

SCOPE OF WORK

TASK 1. DESIGN, DEVELOP, WRITE THE COMPUTER CODE AND PROVIDE SUPPORT SOFTWARE AS NEEDED FOR THE EDMS

DELIVERABLES

1. Initial Draft Software and Hardware Development Plan
2. Final Draft Software and Hardware Development Plan
3. Final Software and Hardware Development Plan

BUDGET

3,904 Hours, \$249,357.32

DESCRIPTION

Analysis

The Contractor shall develop a Software and Hardware Development Plan for the Emissions Data Management System (EDMS) project. The new EDMS shall store, manage, and report emissions and related data reported by State, Local and Tribal (S/L/T) agencies. This plan shall provide the details of EDMS functionality, program flow, database and hardware and software platforms. The Contractor shall work with WRAP to implement the desired results documented in the *Needs Assessment for Evaluation and Design of an Emissions Data Reporting, Management, and Tracking System* (WRAP, July 2003), and *Calculating and Tracking Fire Emissions Inventories* (WRAP, September 2003) documents. The Plan shall identify and document the business rules and methodologies that the EDMS will automate. The Contractor shall work with the WRAP to confirm, refine, and interpret the results of the preceding efforts, and develop a design based on consensual analysis. The EDMS is envisioned to be a refinement and interpretation of the information in the above referenced documents, such that the final operational product is tool that facilitates the tracking of requirements and incorporates a flexible design able to handle fire-related data, as well as the capability to deal with the general accuracy, precision, completeness, and representativeness issues associated with emissions estimates, well-known among air quality professionals. Specific areas of functionality to be covered include data conversion and imports, database structure and triggers, user interface requirements and data querying and reporting capabilities. The data structure shall contain data item names, data types, field lengths, decimal places, required/non required designations, nullable dispositions, field definitions, indexes, triggers, constraints, sequences and table relationships. The Plan shall identify procedures, constraints, sizing estimates and include detailed plans for design, development, testing, implementation, training, support, enhancement and maintenance

of the EDMS.

The Contractor shall design and develop capabilities for data import, data processing, and quality assurance. The Contractor shall identify and move forward with agreed-upon functions while the Software and Hardware Development Plans are reviewed by the WRAP. This approach will allow the system development to advance without delaying development for the review process.

The Contractor shall design the system to accommodate the concurrent traffic of the WRAP, stakeholders, and the interested public. The Software and Hardware Development Plan shall specify details about the expected demand and system architecture.

The Plan shall specify the format and content of all deliverables including monthly progress reports.

Design

Database

The Contractor shall adapt the existing NEI Staging Database architecture to the WRAP-specific requirements identified in the analysis by modifying the existing data dictionary. The modifications shall ensure data storage, processing, and retrieval consistent with the needs and desires of the WRAP S/L/T agencies and other stakeholders. The Contractor shall apply the data dictionary modifications such that the resulting EDMS database shall conform to the RPO Data Exchange Protocol to facilitate data sharing among RPOs and their constituents. Modifications shall be identified and documented for functions that perform extract, transfer, and load (ETL) data from Microsoft Access and XML formats; perform data analysis quality assurance/validation and scrub (adjust) data; augment data and produce summary reports.

The resulting data architecture shall provide the WRAP-specific enhancements and features required to make the WRAP EDMS a tool maximally beneficial to WRAP constituents and stakeholders.

The following design qualities shall be incorporated in the the EDMS database:

- C Robust - The EDMS shall be easily extended to new applications and adapted to different and more complex applications by extension of the EDMS rather than modification to the existing structure;
- C Flexible - The EDMS shall handle a variety of different applications in a consistent manner;
- C Consistent - The components that make up the EDMS shall be designed around explicit conventions for style, structure, and format;
- C Ease of Use - Users of the EDMS shall not be required to memorize complex structures or coding systems;
- C Universal Acceptance - The interface shall be intuitive for all types of users, including

the regulated community, federal land managers, and regulatory agencies across all programmatic areas;

- C Complete and Explicit - There shall be nothing implied about any of the information transmitted between parties;
- C Compatibility - The conversion/integration of data from existing system shall not unnecessarily complex, and;
- C Rigorous - Definitions and principles upon which the EDMS is designed shall be adhered to and well defined.

Indexing - The database structure shall contain the ability for the EDMS to readily identify, sort and extract information by various categories, in aggregate and/or combination including, *but not limited to* the following:

Sectors:

- C Point Sources;
- C Area Sources;
- C On-Road Mobile Sources;
- C Non-Road Mobile Sources;
- C Road Dust Emissions;
- C Fire Emissions Sources (wildland and agricultural burning activities);
- C Biogenic Sources; and
- C Windblown Dust Emissions Sources.

Geopolitical Distinctions:

- C Canada Emissions;
- C Mexico Emissions;
- C Defined Areas;
- C States;
- C Tribal Reservations;
- C Tribal Reservations which are designated Class I areas;
- C Counties or Boroughs;
- C Mandatory Federal Class I areas;
- C Nonattainment Areas;
- C Public Lands (by land manager);
- C Private Lands;
- C Geographic locations; and
- C Geographic Coordinates (township and range, UTM, latitude/longitude).

Emissions Parameters:

- C Source Categories;
- C Pollutants;
- C Date/Time Intervals;
- C Physical Units;
- C Emission Units; and

C Emission Processes.

The EDMS shall include information management capabilities for key emissions sectors. The EDMS database shall provide storage capabilities tailored to the specific requirements of each sector. The following table shows emissions source categories and the storage and use(s) of associated data to be implemented in the EDMS:

Emissions Source Categories and Associated Data in the WRAP EDMS

Source Category	Reference Information (emissions factors, geo-location, metadata, etc...)	Activity	Emissions
Point	X	X, CEM accessible	X
Area	X	X	X
On-Road Mobile	X, emissions model	X	X
Non-Road Mobile	X, emissions model	X	X
Road Dust	X	X	X
Fire	X	X	X, to be calculated
Biogenics			X, from RMC*
Windblown Dust			X, from RMC*
Canada	X	X	X
Mexico	X	X	X

* - Output files from WRAP Regional Modeling Center.

Stationary Point Sources

The stationary point source segment of the EDMS shall catalog, manage, and report data on specific facilities. According to the Consolidated Emissions Reporting Rule (CERR), the minimum point source reporting thresholds are 100 tons per year (tpy) for VOC, NO_x, SO₂, PM₁₀, PM_{2.5}, and NH₃, and 1000 tpy for CO. Stationary point sources shall be defined by varying thresholds as dictated by the agency providing the data. The EDMS shall accommodate the varying reporting thresholds.

Area Sources

The area source portion of the EDMS shall provide a means to manage and report data on the aggregation of facilities and activities that do not meet the stationary point source threshold values, excluding fire and windblown dust sources and including open burning activities. The area source portion of the system shall include the ability to manage information on industrial, commercial, and/or residential sources. The system shall organize area source emissions by county and SCC on an annual temporal resolution basis. The area source module shall be flexible to accommodate variations in S/L/T source definitions.

Users shall have the ability to store emissions information developed outside of the system. EDMS shall provide a mechanism to house the information about the level of activity associated with a particular area source, the emission factor and the emissions.

Mobile Sources

The mobile sources on-road segment of the EDMS shall catalog, manage, and report emissions data from on-road sources. EDMS shall also store emission factors developed external to the system using the EPA's MOBILE model or CARB's EMFAC model. The emission factors shall include both exhaust and non-exhaust emissions. The EDMS shall also store applicable vehicle miles traveled (VMT) data. Dust emissions calculated using AP-42 or EPA's PART5 model shall also be stored in the EDMS. Emissions shall be organized in EDMS by county and SCC. Users shall have the ability to update the data over time by modifying VMT data as the data become available. The stored emission factors should likewise be modified as needed.

The mobile sources non-road segment of the system shall provide users with a convenient method of managing and reporting emissions resulting from the use of construction equipment, lawn and garden equipment, snowmobiles, boats, trains, and airplanes. The EDMS shall accommodate county-level emissions estimates that are prepared using the NONROAD 2002 model, and shall have the ability to manage seasonal or annual temporal allocations.

The EDMS mobile database shall provide the data elements sufficient for Section 309 tracking, and shall provide the special reporting capability defined in the *Needs Assessment* document, specifically, a summary report of the comparison of annual WRAP total (on-road plus nonroad) emissions from the mobile sources (VOC, NO_x, SO₂, PM_{2.5}, EC, OC, and paved and unpaved road dust) for each state, local agency, tribe, and the entire region and the corresponding previous period total emissions, for each pollutant. This report shall be made available in tabular, graphical (bar/pie charts) and GIS formats. The EDMS shall support querying of the data used to produce these reports.

Biogenic/Geogenic Sources

The Biogenic emissions portion of the EDMS shall house data generated by EPA's BEIS model, specifically the annual emissions. The database shall be designed to accommodate finer

temporal resolutions. The resulting module shall accommodate the data requirements determined in the *Needs Assessment* document.

Windblown Dust

Section 309 requires that states assess the impact of dust emissions on regional haze. The EDMS shall provide the ability to store, retrieve, and manage county-level windblown dust data that is reviewed and approved by the S/L/T agencies prior to inclusion in the EDMS. The database shall support the storage of annual emissions data and shall be designed to accommodate finer temporal resolutions. The system shall convert the data from grid to county-level data for S/L/T review. The Contractor's solution shall accommodate the data requirements determined in the *Needs Assessment* document.

Fire Sources

The Contractor shall interact closely with the WRAP Fire Emissions Joint Forum to determine the detailed functionality to be provided by the EDMS for fire sources. In general, the EDMS shall estimate fire emissions from wildfires, prescribed fire, wildland burning and agricultural burning activities. The EDMS shall support the WRAP Fire Tracking Systems methodology, which defines essential and optional data elements pursuant to calculating the emissions of fire, as well as a method to calculate them. The data schema shall include fields so that the calculation method for an emissions record is recorded and tracked. The EDMS shall include estimates of both planning annual emissions and actual daily emissions to support modeling and regulatory needs.

The EDMS Fire module shall provide sufficient functionality for Section 309 tracking, and shall provide the robust reporting capability in tabular, graphical (bar/pie charts), and GIS formats.

Special Section 309 Tracking

The EDMS shall provide comprehensive emissions tracking and reporting capabilities relevant to State/Tribal Implementation Plans (SIPs/TIPs) for clean air corridors (CAC), and stationary SO₂ sources, as well as mobile and fire sources. The WRAP has identified one Clean Air Corridor (CAC) in the region. For the identified CAC and surrounding counties, the EDMS shall have the ability to produce reports in tabular, graphical (bar/pie charts) and GIS formats. The EDMS shall support the SO₂ emissions from eligible stationary sources within states or tribal reservations participating in Section 309 tracking pursuant to the SO₂ Annex program.

Web Application

The Contractor shall produce a web-based application to interface with the EDMS database. The web-application shall be intuitive and easy to navigate. The Contractor shall adhere to Section 508 of the Americans with Disabilities Act requiring all computer Web sites and on-line applications to meet the specifications set forth in 36 Code of Federal Regulations (CFR) Part

1194, Electronic and Information Technology Accessibility Standards. The interface shall be engineered to be flexible, allowing for ease of modifications to meet future and changing needs.

The EDMS shall receive, store, process, display and output emissions data. The EDMS shall also receive, store, process, and display combinations of the activity data and emissions calculation methods used to estimate emissions inventories. At a minimum, the display capabilities shall include GIS functionality, tabular and flat file data formats, graphs and charts, and the ability to capture these displays in user-defined report formats.

The following design qualities shall be incorporated into the EDMS application:

- C Robust - The EDMS shall be easily extended to new modules and/or classes within the existing application, to include new applications;
- C Flexible - The EDMS shall handle a variety of different applications in a consistent manner;
- C Ease of Use - Users of the EDMS shall not be required to memorize complex operations or coding systems associated with data input, editing, output, querying, reporting, archiving, unarchiving, etc.;
- C Consistent - Components that make up the EDMS shall be designed around explicit conventions for style, structure, and format;
- C Universal Acceptance - The interface shall be intuitive for all types of users, including the regulated community, federal land managers, and regulatory agencies across all programmatic areas;
- C Complete and Explicit - There shall be nothing implied about any of the information and data contained in the application screen/windows, imports, exports, and reports;
- C Compatibility - Interfaces with external applications/systems with the existing data management system shall not be unnecessarily complex;
- C Rigorous - Definitions and principles upon which the EDMS is designed shall be adhered to and well defined.

The specific details of the functionality to be contained in the web application shall be derived in the analysis phase of this task. The modules of the EDMS shall include, but not necessarily be limited to:

- C GIS Query and Data Display;
- C Reports;
- C Data Import/Export;
- C Modeling Interfaces, and;
- C Administrative Tools.

GIS Query and Data Display

The Contractor shall design the application's functionality, flow, interface, layout and organization. The EDMS shall be a web-based system that incorporates a Geographic Information Systems (GIS) interface for users to define polygonal spatial parameters for data queries as well as for the visual display of the spatial content of query results. The graphical query results functionality shall be designed so that the user can easily navigate to the underlying query results table to view the raw data that makes up the graphic display. The GIS features shall be designed so that each feature set resides in its own layer and configured so that layers can be turned on or off, depending on the needs of the user. The Contractor shall work with the WRAP EDMS Steering Committee to determine their need and designs for GIS display.

The GIS functionality shall include predefined geographical features such as PSD Class I Area Boundaries, Indian Reservation Boundaries, U.S. Park Service Land Boundaries, U.S. Forest Service Land Boundaries, U.S. Bureau of Land Management Land Boundaries, U.S. Fish and Wildlife Service Land Boundaries, U.S. Bureau of Reclamation Land Boundaries, U.S. and State Wilderness Area Boundaries, Metropolitan Statistical Areas (MSA's), and County/City/Town Boundaries.

Reports

The Contractor shall implement a method of generating reports so that EDMS data will generally be available as tabular or text information (including flat files); as standard plots, such as line, bar and/or pie charts; and through GIS capabilities. Users shall have the ability to develop and execute user-defined queries, and output the result set in a variety of formats, such as through an ad-hoc report writer.

Data Import/Export

The Contractor shall design and build the EDMS to accept input data from the associated WRAP data providers in data set form. The EDMS shall accept data in NIF version 3.0 format and the WRAP EDMS format to be prescribed in the design phase of the project based on the results of the data dictionary modifications identified in the analysis.

The Contractor shall provide QA/QC software to verify data submitted by the data providers. The data QA/QC process shall alert data providers to specific issues with their data and allow them to resubmit data either on a record by record basis or for their entire submittal.

The Contractor shall provide mechanisms to easily export data based on query results or data extractions in NIF and RPO Data Exchange formats.

Modeling Interfaces

The EDMS shall have the ability to produce model-ready input files for models such as SMOKE. Specific information about the models and files produced by the EDMS are to be detailed in the

Software and Hardware Development Plan. The EDMS shall also have the ability to import and store emissions as a result of modeling runs. The Contractor shall interact with the WRAP Modeling forum to determine the models for which the EDMS will accept data from and format data for.

Administrative Tools

The Contractor shall provide a module that allows EDMS administrators to manage users, passwords and assign system access rights using the on-line, web-based interface. The administration module shall also provide any additional functionality that is identified in the analysis phase of the project. The EDMS shall provide a user registration function, and the administrative module shall use the register to provide a LISTSERV function so that users can be notified of EDMS updates and other pertinent information concerning the EDMS.

Build

The build phase involves two areas: the database build and the application construction. The Contractor shall make the final decisions on the number of Oracle instances, table space sizes and physical disk locations. The Contractor shall construct the EDMS in an open, modular, top-down fashion; documenting all code. The development methodology that the Contractor uses shall facilitate future enhancements to the software and the ability to integrate it with other systems. During the development phase, the WRAP shall be given product demonstrations to ensure that expectations are met and to provide ongoing opportunities for feedback. All software shall be unit and module tested by the contractor's development staff to ensure that the code operates as designed.

Procedure for Changes

Following the acceptance of the Software and Hardware Development Plan, any modifications to the Plan initiated by WRAP shall require a written estimate from the Contractor specifying the proposed changes and the monetary and schedule impact on the project. The estimate shall include the personnel and resources required to complete the proposed change. Changes to the Development Plan shall be accomplished through a Development Plan Modification Agreement, signed by both parties.

TASK 2. TEST AND REFINE THE EDMS AND ITS FUNCTIONS BEFORE ROUTINE OPERATION BEGINS

DELIVERABLES

1. Alpha Version of the EDMS
2. Beta Version of the EDMS
3. Implementation of the EDMS

BUDGET

1,064 Hours, \$57,871.67

DESCRIPTION

The Contractor shall develop a test plan for the EDMS modules to ensure that all of the software tools developed are quality assured before it is placed into production. The test plan shall incorporate test data sets and scheduled tests with written results and action items. The Contractor shall execute a test cycle on each program unit that consists of testing each software program before placing into a module. Once a program unit is tested and placed into a program module the module itself shall be tested to ensure that it operates and provides the functionality as designed. Finally, the entire system shall be tested to ensure stability and performance. The test cycle shall be repeated for each program unit that is developed and integrated into the EDMS.

The Contractor shall maintain comprehensive logs of anomalies and suggestions to enhance the usability of the program/database during the test and acceptance step. The Contractor shall use the logs to ensure that all of the errors are addressed, and that as many of the usability suggestions as possible are incorporated.

The Contractor shall perform formal testing in two phases. An alpha, or early version test platform shall be conducted, to ensure that the application is being built as designed and to test rudimentary system functions. The Contractor shall propose a data set, to be approved by the WRAP Steering Committee, to be used to test the data import functions during the alpha and beta test periods. The alpha version of the software shall be tested by the Pechan team and interested WRAP Steering Committee members. The alpha version of the software shall have limited functionality, but present enough of the system flow and dynamics to present to the users an idea of how the completed system will look and perform. A beta test shall be conducted that presents more functionality than the alpha version. The beta version software shall provide completed functionality with a limited number of available reports and data presentation layers. For the beta test, the WRAP shall identify a set of S/L/T users to test the system's functionality. Beta testers will identify defects and usability issues discovered in the system over a time period of 10 weeks. These findings will be reported to the Contractor for agreed-upon remedial action. This test will ensure that all of the functionality of the EDMS is operating as designed and that users will get the maximum benefit from the use of the EDMS.

TASK 3. PROVIDE HARDWARE NECESSARY TO RUN THE EDMS ON A HOST COMPUTER NETWORK

DELIVERABLES

1. Hardware Invoice

BUDGET

0 Hours, \$5,340.50

DESCRIPTION

The Contractor shall provide a lease of the application and data servers for this project. The servers shall be multiple processor systems of adequate size and storage to host the EDMS. The servers shall include an Oracle server, scientific application servers, statistical analysis servers, and web-hosting servers. Access to the EDMS running on these servers shall be public or through a secure login via an on-line, web-based interface.

The Contractor shall implement the EDMS and maintain all computational operations on a 24 hour per day, seven day per week schedule with processor redundancy built in to standard operations as well as backups. Backups shall be performed daily and system maintenance shall be performed on an as needed basis. Backup schedules shall be identified in the Software and Hardware Development Plan.

TASK 4. DEVELOP AND IMPLEMENT QUALITY ASSURANCE/CONTROL PROCEDURES AND PROTOCOLS FOR THE ROUTINE USERS AND OPERATORS OF THE EDMS

DELIVERABLES

1. Preparation Plan for EDMS Quality Assurance Project Plan (QAPP)
2. Draft EDMS QAPP
3. Final approved EDMS QAPP

BUDGET

224 Hours, \$23,384.51

DESCRIPTION

EDMS quality control (QC) is defined as relating to consistent maintenance of data integrity from emissions-related data sources to the EDMS, i.e., metadata, agencies' and other institutions' data methods and sources, data intake procedures, etc. QC of the procedures and process to

build, implement and run the EDMS is important for ensuring that the EDMS provides the structure and functionality to collect and maintain accurate, defensible data from which to make regulatory decisions. The Contractor shall identify and document quality assurance (QA) and QC processes, procedures and protocols that are complete and reliable for the EDMS. The Contractor shall prepare a Quality Assurance Project Plan (QAPP) to detail the QA/QC procedures and protocols to be applied to the development of the EDMS and the processing of data once the EDMS is implemented.

EDMS QA processes are related to verification, gap-filling, data substitution, error correction, and processing needed to create output and display files and reports. QA/QC procedures and protocols shall be able to be applied to emissions, activity, emissions factor, and other reference data inside the WRAP EDMS. QA efforts entail data integrity checks and scrutiny of procedures and methodology. A central focus of the QA/QC effort shall be to ensure that the data stored and presented in EDMS match the data that the S/L/T agencies submit to the system. The Contractor's QA/QC plan shall include such measures as:

- Collecting and reviewing data inputs to ensure that all required portions are present;
- Validating data take-on procedures for accuracy;
- Ensuring proper formats;
- Validating data using range and internal consistency checks;
- Documenting and verifying data inputs and emission factors; and
- Ensuring that data inputs are the latest available through contact with the appropriate source (e.g., government sources often revise data from previous years).

A significant feature of the Contractor's QA/QC plan shall be the automated audit control and data version tracking designed into the storage database. The Contractor shall assure that changes to the database or the data are thoroughly documented and retained, providing the ability to restore prior data if necessary. The audit features shall be documented in the QAPP. The Contractor shall also identify and document data-level QA/QC processes to ensure the analytical completeness and reasonableness of data and its values. The physical considerations of data quality management, such as back-up and security operations, shall be detailed in the QAPP.

TASK 5a. CONSTRUCT THE EDMS TO ALLOW INTAKE AND INITIAL PROCESSING OF S/L/T AGENCIES' CERR 2002 NEI DATA SUBMITTALS

DELIVERABLES

1. Import and processing of initial S/L/T data

BUDGET (Tasks 5a, 5b and 5c)

1,982 Hours, \$141,049.80

DESCRIPTION

The Contractor shall define acceptable data formats for S/L/T agency emission inventory data submittals to the EDMS. The Contractor shall also determine an efficient and acceptable approach for transmitting the data from the S/L/T agencies to the EDMS. The formats and data transmission approach shall be documented in the Software and Hardware development plan.

The Contractor shall construct the data formats and disseminate them to the S/L/T agencies in the WRAP region. The Contractor shall establish the data transfer mechanism that is identified in the Software and Hardware Development Plan and develop code and procedures so that S/L/T agencies can submit data to the EDMS. The Contractor shall develop data import software that imports and incorporates the S/L/T data into the EDMS. The data transfer shall be handled through a web-based module and not involve the creation and handling of hard media, if possible.

The EDMS shall be ready to receive and apply QC as identified in the QAPP to the data submitted by S/L/T agencies, in batch files as county-level or, where appropriate, tribal reservation-level summaries. The EDMS shall accommodate emissions data for the pollutants listed in the *Needs Assessment* report, as well as activity data and emissions factors. The EDMS shall provide completeness checks for local, state, and tribal emissions data when the EDMS receives their emissions data, including Continuous Emissions Monitor data, if included. The EDMS shall capture specifications for linked files/libraries, such as SCC profiles and hourly emissions profiles, from agencies submitting their CERR data.

The Contractor shall investigate the feasibility of utilizing the EPA Environmental Exchange Network to transfer files for the WRAP EDMS. Planning and procedures for setting up a CDX-like node as part of the WRAP EDMS for accepting data submissions shall be identified and documented. Based on the results of the feasibility study, the Contractor shall perform the initial set-up of a CDX-like node for the WRAP EDMS.

TASK 5b. IMPLEMENT AND BEGIN ROUTINE OPERATION OF THE EDMS ON THE HOST COMPUTER NETWORK OPERATING SYSTEM

DELIVERABLES

1. Fully functional EDMS based on detailed design specifications

DESCRIPTION

The Contractor shall deploy the EDMS on a host computer network. The deployed EDMS shall be the version that shall be used for day to day operations by the WRAP members and the public.

All of the functional sections of the EDMS shall become operational during this task based on the procedures and protocols to be defined in the software development plan and the QAPP. The EDMS shall demonstrate compatibility with inputs submitted by tribes using the Tribal Emissions Inventory Software Solution. The EDMS shall be capable of producing county-level, and where appropriate, tribal reservation-level emissions inventories for point, area, mobile, fire, and road dust.

The Contractor shall perform any necessary data and software migrations as well as hardware installations that are necessary to move from the development mode to the production mode for the EDMS.

TASK 5c. MAINTAIN, UPGRADE AND ROUTINELY OPERATE THE EDMS ON THE HOST COMPUTER NETWORK SYSTEM ON AN ONGOING BASIS

DELIVERABLES

1. Ongoing operation, support, maintenance and upgrades

DESCRIPTION

The Contractor shall provide continual operation, support, maintenance and upgrades to the EDMS for the life of the contract. Continual operations are likely to include on-going data take-on as S/L/T agencies update or add data to the EDMS.

The Contractor shall provide uninterrupted system hosting, including data security and back-up operations.

TASK 6. PROVIDE AN ON-LINE USER'S MANUAL FOR THE EDMS

DELIVERABLES

1. Initial draft on-line User's Manual for EDMS
2. Gather comments on initial draft User's Manual
3. Final on-line User's Manual for EDMS
4. Update User's Manual

BUDGET

340 Hours, \$20,458.95

DESCRIPTION

The Contractor shall produce and deliver an on-line User's Manual documenting the use and function of the EDMS. The User's Manual shall describe how to use each module of the system, and shall provide a reference to users on the general use of the system as well as specific information such as a glossary of nomenclature, how to obtain support, and frequently asked questions and their answers.

The Contractor shall provide a draft User's Manual and shall solicit comments in coordination with WRAP EDMS Steering Committee. Comments from the draft User's Manual shall be integrated into a final WRAP Emission forum-approved User's Manual that shall be available when the system is launched to the user community. For the life of the contract, the Contractor shall maintain the User's Manual to reflect any changes or enhancements made to the EDMS.

TASK 7. PROVIDE TRAINING FOR EDMS USERS AND ONGOING SUPPORT

DELIVERABLES

1. Syllabi for training sessions
2. Budgets and staff for telephone/on-line support
3. CERR data submission workshop
4. Schedule and syllabi for ongoing EDMS training and support

BUDGET

428 Hours, \$29,976.34

DESCRIPTION

The Contractor shall develop and deliver training for the EDMS designated users. The Contractor shall develop a training syllabus for the training sessions to be delivered. The training shall be “hands-on” in a classroom-type setting. The training shall include explanation of the operations of the system, as well as examples of data input, maintenance, and reporting.

The Contractor shall develop budgets for ongoing telephone and on-line support for the EDMS. The Contractor shall provide web-based, e-mail-based, and telephone support for the EDMS through the duration of the contract.

The Contractor shall also produce training and guidance materials for EDMS data providers, defined as those who produce data for housing and use in the EDMS. The materials shall be delivered in a workshop that shall provide complete coverage of CERR Data Submission, and shall assist those users in the specific steps in data preparation, transfer, and take-on.

If possible, the training events should be coordinated with other WRAP meetings to provide economies to the user community.

The Contractor shall develop a schedule and syllabi for ongoing training and support for the EDMS.

TASK 8. PROVIDE A HOME LOCATION FOR THE HOST COMPUTER NETWORK SYSTEM INCLUDING STAFF

DELIVERABLES

1. Provide Home Location

BUDGET

0 Hours, \$0

DESCRIPTION

The Contractor shall provide a home network for the EDMS production system.

The Contractor shall provide the services of a EDMS-specific database administrator and data analyst for system-specific activity, such as assisting with data import processing, developing and running periodic major reports and procedures, as well as implementing necessary adjustments and maintenance. The database administrator and data analyst shall have thorough knowledge of the EDMS, and shall act as the principal contacts for this phase of the project.

TASK 9. PROVIDE EMISSIONS DATA ANALYSIS AND PROCESSING REPORTS AS NEEDED

DELIVERABLES

1. Reports as needed

BUDGET

648 Hours, \$32,838.96

DESCRIPTION

Based on the procedures and protocols developed in the system development plan and the QAPP, the Contractor shall perform quality assurance and gap-filling activities as agreed upon by both the Contractor and the WRAP Steering Committee. Tasks to be performed include making available reports and system data as tabular or text information (including flat files); as standard plots, such as line, bar and/or pie charts; and through GIS capabilities. Reports may be based on EDMS standard reports or may entail special purpose formats.

The Contractor shall assist in the preparation of data files to be submitted to the EPA as a part of regional haze technical support.

The Contractor shall provide monthly progress reports to the WRAP EDMS Steering Committee describing the progress of each task including the hours and dollars expended on each task.

PROJECT SCHEDULE

Task	Deliverable(s)	Date(s)
Contract Execution	Signed Contract	Proposed date Dec. 29, 2003
1. Design, Develop, Write the Computer Code and Provide Support Software as Needed for the EDMS	Initial Review of Hardware and Software Development Plan	Friday, January 23, 2004
	Initial Draft Hardware and Software Development Plan	Friday February 6, 2004
	Final Draft of Hardware and Software Development Plan	Friday, March 19, 2004
	Final Hardware and Software Development Plan	Friday, April 16, 2004
2. Test and Refine the EDMS and its Functions Before Routine Operation Begins	Alpha Version of Software	Friday, April 30, 2004
	Beta Version of Software	Friday, June 25, 2004
	Implementation Version of Software	Thursday, September 30, 2004
3. Provide Hardware Necessary to Run the EDMS on a Host Computer Network	Hardware Costs	Provided in Proposal
	Invoices for Hardware Purchases	N/A
	Hardware Update Costs	Provided in Proposal
	Invoices for Hardware Update Purchases	N/A
4. Develop and Implement Quality Assurance/Control Procedures and Protocols for the Routine Users and Operators of the EDMS	Initial Review of Preparation Plan for the Quality Assurance Project Plan (QAPP)	Friday, January 23, 2004
	Preparation Plan for QAPP	Friday, February 6, 2004
	Draft EDMS QAPP	Friday, July 9, 2004
	Final Approved EDMS QAPP	October 1, 2004
5.a. Construct the EDMS to Allow Intake and Initial Processing of S/L/T Agencies' CERR 2002 NEI Data Submittals Before July 1, 2004	Import and processing of initial State/Local/Tribal data	Wednesday, June 30, 2004
5.b. Implement and Begin Routine Operation of the EDMS on the Host Computer Network Operating System Before October 1, 2004	Fully functional EDMS based on Detailed Design Specifications	Thursday, September 30, 2004
5.c. Maintain, Upgrade and Routinely Operate the EDMS on the Host Computer Network System	Ongoing operation, support, maintenance and upgrades	Ongoing after routine operation of EDMS commences

Task	Deliverable(s)	Date(s)
Contract Execution	Signed Contract	Proposed date Dec. 29, 2003
on an Ongoing Basis		
6. Provide an On-line Users Manual for the EDMS	Initial Draft on-line User's Manual for EDMS	Friday, July 9, 2004
	Gather Initial Draft User's Manual Comments	Friday, September 3, 2004
	Final on-line User's Manual for EDMS	Friday, October 1, 2004
	Update User's Manual	On-going through remaining contract period
7. Provide Training for EDMS Users and Ongoing Support	Syllabi for Training Sessions	Friday April 2, 2004
	Online Support Implementation Plan	Friday April 30, 2004
	CERR Data Submission Workshop	Monday, May 3, 2004
	Schedule, and Syllabi for ongoing EDMS training and support	Wednesday, December 1, 2004
8. Provide a Home Location for the Host Computer Network System Including Staff	Budget for development	Provided in Proposal
	Budget for hosting routine operations for life of contract	Provided in Proposal
	Staff, Duties for development and operations proposal and budget	Provided in Proposal
9. Provide Emissions Data Analysis and Processing Reports as Needed	Budget for routine and special reports	Provided in Proposal
	Reports	Monday, July 26, 2004