of the fast pace of installations in Phase 2, these would probably remain weekly for Phase 2, and moving to every two weeks in Phase 3. This does not preclude, of course, *ad hoc* conference calls or meetings as required to address issues from either party.

Please describe your approach to knowledge transfers and training (specifically to technical users of a system) and please give examples from your prior experience conducting knowledge transfers and training.

See Appendix A, 13.c for an example training outline. Our Projects Director, Debra Grey, has provided customer trainings for new onboarding customers for > 10 years, and has a refined process that includes integration of the training with customer-specific configurations (and historical data, if available at the time of training), and an interactive and participatory environment. That being said, we have also learned that while an initial training for field staff is necessary for site conversions, there is always a ‘gap’ between the initial training and system usage (because of the focus on ‘getting the new system up’) and usage of advanced functionality (not a priority compared to base system operation and usage). For this reason, we have been adding follow-up trainings as part of every major project, to provide a necessary “refresher” training as well as the opportunity to focus on advanced features (e.g., Automatic Data Validation Processor, Asset Tracking, etc) that were not the focus of the 3-4 month implementation period.

Please describe how you will ensure the designated IDEM training personnel are fully capable of training technical users so they can perform on-going trainings.

Training of the AirVision product is not a trivial matter, considering the wide expanse of capabilities. For each technical user, the Training Personnel would need to provide use cases of the specific actions for their training targets. They may be very limited (site technician checking polling status and cal results), a larger use role (data QA, AQS reporting, etc), or very large (system administration and configuration management).

For the first two cases, Agilaire would provide training materials and outlines geared towards those use cases. For the last case, AirVision is sufficiently expansive that we would recommend administrative users receive training from Agilaire, or utilize a recording of a provided administrator training (although this eliminates the opportunity for questions and answers).

1. **Staffing (Scope of Work Section 9.2)**

Please describe your approach to staffing for this project, including an explanation of how you chose the staff and subcontractors, if subcontractors are used.

Our staffing, delegation of roles and tasks, etc. are based on the successful execution of 7+ other similar size enterprise replacement projects. When reviewing staff utilization against the proposed IDEM schedule, we found a potential ‘choke point’ with purely internal resources related to data conversion from the old system taking place alongside site installations (in previous projects, this is normally done initially using old data, and ‘gap filling’ data after the completion of site installations). For this reason, we found that data conversion was a time intensive, yet easily outsourced task, once Agilaire engineers develop and test the File Import Templates, and thus the use of subcontractor(s) for this work qualifies easily as a Valuable Scope Contribution (VSC).

Secondarily, another commonly outsourced item is the printing of training materials, which will be outsourced to another subcontractor to meet the state’s goals.

The third scope of work we felt valuable to subcontract were the server vulnerability scans. These provide an ‘arms length’ separation between the Agilaire hosting management and verification of proper security protocols.

Lastly, it became clear that flexibility in ongoing enhancements, particularly the web site after the Phase 1/Phase 2 sprint would be valuable, and we identified a partner that was experienced in the same development environment as ours (both winforms and web apps, Visual Studio, C#/.NET/JS, MS-SQL). While we would primarily use Agilaire staff for development in the time-critical early phases (it would be difficult to onboard a partner effectively during this 5-month period), utilization of that partner in Phase 3 web site enhancements (see Cost Proposal Narrative) brings considerable overall benefits to the project.

Please describe how each proposed team member’s experience aligns with the position’s requirements listed in Attachment J – Scope of Work.

|  |  |  |  |
| --- | --- | --- | --- |
| Engagement Manager / Customer Success Manager | Steve | Contract Mgt/Reporting | Served in this role for 7 previous projects of similar scope/size |
| Technical Architect | Steve | Requirements Definition, Docs, UAT | Served in this role for 7 previous projects of similar scope/size |
|  | Paul | Requirements Review | Served in this role for 7 previous projects of similar scope/size |
|  | Steve/Paul | Sprint planning (tech design, sites) | Served in this role for 3 previous projects of similar scope/size |
|  | Paul | Sprint planning (web site design) | Served in this role for 4 previous projects of similar scope/size |
| Technical Project Manager | Paul | Config planning (server), UAT | Served in this role for 5 previous projects of similar scope/size |
|  | Debra | Config planning (site) | Served in this role for 3 previous projects of similar scope/size and dozens of smaller projects. |
|  | Debra | Design Prof Ver Trainings, feedback | Served in this role for 6 previous projects of similar scope/size and dozens of smaller projects. |
|  | Randy | Customization Designs | Served in this role for 5 previous projects of similar scope/size and dozens of smaller projects. |
|  | Paul | Config planning (web site) | Served in this role for 4 previous projects of similar scope/size |
| Developer / Configuration Specialist | Paul | Server implementation | Served in this role for 5 previous projects of similar scope/size and several smaller projects. |
|  | Debra | Site Implementations, UAT | Served in this role for 3 previous projects of similar scope/size and dozens of smaller projects. |
|  | Steve | Assist Debra, autoGC | Served in this role for 2 previous projects of similar scope/size and dozens of smaller projects. |
|  | Randy / Scott | Customization implementations | Served in this role for 5 previous projects of similar scope/size and dozens of smaller projects. |
|  | Paul | Web Site Implementation | Served in this role for 4 previous projects of similar scope/size and numerous other smaller projects. |
| Data Architect | Paul | Data conversion planning, incl additional instrument types | Served in this role for 6 previous projects of similar scope/size |
|  | Debra | Data conversion planning, incl additional instrument types | Served in this role for 6 previous projects of similar scope/size |
| Data Integration / Migration Specialist | Debra | Data conversion implementation | Served in this role for 5 previous projects of similar scope/size |
|  | Debra | autoGC and other non-continuous data import | Served in this role for 2 previous projects of similar scope/size |

Please describe any additional key roles / vital positions you wish to propose.

Rena’ Dykes, Support Director, as primary user support after Enterprise UAT.

Please provide all resumes for all required positions as well as for any additional staffing positions you will propose.

See Appendix A, Section 13.d

Please include an organizational chart for the proposed project team, including the role of any subcontractors.

See Appendix A, Section 13.d.1

Please describe your prior experience with each subcontractor for the proposed project team and describe their expertise and experience as it relates to supporting the Contract scope.

While Agilaire has not worked with the listed subcontractors previously, each subcontractor was interviewed for capabilities and experience, and the roles identified are based on easily defined, easily measured scopes of work. Their LOIs detail more of each company’s experience.

Please provide the following:

* 1. An initial estimated resource calendar, which notes when each proposed role will be brought onto the project, time allocated to the project, and duration of the role for the life of the project
  2. A histogram depicting the months and quarters of estimated resource levels.
  3. A description of how the Respondent will ensure continuity of staff throughout the project and tracking resource levels.

See “Cost Proposal Narrative” for a summary of hours, phase in, etc for each role / person for Phases 0-3. Section 4.3 of this document lists particular schedule items and resources. A histogram of utilization appears as follows:

Re: Continuity of staff, see response below.

Please describe your process for filling vacant staff positions during the Contract period, in accordance with the requirements outlined in Section 9.2.1.

There are no planned retirements, vacations, or outages during the Contract that would affect the schedule as proposed in #3. In the event of an unforeseen vacancy, Agilaire maintains sufficient depth through role cross-training, to fill any gaps.

1. **Payment (Scope of Work Sections 10)**

Please confirm your understanding of Payment, as outlined in Section 10.

We have organized our pricing in two sections: Initial deployment (Phases 0-3, including server setup, server hosting through 12/31/21, configuration labor, project management, data conversion, etc), and ongoing hosting/SaaS costs per year after 12/31/21. The initial deployment would be milestoned by phases, as follows, with a 10% holdback pending final system acceptance. The annual hosting after 12/31/21 would be billed annually (optionally could be billed quarterly) in advance, which is our norm with all other state agencies.

Please describe any problems and failures that you encountered in delivering services similar to the services requested in this RFP, how these were resolved, and what were the lessons learned.

None of our projects involved any failures to deliver the promised / requested functionality. Smaller variations in projects and their resolutions would include:

* Virginia: 2020 site installations delayed 2-3 months due to COVID-19, delay and rescheduling by mutual agreement (completed during April-June COVID case ‘lull’ in cases)
* San Joaquin APCD: some old sites remained on dial-up modems, there were connectivity issues related to the existing customer modems trying to be used with a new terminal server; issue was resolved by shipping a new internal modem board to the customer at no additional cost (it was cheaper for us to purchase the hardware than to continue to try to troubleshoot the customer-supplied 15+ year old modem bank).
* Virginia new 8872s encountered some issues with Windows update affecting data acquisition. New OS settings were implemented to resolve.
* Virginia had planned on pure Modbus interface to Thermo analyzers to get approx. 12 to 15 diagnostic/met parameters. It was found that Thermo had not implemented some diagnostic parameters on the Modbus interface, but were available via RS-232, so the 8872s were reconfigured to accept diagnostics through both communication methods.
* Wyoming DEQ had originally planned on pushing a single standard data interchange format for their site operation contractors (3 different companies) to submit data to the AirVision system. However, it was found to be difficult and/or costly to push that standard (contracts with site operators allowed for such changes to be charged as change orders), so it was determined that the AirVision Generic File Import Tool could and would adapt to the contractor-specific variations in file submission formats. Such changes, although unplanned, did not affect the contract schedule.
* All of these changes were implemented without effects on cost or schedule (other than the COVID delay for VA). As you can see, our general philosophy is to add additional effort as needed to adjust for the unexpected and not halt the project, seek change orders, etc. For this project in particular, maintaining pace during Phases 0-2 will be critical.

**Example Project Report (Clark County, NV)**

**Project Status Report**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Project Name | Ambient Air Quality Data Management System Upgrade | Report Date | 1/4/21 | Conf Call Date/Time | 1/7 9pm PST |

**This Period Goals and Progress**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Goal | Complete? | Obstacles | Action to Resolve / Notes | Priority |
| Initial Training and Configuration Of Initial Sites (Dec 2020) | Y |  |  | High |
| Scripting for conversion of PAMS from LEADS to AirVIsion | Y |  |  | High |
| Completion of coding of customizations | Y |  |  | High |
| Delivery first 10 loggers | Y |  |  | High |

**Expected Goals for Next Two Weeks**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Goal | Responsible Party | Resources Required | Notes | Priority |
| Implement first four sites (field installation) with remote support from Agilaire | County |  |  | High |
| Implement PAMS scripts, implement data collection to AirVision | Agilaire | Remote session with MC | Should be able to run in parallel with LEADS data export. | High |
| Load upgrade for County testing of customizations | Agilaire |  |  |  |

**Expected Goals Next ~ Four Weeks**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Goal | Responsible Party | Resources Required | Notes | Priority |
| AQS Historical Data Import | County |  | County to copy/paste sites, update AQS codes | High |
| Preliminary Web Page | Agilaire |  |  | Med |
| Delivery 2nd 10 Loggers | Agilaire |  |  |  |

**Status of Development of Enhancements – Original and Added = COMPLETE**

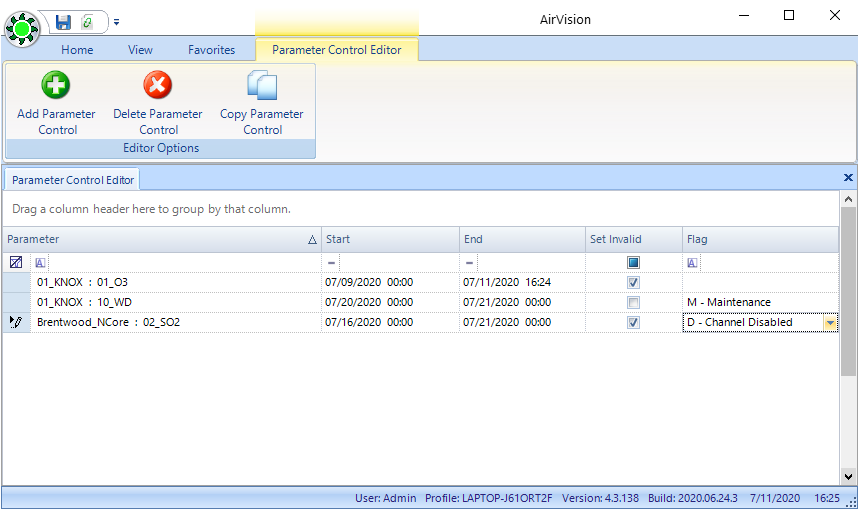
|  |  |  |
| --- | --- | --- |
| Enhancements | Status | Notes |
| Unusual Indicators Report | Implemented |  |
| Enhanced Polling Status Display | Implemented |  |
| Annual AQI Report | Implemented |  |

**Example Software Requirements Specification**

**Requirement Definition: Interface To Enable/Disable Monitors**

Summary: As data will be coming into AirVision via File Import Tool (FTP or direct polling, instead of loggers with a user interface to flag maintenance, etc), there needs to be methods (Client and Web intranet/login) by which the user can flag / invalidate incoming data at the time of import/database insertion, so it can be excluded from the web site AQI and future reports (may be edited later via Data Editor or ADVP to remove flag).

The user will have a list of sites and parameters, where they can select (or multi-select) and then a ribbon button to “Flag Parameters”. Entries will be created in the right portion of the screen showing currently active flagging activities.



Add button here for “Flag Parameters”

The user would be given a short pick list of common flags (Maintenance, Disabled/Offline, Calibration, Audit) that could be set along with the “<” invalid flag to distinguish the reason. Should the user want access to other flags, a ‘clear filter’ option would be available to show all available flags. Interface would also allow entry of a ‘start date/time’ and ‘end date/time’, or just the entry of a start date/time, in which case the flagging will continue into the user returns to the editor and enters an end time. Both the flag selection and end time could be entered via a pop-up screen when “Flag Parameters” is selected.

The prototype shown above would be enhanced on the Client version to have a ribbon button to “Choose Parameters”, which would spawn a pop-up form allowing a pick list to select multiple parameters for new entries (instead of grid type/entry). Web version would not necessarily have a pop-up screen for selecting parameters.