SOLICITATION/CONTRACT/ORDER FOR COMMERCIAL ITEMS
OFFEROR TO COMPLETE BLOCKS 12, 17, 23, 24, AND 30

1. REQUISITION NUMBER: 96311M-2343-2229

2. CONTRACT NO.	3. AWARD/EFFECTIVE DATE	4. ORDER NUMBER	5. SOLICITATION NUMBER	6. SOLICITATION ISSUE DATE
GS-10F-0005L	14-Apr-2003	DACW31-03-F-0078		

7. FOR SOLICITATION INFORMATION CALL:	a. NAME	b. TELEPHONE NUMBER *(No Collect Calls)*	8. OFFER DUE DATE/LOCAL TIME

9. ISSUED BY — CODE CW31

CONTRACTING DIVISION
PO BOX 1715
BALTIMORE MD 21203-1715

TEL: 410-962-5638
FAX: 410-962-0933

10. THIS ACQUISITION IS
- [X] UNRESTRICTED
- [ ] SET ASIDE: % FOR
  - [ ] SMALL BUSINESS
  - [ ] SMALL DISADV. BUSINESS
  - [ ] 8(A)

SIC: 7376
SIZE STANDARD: 21.0M

11. DELIVERY FOR FOB DESTINATION UNLESS BLOCK IS MARKED
- [ ] SEE SCHEDULE

12. DISCOUNT TERMS
0% NET 30 DAYS

- [ ] 13a. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 700)

13b. RATING

14. METHOD OF SOLICITATION
- [ ] RFQ
- [ ] IFB
- [ ] RFP

15. DELIVER TO — CODE E250632
CHEMISTRY UNIT
ELIZABETH TURNER
5900 MACARTHUR BLVD NW
WASHINGTON, DC 20315-0220

16. ADMINISTERED BY — CODE E1P0500
CONTR DIV OPERATIONS BR
PO BOX 1715
BALTIMORE MD 21203-1715

17a. CONTRACTOR/ OFFEROR — CODE 0JHB8

CDM FEDERAL PROGRAMS CORPORATION
JOAN ONEILL KNAPP
13135 LEE JACKSON MEMORIAL HWY
SUITE 200
FAIRFAX VA 22033

TEL. (703)968-0900
FACILITY CODE 0JHB8

18a. PAYMENT WILL BE MADE BY — CODE T0B0200

USACE FINANCE CENTER
ATTN: DISBURSING
5722 INTEGRITY DRIVE
MILLINGTON TN 38054-5005

- [ ] 17b. CHECK IF REMITTANCE IS DIFFERENT AND PUT SUCH ADDRESS IN OFFER

18b. SUBMIT INVOICES TO ADDRESS SHOWN IN BLOCK 18a. UNLESS BLOCK BELOW IS CHECKED [ ] SEE ADDENDUM

19. ITEM NO.	20. SCHEDULE OF SUPPLIES/ SERVICES	21. QUANTITY	22. UNIT	23. UNIT PRICE	24. AMOUNT
	SEE SCHEDULE				

25. ACCOUNTING AND APPROPRIATION DATA
See Schedule

26. TOTAL AWARD AMOUNT
$166,895.34

- [ ] 27a. SOLICITATION INCORPORATES BY REFERENCE FAR 52.212-1. 52.212-4. FAR 52.212-3. 52.212-5 ARE ATTACHED. ADDENDA [ ] ARE [ ] ARE NOT ATTACHED
- [ ] 27b. CONTRACT/PURCHASE ORDER INCORPORATES BY REFERENCE FAR 52.212-4. FAR 52.212-5 IS ATTACHED. ADDENDA [ ] ARE [ ] ARE NOT ATTACHED

28. CONTRACTOR IS REQUIRED TO SIGN THIS DOCUMENT AND RETURN 0 COPIES
- [ ] TO ISSUING OFFICE. CONTRACTOR AGREES TO FURNISH AND DELIVER ALL ITEMS SET FORTH OR OTHERWISE IDENTIFIED ABOVE AND ON ANY ADDITIONAL SHEETS SUBJECT TO THE TERMS AND CONDITIONS SPECIFIED HEREIN.

29. AWARD OF CONTRACT: REFERENCE DACW31-03-T-0022
- [X] OFFER DATED 06-Feb-2003. YOUR OFFER ON SOLICITATION (BLOCK 5), INCLUDING ANY ADDITIONS OR CHANGES WHICH ARE SET FORTH HEREIN, IS ACCEPTED AS TO ITEMS: SEE SCHEDULE

30a. SIGNATURE OF OFFEROR/CONTRACTOR

31a. UNITED STATES OF AMERICA (SIGNATURE OF CONTRACTING OFFICER)
Patricia J Hensley

31c. DATE SIGNED
15-Apr-2003

30b. NAME AND TITLE OF SIGNER *(TYPE OR PRINT)*

30c. DATE SIGNED

31b. NAME OF CONTRACTING OFFICER *(TYPE OR PRINT)*
PATRICIA J HENSLEY / ADDED BY SUMI
TEL: 410-962-7718 EMAIL:

32a. QUANTITY IN COLUMN 21 HAS BEEN
- [ ] RECEIVED
- [ ] INSPECTED
- [ ] ACCEPTED, AND CONFORMS TO THE CONTRACT, EXCEPT AS NOTED

33. SHIP NUMBER
- [ ] PARTIAL
- [ ] FINAL

34. VOUCHER NUMBER

35. AMOUNT VERIFIED CORRECT FOR

32b. SIGNATURE OF AUTHORIZED GOVT. REPRESENTATIVE

32c. DATE

36. PAYMENT
- [ ] COMPLETE
- [ ] PARTIAL
- [ ] FINAL

37. CHECK NUMBER

38. S/R ACCOUNT NUMBER

39. S/R VOUCHER NUMBER

40. PAID BY

41a. I CERTIFY THIS ACCOUNT IS CORRECT AND PROPER FOR PAYMENT

41b. SIGNATURE AND TITLE OF CERTIFYING OFFICER

41c. DATE

42a. RECEIVED BY *(Print)*

42b. RECEIVED AT *(Location)*

42c. DATE REC'D *(YY/MM/DD)*

42d. TOTAL CONTAINERS

Section SF 1449 - CONTINUATION SHEET

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0001			Lump Sum		

63230021 - DATABASE MANAGEMENT
FFP
A computerized ODMS shall provide USACE-WAD's Plant Operations Branch with management information tools to allow for efficient water production operations in producing timely and accurate data and assessment reports, and to make validated data available to all required parties. Data entry, access and retrieval shall be provided, at a minimum per the attached Scope of Work.
POC (REQUESTOR/TECHNICAL INFORMATION) ELIZABETH TURNER/RANDY HILL (202)764-0732/764-2725
POC (CONTRACTING OFFICE) WILLIAM EPPS (410)962-5610
NOTE: THIS REQUIREMENT IS SET ASIDE TO ALL GSA SCHEDULE VENDORS PROVIDING DATA MANAGEMENT SYSTEM SERVICES. ALL QUESTIONS SHALL BE SUBMITTED IN WRITTING AND SENT TO MY EMAIL: tony.epps@usace.army.mil .
PURCHASE REQUEST NUMBER: 96311M-2343-2229

	NET AMT	$0.00
Funded Amount		$0.00

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0001AA		1	Lump Sum	$22,114.66	$22,114.66

PLANT OPERATIONS DATABASE SOFTWARE
FFP
AND LICENSES
PURCHASE REQUEST NUMBER: 96311M-2343-2229

	NET AMT	$22,114.66
ACRN AA Funded Amount		$22,114.66

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0001AB		1	Lump Sum		

PORTAL SOFTWARE AND LICENSES
FFP
"INCLUDED UNDER 0001AD"
PURCHASE REQUEST NUMBER: 96311M-2343-2229

NET AMT $0.00

Funded Amount $0.00

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0001AC		1	Lump Sum		

PORTABLE DATA ENTRY TERMINAL
FFP
"SEE REVISED COST ESTIMATE ASSUMPTIONS"
PURCHASE REQUEST NUMBER: 96311M-2343-2229

NET AMT $0.00

Funded Amount $0.00

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0001AD		1	Lump Sum	$144,780.68	$144,780.68

SERVICES INCLUDING INSTALLATION,
FFP
TRAINING, CUSTOMIZATIONS AND DEVELOPMENT OF REPORTS
PURCHASE REQUEST NUMBER: 96311M-2343-2229

NET AMT $144,780.68

ACRN AA Funded Amount $144,780.68

FOB: Destination

DELIVERY INFORMATION

CLIN	DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
0001	POP 15-APR-2003 TO 14-APR-2004	N/A	CHEMISTRY UNIT ELIZABETH TURNER 5900 MACARTHUR BLVD NW WASHINGTON, DC 20315-0220 202-764-2728 FOB: Destination	E250632
0001AA	POP 15-APR-2003 TO 14-APR-2004	N/A	(SAME AS PREVIOUS LOCATION) FOB: Destination	E250632
0001AB	POP 15-APR-2003 TO 14-APR-2004	N/A	(SAME AS PREVIOUS LOCATION) FOB: Destination	E250632
0001AC	POP 15-APR-2003 TO 14-APR-2004	N/A	(SAME AS PREVIOUS LOCATION) FOB: Destination	E250632
0001AD	POP 15-APR-2003 TO 14-APR-2004	N/A	(SAME AS PREVIOUS LOCATION) FOB: Destination	E250632

ACCOUNTING AND APPROPRIATION DATA

AA: 99 NA X 9829.0000 E2 X 08 2471 008273 96499 3100 001SZV
AMOUNT: $166,895.34

SCOPE OF WORK PART I

SCOPE OF WORK

PART I - TECHNICAL SPECIFICATIONS

1.0 Overview and Purpose

A. General Specifications

These specifications identify minimum and optimal functional and processing capabilities required for the computerized Operational Database Management System (ODMS).

1. A computerized ODMS shall provide USACE-WAD's Plant Operations Branch with management information tools to allow for efficient water production operations in producing timely and accurate data and assessment reports, and to make validated data available to all required parties. Data entry, access and retrieval shall be provided, at a minimum, for the following:

- Manual data input by users
- Data storage
- Data processing and manipulation
- Data retrieval and reporting
- Portal software for networking with other databases

2. The ODMS processing functions shall include the following:

- System management
- Database management
- Sample management and tracking
- Workload management
- Sample analysis and data acquisition
- Data validation and limit checking
- Quality control/assurance
- Statistical data analysis and graphics
- Data import/export capability
- Ad-hoc querying
- Barcoding
- Reporting

3. The ODMS application software shall be comprised of proven packages. These packages shall permit on-site configuration and generation of all application related programs including displays, tables and reports.

4. The ODMS application software shall be a standard product, which is fully developed, tested, and supported. It shall be compatible with the system hardware, and shall meet the functional requirements specified.

5. All system software shall be designed to allow growth. Sufficient space shall be recommended to allow for additional screen displays, and for additional, or expanded, reports.

B. System Configuration

1. *Network* - The ODMS shall be installed on the USACE-WAD's Ethernet network, with the Windows 2000 network operating system.

2. *Database Server* - The ODMS shall run on a server configured in client / server mode. The Server is configured as follows:

- Dual Pentium III 866 MHz processors
- Integrated 3Com 10/100 Ethernet controller
- Dual channel SCSI controller with external 68 pin Ultrawid connector
- 1 GB RDRAM (2 RIMMS)
- Three (3) 18 GB SCSI harddrives
- RAID 5 Parity
- 17" monitor
- 20/48x CD-ROM Drive
- 3.5" 1.44 MB Floppy drive
- External 40 GB DDS-4 Tape Drive with 10 tapes
- SQL 7 Server software with 25 licenses
- Windows 2000
- ARCserveIT Backup software with SQL Server Agent and Backup Agent for open files
- Diskeeper Server edition

3. *Personal Computers* - The client workstations are a minimum of 450 MHz Pentium IIs with 64-128 MB RAM. The operating system is Windows 2000. The clients will not be dedicated to the ODMS.

2.0 ODMS Requirements

A. System Management

1. *Licensed Users* - The ODMS shall be able to support 10 – 15 concurrent users.

2. *Compatibility* - The ODMS shall run on a server platform and an operating system compatible with the existing Windows 2000 network.

3. *System Management Tools* - The ODMS shall provide system management tools to permit safe, secure management of the ODMS application. These tools shall include application security, data audit trail, database backup/recovery, data archival/restoration and interoperability with SQL-based and ASCII-based applications..

4. *Security* - The ODMS system shall provide security features to ensure that only authorized individuals enter, view and modify data. Access levels shall be definable to restrict use of system level functions (such as user authorization), and to provide data access levels to restrict the use of data entry, data approval, data retrieval, data modification, database structure creation or modification functions.

5. *Data Archiving and Purging* - The ODMS shall provide a means to archive and purge (delete) data at the request of the system administrator, or automatically after a specified period of time.

Archiving is removing the data from the active database and storing it in a retrievable form elsewhere. Archiving must include user-selectable parameters. These parameters shall include collection and approval date ranges, sample type, location, and test. The end user shall have the capability to view archived data without restoring the data into the "active" location.

The purge utility must also include user-selectable parameters. These parameters shall include collection and approval date ranges, sampling point and sample type.

6. *Static Information* - The ODMS shall maintain static administrative information such as, but not limited to, procedures, safety information, and project information. Authorized users shall be able to query, add, modify and delete this information.

B. Database Management System

1. *Relational Database Management System* - The ODMS shall provide a relational database management system (RDBMS) for information storage and retrieval.

The ODMS RDBMS shall be available with a full use license, providing not only access to the ODMS application, but also application development tools, a data dictionary, a data query utility, and a report writer. The preferred databases are ACCESS and SQL. Oracle systems will not be considered.

The RDBMS shall be licensed for ten (10) to fifteen (15) concurrent run-time users. The database development tools shall be licensed for two (2) users. The report writer tools shall allow development by two (2) concurrent users.

The RDBMS shall support client/server architecture.

The RDBMS shall support parallel processing

The RDBMS shall be able to support data spanning multiple physical disks.

The RDBMS shall run on multiple server operating systems, such as Windows NT or Novell NetWare.

2. *Transaction Journal Utility* - A transaction journal utility shall provide database reconstruction in case of system failure. This facility shall restrict the possible loss of data to the database transactions in progress when the system fails. Offeror must provide written instructions for reconstruction.

3. *Graphical User Interface* - The ODMS user interface and all interactive database management tools shall be a simple-to-use Graphical User Interface (GUI).

4. *Data Export* - The Database System shall be able to extract and convert data elements into an ASCII format for use outside of the ODMS application environment. The following file formats are desired or required, as indicated:

- ASCII - Required
- EXCEL-.xls-Required
- ACCESS 2000 - Required
- Power Point – Desired

The ODMS vendor shall provide a script for transferring data from the ODMS to the Washington Aqueduct Laboratory Information Management System (LIMS). The LIMS is a SQL Server 7.0 database with ACCESS 97 as the front-end database.

5. *Data Import* - The Database system shall be able to import an ASCII data file, convert it as needed, and store the data in the ODMS database management system. Historical data from an ACCESS database shall be imported into the ODMS database. Historical data from EXCEL spreadsheets shall be imported into the operations database.

6. *Interoperability* - The database system shall be ODBC compliant. It will allow data exchange with other ANSI SQL, ODBC compliant database systems, including Microsoft Access. Compliance will also enable the database to interface with ODBC compliant word processing, statistical analysis and spreadsheet software for producing reports, letters, memoranda and other documents.

7. *Database Dictionary* - The database dictionary shall control the definition and manipulation of data and facilitate changes to data structures.

8. *Customizable* - The RDMS shall be user customizable to the extent that system administrators will be able to add functions to the program main menu and all other screens, add additional tables, queries and forms and design custom reports.

9. *Software Networking* - The ODMS shall be able to link a SQL based LIMS, a SCADA system provided by Bristol Babcock and the operations database through a portal enterprise software.

C. Sample Management and Tracking

Note: Sample refers to a specific data point for a special data location. For example, flow for a specific pump or turbidity for a specific filter. Samples are unique and are for a specific date/time event. Data for a specific sample may be obtained through on-line instrumentation or through bench instruments in a laboratory.

1. *Sample Tracking* - Should be able to track samples from multiple facilities and multiple locations per facility. Should be able to track multiple parameters per location per facility. An audit trail shall be maintained for each sample activity. Sample status will be readily retrieved.

2. *Manual Sample Log-In* - A manual sample log-in function shall record data. Including sample location, location code, sample date and time, parameter. Fields shall be able to be made mandatory so that data is required before a sample can be committed to the database. Data shall be posted directly to the database. The log-in function shall be flexible enough to provide some degree of user customization, such as the addition of custom fields and custom sample identification formats, or to define sample types and categories. Data should also be able to be imported directly from the SCADA system, on-line instruments or LIMS.

3. *Data Entry* - Data entry functions shall perform immediate database updates. Data shall be available for retrieval immediately after data entry. Historical data from an Access database can be imported into the ODMS database.

4. *Sampling Site Information* - Static information for sampling sites will be stored in the ODMS. The minimum data elements, which will be stored, are site id, description, location, and sample type.

5. *Comments* - The ODMS shall provide the capability to add comments specific to a particular date as in a "logbook" type of function. Comments specific to a particular sample should be able to be entered.

D. Sample Scheduling

1. *Routine Samples* - The ODMS shall be able to store sample collection locations and the frequency that various routine sample types are to be collected from each location.

2. Be able to enter data for a location/parameter:

- Hourly
- Daily
- Monthly
- Yearly

E. Test/Analyses Administration

1. *Standard Tests/Analyses Per Sample Type* - Each test or analysis/type shall be uniquely identified with a code by the ODMS. The test identification code shall permit the association of multiple test components with that test code. The ODMS shall store data about each component such that the user can indicate, upon initial entry of the data, which components require computer performed mathematical computations.

2. *Associate Developed Calculations with Tests* - In order to automatically perform mathematical computations, the ODMS shall permit the development and association of mathematical routines developed by authorized users for designated test codes.

3. *Test Data Modification* - Modifications and deletions of test data by authorized users shall be permitted. An audit trail should record all modifications.

4. *Test Result Entry* - Test results shall be entered in multiple formats. The ODMS shall provide the entry of test results in the following formats, at a minimum:

- All results from one test performed on many samples.
- All results from many tests performed on one sample.
- All results from one test performed on one sample.

5. *Special Result Values* - The ODMS shall be able to record special result values such as Not Detected, Not Measured, <, or Null. The ODMS shall have the capability to correctly handle all special result values in mathematical computations. Users shall be able to define in advance how special result values will be handled in calculations. The ODMS should have the ability to enter text values into the result field.

6. *User ID* - The ODMS shall be able to identify and capture data concerning which operator or equipment performed the test, which user entered the results and which user approved the results.

7. *Instrument Interface* - The ODMS shall be capable of receiving results directly into its database from interfaced equipment / SCADA.

8. *Benchsheets* - The ODMS should be able to print out benchsheets for samples analyzed in the operator's lab.

9. *Water Treatment Formulas* - The ODMS should be populated with common water treatment formulas.

F. Status Monitoring

1. *Sample Status* - The ODMS shall provide methods for monitoring sample status throughout the sample life-cycle. Sample status codes shall automatically be assigned and updated by the system based on events or transactions occurring.

2. *Sample Status Codes* - The ODMS shall provide codes to monitor sample status for the following conditions, at a minimum:

- Parameters are within defined limits
- Parameters are not within defined limits
- Test results have associated text or limit violations
- Sample point/location is out of service
- Data have been reviewed and verified
- Custom status codes defined by the Washington Aqueduct
- A recollection of the sample has been ordered

3. *Customer Access* - The ODMS should allow customers direct access (read only) to their data via the internet or customer call up. The clients should have a means to easily view their results, current and historical.

G. Test Result Management

1. *Comments* - The ODMS shall permit the entry of comments and/or coded comments, which may be inserted by users in place of, or in addition to analytical result data. The ODMS shall permit the user, at the user's option, to enter an explanation in textual format to describe unusual conditions or circumstances. When text has been added to explain a test result, the ODMS shall indicate that associated text exists.

2. *Calculations* - The system shall support calculations based on the results of multiple analyses and perform reasonableness checks on the computed results. The number of significant digits for calculations shall be user definable.

3. *Result Limits* - Test data shall have associated results limits. The ODMS shall allow users to enter regulatory limits such as MDLs and MCLs and associate sets of limits with each sampling location. Each analyte in a limit set shall have associated effective dates. These limits shall be used by the ODMS transaction programs to check results being entered and flag the user, during result entry, regarding adherence to the limits.

4. *Multiple Limits Sets per Location* - The ODMS shall include the ability to specify multiple sets of limits for each sampling location. Each location shall have an associated primary limit set. All other limit sets at a location shall be considered as secondary limits.

5. *Test Result Review* - The ODMS shall allow an authorized user to review data. The review of data shall be permitted in multiple fashions: by individual test code, by individual samples and a range of identification code(s), by sample collection date and result range.

Results that are out of limit shall be clearly illustrated.

6. *Historical and Precision Level Comparisons* - For assistance in reviewing and approving test results, the ODMS shall allow the user to read historical data for sample locations and analyses.

7. *Review Actions* - The review function shall allow for the reviewer to indicate agreement or disagreement with the test result.

8. *Review Actions Affect Status* - Actions by the reviewer shall automatically update the status of samples and tests.

9. *Significant Figures* - The proposed ODMS shall automatically report numeric results to the number of significant figures and decimal places specified by the user.

H. Data Validation

1. *Validation at Data Entry* - The validation of all data, including Quality Control (QC) data, shall be completed by the ODMS immediately after entry, so that warnings and reruns are indicated to the users as soon as possible. The ODMS shall prevent the entry of clearly invalid data in key data entry fields.

2. *On-Line Help* - An on-line help facility shall be provided with the ODMS. Help shall be available for each functional portion of the system, such that a user can request help information and then return to their original position upon exiting the help function.

I. Sample Approval

1. *Final Approval* - The ODMS shall provide a function for an authorized user to approve all associated sample and test data in order to complete the chain of custody requirements, and make the data available for use by other departments and in regulatory reports.

2. *Multiple Approval Formats* - The approval of sample data shall be permitted by individual parameter, by test type, by collection location, and by date.

3. *Management Approval or Disapproval* - This function shall allow a manager to indicate their approval or disapproval with the sample and / or operating data. The ODMS shall permit the authorized user to disapprove a sample and its associated data when it is discovered that some portion of the data requires a modification after the original approval. This action shall be recorded in the chain of custody audit trail.

4. *Protection of Final Management Approved Results* - Once the final approval function has been completed, ODMS shall provide the ability to prevent any further modifications to the sample and its associated data.

5. *Provide 3-Tier Approval* – data entry, data validation, data approval. Approval ability will be based on assigned security rights.

J. Trending and Statistical Analysis

1. The ODMS should be able to trend data based on:

- Location
- Parameter
- Data range
- Historical concentration ranges
- Regulatory standards

2. At a minimum, the ODMS should be able to perform the following statistical functions:

- Maximum
- Minimum
- Average
- Count
- Standard deviation

3. ODMS should allow selection of how "less than" (<) data is treated.

- Zero returns 0 in place of < value
- ½ entered value returns ½ the value

4. ODMS should allow how "greater than" (>) data is treated

- Blank – no data
- Entered value
- Preserve > value

5. ODMS should allow selection of how non-detect data is treated

6. *Analysis and Graphics* - The ODMS shall include or provide an easy interface to a standard product for statistical analysis capability for historical trending and examination of ODMS data. Graphics capabilities shall also be provided for display and reporting of statistical information.

7. *Graphics* - The graphics component shall be able to produce a variety of charts, plots and maps. The charts should be labeled with all required information such as sample location, dates and parameters.

8. *Interface Requirements* - If the statistical analysis and/or graphics functionality are not part of the standard ODMS, a seamless interface between a recommended product and the ODMS is preferred. If such an interface is not available, the Proposer shall detail the procedure, which will need to be followed by the user to use the statistical or graphical software in order to meet this requirement.

K. On-Line Queries

1. *Ad-Hoc Queries* - End-users shall be able to quickly and easily retrieve logically related data, in an interactive environment, without the need for a detailed understanding of data storage and programming techniques. A master query form is desired.

2. *Multiple Query Criteria* - The ODMS data inquiry facility shall provide efficient retrieval of sample data based on sample identification code, location, values, date, parameter, and sample type.

3. *Structured Query Language Tools* - End-user tools which use a SQL interface shall be provided. The ODMS shall provide the user with a query facility which supports nested query, table joins, and outerjoin functionality.

4. *Standard Queries* - The ODMS shall provide standard queries for, at least, a specific sample's associated data, all results for a specific sample collection location, status of samples, status of tests being performed, and all administrative or static data.

5. *Multiple Output Options* - The query function shall be capable of displaying query results on the user's workstation screen, sending them to a printer or saving them as an ASCII file. Saved queries shall be exportable through, or accessible from, ODBC drivers.

L. Information Reporting

1. *Report Development* - USACE-WAD needs to generate State and Federal regulatory reports, trend analyses, QA/QC charts and graphically formatted reports for administrative planning purposes. The ODMS shall provide or recommend a third party report development tool that is capable of integrating a wide variety of data types from multiple sources. Information from the ODMS database shall be available for report generation. This reporting tool shall include the following minimal capabilities:

- ODBC compliant
- GUI development interface
- Calculations such as total, subtotal, subtraction, addition, multiplication, division, average, maximum, minimum, standard deviation, mean, median, and mode
- Format options such as font size and type, page headers and footers, number of significant digits
- Merging graphics, charts and text into a single report
- Retrieve and integrate data from the operations database, the LIMS SQL database and Excel spreadsheets
- Create barcharts, trend lines, pie charts with retrieved data

2. *Pre-Programmed Reports* - The following set of pre-programmed ODMS reports shall be provided:

- Samples received for a user-specified time frame
- Data results report including comments
- Power usage
- Chemical usage
- Turbidity compliance reports
- Test results Out of Limits report
- NPDES discharge monitoring report
- Hourly summary report per parameter
- Weekly summary report per parameter
- Yearly summary report per parameter
- Multi-year summary reports
- Duration of any compliance violations
- Date compliance violations reported to EPA
- Duration of Exceedence of defined action limits for each location/parameter

3. *Reporting Options*

- User definable reports
- Ability to save report to disk for submission to the EPA.

4. Reports should be generated for a sample automatically when:

- On a predefined schedule
- In response to certain trigger events.

5. Reports should be able to be e-mailed or faxed from within the ODMS application.

6. *Electronic Signature* - The ODMS should support electronic signatures that comply with 21 CFR 11.

7. Minimum Data to be Collected/Calculated in Database:

(Note: some items may be duplicated in other parts of the Scope of Work)

Water levels (ft)

Pumpage rate (mgd)
filters in service
Flow through pumps
Run times for each pump
Electrical power consumption for pumps, electrical feeders and power demand
Water temperature for various locations
Air temperature
Plant flow for each facility in MGD
CT for each clearwell
Minimum disinfectant residual entering distribution systems
Energy costs
Run hours per filter
Flow rates per filter
Headloss per filter
Filter effluent turbidity per filter
Backwash water per filter (gallons)
Surface wash per filter (gallons)
Pump number used for backwash
Backwash pump flow rate
Average filter run time
Maximum filter run time
Minimum filter run time
Total number of hours filter run time
Number of filters washed
Filter to waste duration
Filter to waste rate
Filter to waste volume of water
Total amount of wash water used
% wash water used
Filter elevation
Number of combined filter effluent turbidity measurements
Filter surface loading rate

3.0 Interface Requirements

A. Software Interface

1. Provide interface for operations database to interface with:

1	Sample Master Pro LIMS by Accelerated Technology Laboratories (SQL based)
2	SCADA system by Bristol Babcock
3	HACH particle counters software

2. Software interface should preferable be an enterprise portal

- Enterprise portal should be configurable per user group
- User group security should be possible
- Portal should provide ability to do reports based on information from various connected databases
- Reports should be e-mailable
- Portal should be accessible by external customers through modem connectivity
- Browser interface for portal software is preferred
- Real time access to data should be provided

B. Transferring Information

1. *Unique Device ID* - In order for the ODMS to acquire test results from on –line equipment, the ODMS shall provide a method to uniquely identify each device.

2. *Direct Data Transfer* - The ODMS shall be able to receive and process data directly from SCADA without disrupting other ODMS users – this is especially true for 15-minute individual effluent turbidity data.

The ODMS should be able to receive and process data directly from the LIMS.

4.0 Other ODMS Functionality

A. Cost Accounting

1. USACE-WAD may wish to associate labor and/or material cost with specific items. The ODMS shall provide, at a minimum, the ability to associate appropriate accounting codes with the ODMS data for treatment chemicals, pumpage of water to various customers and electrical power usage. This function shall provide a means of tracking costs for analytical purposes regarding specific projects or cost centers.

2. The Offeror shall describe all accounting features available with their ODMS product.

3. This should be an optional feature which can be turned on and off as required.

B. Chemical Inventory Module

1. The ODMS should be able to track the following chemicals at a minimum:

Chlorine in ppm, lbs/MG and lbs/hr
Chlorine residuals and chlorine target in mg/L
Ammonia dosage in mg/L, lbs/hr and gph
Fluoride mg/L
Copper mg/L
PACl mg/L, ml/min, lbs/hr and calculate dose
Lime in lbs/MG, lbs/hr
Alum – lb/MG, dose per flume
Total alum used per day in lbs
Algaecide dose in ppm
Algaecide dose as Copper in ppm

2. New chemicals should be able to be added as needed

3. The database should be able to track chemical pump speed and % stroke , chemical tank elevation, chemical feed rate (ml/min).

4. The ODMS shall include a chemical inventory module that can will store the following information for chemicals: amount of chemical received, storage location, vendor, chemical name, received date, amount, date chemical ordered, cost of chemical, estimated and actual delivery dates, chemical receiver, chemical delivery ticket number.

5. The ODMS should be able to maintain lab records on treatment chemicals such as % calcium carbonate for lime, % solids for lime, temperature rise of lime, specific gravity of alum and fluoride, and % fluoride

C. Pumpage and Flows

1. The ODMS should be able to track the following:

Track flows through pumps
Track peak flow rates
Run times for each pump (time on, time off, run hours)
Track water levels of reservoirs and clearwells
Track flow in MG

Track pumpage hours per location
Track KW/MG pumpage power
Track KW/HR pumpage power
Track elevation of conduits
Track elevation of reservoirs
Track elevation of clearwells

D. Basin Discharges

The Washington Aqueduct has 6 different basins that are periodically discharged per a NPDES permit. The following information about each discharge event needs to be tracked in the database:

Track date basin is out of service
Track date basin put back in service
Track # days between discharges per basin
Track basin flow
Calculate amount of sediment discharged

E. Personnel Module

1. The ODMS shall be able to track personnel certification and training.

2. The ODMS should be able to provide notification that training is due.

F. Equipment Maintenance Module

1. The ODMS should provide the ability to track instrument calibrations and pump calibration.

2. The ODMS should provide the ability to track instrument repairs and routine maintenance including date of maintenance, name of person who performed maintenance, type of maintenance performed, and time for maintenance. The database should be able to schedule routine maintenance.

3. Contain an equipment inventory to include equipment manufacturer and location of equipment.

G. Portable Data Entry Terminal

1. The ODMS shall be able to supply a portable data entry terminal hardware and software that can be used for sample collection and entry of field data such as chlorine residual and pH.

2. Entries should contain a date/time stamp and be able to be downloaded into the ODMS.

3. Should be able to read barcodes.

4. The ODMS vendor should supply all necessary hardware and software.

5.0 Product Support

A. Technical Support

1. The Offeror shall provide support for all software products included under this contract. Prior to Final Acceptance, the Proposer's support staff shall respond within two to four hours to all support calls placed during normal business hours, 7:00 a.m. to 5:00 p.m. Eastern Standard Time, Monday through Friday. Support calls placed after normal business hours or on Saturday and Sunday shall be responded to within four hours on the first regular business day following notification.

2. One year of support shall be provided under this contract (from ODMS System Formal Acceptance date). The support agreement shall be renewable on an annual contract basis.

3. The Offeror shall provide a toll-free telephone number for support calls.

4. The Offeror shall have local and/or national user groups for each software product identified in their proposal.

5. Have remote diagnostics, bulletin board/internet support

6. The ODMS vendor shall provide an assigned ODMS account manager to USACE-WAD.

B. Upgrades / Fixes

1. Functional fixes to the software shall be provided as they are released at no extra cost. Supporting documentation for hardware and software reflecting modifications shall be supplied, when necessary, at no extra cost.

2. For as long as USACE-WAD maintains an active support agreement, upgrades and enhancements to the software shall be provided automatically at no additional cost. Supporting documentation for software reflecting upgrades and enhancements shall be supplied at no extra cost.

3. Software service packs should be available for download from the vendor's web site.

C. Documentation

1. USACE-WAD shall have full access to the ODMS source code directly or in escrow.

2. The Offeror shall provide complete hard and soft documentation for the ODMS application and the instrument interfaces. This shall include installation instructions, system administration and maintenance, technical reference and users manuals and any other manuals relevant to the selected ODMS application.

3. A simple step-by-step user manual shall be provided for the end users and administrators.

4. Documentation should include system validation to ensure accuracy, reliability and consistent intended performance of the operations database management system.

D. Customization

1. Vendor will be responsible for populating database with historical data contained in Excel spreadsheets and a MS ACCESS 97 database. Vendor must provide time estimate for completion of inputting of historical data at start of project.

2. Development of customized reports.

3. Other customizations as needed to fulfill the requirements of this specification.

6.0. Training

A. ODMS System

1. The selected Offeror shall train Washington Aqueduct personnel in the use of all ODMS application software. Initial training shall be conducted on-site at USACE-WAD. Follow-up training can be provided on-site or at regional training centers.

2. The selected Offeror shall provide all instructors and instructional material including trainees' workbooks, instructor guides, training aids, equipment and technical manuals.

3. The selected Offeror shall coordinate with USACE-WAD regarding use of facilities if courses are to be held on-site. Equipment and software that are provided as part of this contract may be utilized for training, provided they are not adversely affected. Any equipment or software modified for training by the Proposer shall be restored to its original condition.

4. Courses that include general programming elements shall provide instruction such that the attending student will be capable of programming related software applications and/or modifications without guidance, or with only minimal supervision. This requirement applies only to the software supplied by the ODMS Proposer.

5. At a minimum, required courses are as follows:

- End-User Training - Provide training sessions on-site that instruct 30 endusers in the overall use and operation of the ODMS application software. Training is to be provided in two separate sessions.

- System Administrator Training - Provide training on-site for three (3) owner designated personnel who will act as system administrators for the ODMS computer configuration and applications. The training shall include ODMS administration tasks, software management functions and computer security. The training shall also include complete system back-up and reload procedures, file management utilities and system generator procedures.

- Course outlines for end-user and administrator training are to be submitted.

7.0 Installation Services

A. Services

The Offeror shall provide installation and startup services including formatting all disks, loading required software on the ODMS server, client workstations, and instrument PCs, and creating all necessary custom command files to automatically activate the system upon startup. Services should include system validation, population of operations database with historical data and design and install customized reports.

B. Documentation

Complete hard and soft copy documentation of the ODMS application software and the instrument interfaces shall be provided to the users by the time of installation. This includes users and reference manuals.

8.0 Functional and Acceptance Testing

A. Functional Testing

The selected vendor must provide a test plan and perform testing on the system after installation to demonstrate functionality and performance. This will be a checklist that verifies the specific functions and capabilities of the selected ODMS that are required by USACE-WAD and detailed in the Technical Specifications of this document.

B. Acceptance Testing

The acceptance test period runs for the first 90 days after successful completion of the functional testing. During this period, the ODMS will be utilized by the Washington Aqueduct staff in day to day operations. The purpose is to test the ODMS stability and completeness over time. The selected vendor shall provide the following services during the installation and acceptance period:

- Telephone assistance to users in operation of the system.
- Resolution of deficiencies noted during the functional test and acceptance testing period.
- Correction of software failures.
- Upon notification of failure (via telephone call to designated telephone number), diagnose and provide fixes or work-arounds to the failed software. Provide assistance necessary to return the system to correct operation.

C. Final Acceptance

Final acceptance is accomplished by successful functional testing and successful completion of the ninety (90) day test period as determined by USACE-WAD.

SCOPE OF WORK PART II

SCOPE OF WORK

PART II - TABLE OF COMPLIANCE TO SPECIFICATIONS

Instructions

The Offeror shall complete this Table of Specifications and return the completed form as part of their proposal.

A complete description of each requirement is in the System Specification portion of this Request for Proposal.

For answers of "Comply with Modifications" describe the modifications including cost and time required. Use the following format:

- Header – Modifications Required for Compliance
- Table of Compliance item number
- Specification reference number
- Modification description
- Costs
- Time required after award of contract

1. OVERVIEW

1B. SYSTEM CONFIGURATION

	REF.	COMPLY	DO NOT COMPLY	Comply With Modification
The database shall be compatible and run on an Ethernet network with Windows 2000 network operating system.	B1			
The system must be a client/server application	B2			
The system shall run on a Dell Poweredge 2400 server with dual 866 MHz processors and 512 MB RAM	B2			
The system's client software will run on a minimum of 450 MHz Pentium IIs with 128 MB RAM	B3			

2. APPLICATION REQUIREMENTS

2A. SYSTEM MANAGEMENT

	REF.	COMPLY	DO NOT COMPLY	Comply With Modification
The application must be able to support 10 - 15 concurrent users	A1			
Provide owner definable security by user, user group, function	A4			
Access levels shall:				
Restrict user of system level functions (such as user authorization)	A4			
Restrict the use of data entry, data approval, data retrieval, data modification, database structure creation or modification functions	Á4			
Provide a means to archive data:				
Include collection and approval date ranges, sample type, location, and parameter	A5			
At the request of system administrator	A5			
Automatically after a specified period of time	A5			
Include user-selectable parameters	A5			
View archived data without restoring it to the "active" location	A5			
Database should be able to track:				
Multiple facilities	A5			
Multiple locations per facility	A5			
Multiple parameters per location	A5			
Provide a means to purge data:				
At request of system administrator	A5			
Parameters shall include collection and approval date ranges, sampling point and sampling type	A5			
Automatically after a specified period of time	A5			
Includes user-selectable parameters	A5			
Maintain static administrative or business rules information	A6			
Authorized users shall be able to query, add modify and delete this administrative and rule information	A6			

2B. Database Management

	REF.	COMPLY	DO NOT COMPLY	Comply With Modification
Provide a relational database management system - preferably SQL based - for information storage and retrieval	B1			
The DBMS shall be available with full use license, providing not only access to the operation database application, but also:				
Application development tools	B1			
A data dictionary	B1			
A data query utility	B1			
A report writer	B1			
The RDBMS shall be licensed for 10 concurrent users	B1			
Database development tools shall be licensed for two users	B1			
The RDBMS shall support client/server architecture	B1			
The RDBMS shall support parallel processing	B1			
The RDBMS shall support data spanning multiple physical disks	B1			
A transaction journal utility shall provide database reconstruction in case of system failure	B2			
Interactive database management tools shall include a GUI interface	B3			
The RDBMS shall be able to export data into the following formats:				
ASCII	B4			
Excel	B4			
Access	B4			
Power Point	B4			
A script will be provided to export operational data into a LIMS and visa versa	B5			
RDBMS shall be able to import an ASCII data file	B5			
Historical data from an ACCESS database can be imported into the operations database	B5			
Historical data from EXCEL spreadsheets shall be imported into the operations database	B5			
The database shall be ODBC compliant and will allow exchange of data with other ANSI SQL, ODBC compliant database systems such as MS Access and EXCEL	B6			
The database dictionary shall control the definition and manipulation of data and facilitate changes to data structures.	B7			
RDBMS shall be user customizable to add functions to the program menu and all other screens, add additional tables. Queries, forms and custom reports.	B8			
The operations database shall be able to be linked to a SQL based LIMS and a SCADA system provided by Bristol Babcock	B9			

2C. Sample Management and Tracking

	REF.	COMPLY	DO NOT COMPLY	Comply With Modification
Should be able to track samples from multiple facilities and multiple locations per facility	C1			
Should be able to track multiple parameters per location per facility	C1			
Data shall be able to be entered either manually or imported directly from the SCADA system, on-line instruments or LIMS	C2			
Data fields should include:	C2			
Sample Collection date / time (mandatory field)	C2			

Sample Location	C2			
Location code	C2			
parameter	C2			
The database shall allow user customization:				
The addition of custom fields	C2			
Custom sample identification formats	C2			
Data shall be available for retrieval immediately after data entry	C3			
Data entry functions perform immediate database updates or inserts	C3			
Store static information for sampling sites:				
Site ID	C4			
Description	C4			
Location	C4			
Sample type	C4			
Allow addition of comments specific to a particular date as in a "logbook" type of function	C5			
Able to add comments specific to a particular sample	C5			

2D. Sample Scheduling

	REF.	COMPLY	DO NOT COMPLY	Comply With Modification
Store locations for routine sample collection	D1			
Be able to enter data for a location / parameter				
Hourly	D1			
Daily	D1			
Monthly	D1			
Yearly	D1			

2E. Test/Analysis Administration

	REF.	COMPLY	DO NOT COMPLY	Comply With Modification
Uniquely identify with a code each test or parameter type	E1			
Permit the association of multiple test components with each test identification code	E1			
Store calculation data about each test component	E1			
Permit the development and association of mathematical routines for designated test codes and components	E2			
Permit modification of test data by authorized user with audit trail	E3			
Provide the entry of test results in the following formats:				
All results from one test performed on many samples	E4			
All results from many tests performed on one sample	E4			
All results from one test performed on one sample	E4			
Able to record special result values such as Not Detected, < or Null	E5			
Correctly handle all special result values in mathematical computations	E5			
Users shall be able to define in advance how special result values are handled in calculations	E5			
Ability to enter text values in the result field	E5			
Able to identify test analyst	E6			
Ability to identify user who entered results	E6			
Ability to identify user who approved results	E6			

Ability to receive results directly into the operations database from interfaced equipment / SCADA	E7			
Able to create additional bench sheets for samples analyzed in the operators lab	E8			
Be populated with common water treatment formulas	E9			

2F. Status Monitoring

	REF.	COMPLY	DO NOT COMPLY	Comply With Modification
Automatic status update of parameter data for a location based on events or transactions	F1			
Provide a method to monitor test and analysis data	F1			
Provide codes to monitor sample status for the following conditions:				
Parameters are within defined limits	F2			
Parameters are not within defined limits	F2			
Test results have associated text or limits violations	F2			
Sample point / location is out of service	F2			
Data has been reviewed and verified	F2			
Custom status codes defined by the Aqueduct	F2			
Allow customers read only access to data via the internet or customer call up	F3			

2G. Test Result Management

	REF.	COMPLY	DO NOT COMPLY	Comply With Modification
Permit the entry of comments	G1			
Permit the user to enter an explanation in textual format to describe unusual conditions or circumstances	G1			
Indicate that associated text exists when text has been added to explain a test result.	G1			
Support calculations based on the results of multiple analyses and perform reasonableness checks on the computed results for multiple analyzers.	G2			
Allow user definable regulatory limits or other limits with each sampling location	G3			
Allow user definable regulatory limits or other limits with each parameter	G3			
Use result limits to check results and flag the user during result entry regarding adherence to limits.	G3			
Permit multiple sets of limits per sampling location	G4			
Allow an authorized user to review test results	G5			
Permit review of test results based on:				
Individual test code	G5			
Individual and range of sample identification code	G5			
Sample date	G5			
Out of limit results shall be clearly illustrated	G5			
Allow the user to view historical results for sample locations and analyses.	G6			
The review function shall allow the following actions:				
Agreement or Disagreement with test result	G7			
Actions by reviewer shall automatically update the status of samples and tests	G8			

Automatically report numeric results to the number of significant figures and decimal places specified by user	G9			

2H. Data Validation

	REF.	COMPLY	DO NOT COMPLY	Comply With Modification
Perform immediate on-line data entry validation	H1			
Flag data entry errors with warning messages for correction at time of data entry	H1			
Prevent the entry of clearly invalid data	H1			
On-line help shall be available	H2			
Help available for each functional portion	H2			

2I. Data Approval

	REF.	COMPLY	DO NOT COMPLY	Comply With Modification
Provide a function for authorized user to approve all associated sample and operating data	I1			
Permit approval of data by:				
individual parameter	I2			
test type	I2			
location	I2			
date	I2			
Permit the authorized user to disapprove sample and/or operating data when data modification is required after original approval.	I3			
Record disapproval of previously approved results	I3			
Provide the ability to prevent any further modifications to the data once final approval has been completed.	I4			
Provide 3 tier approval – data entry, data validation, data approval based on assigned security rights	I5			

2J. Trending and Statistical Analysis

	REF.	COMPLY	DO NOT COMPLY	Comply With Modification
Be able to trend data based on:				
location	J1			
parameter	J1			
data range	J1			
historical concentration ranges	J1			
Regulatory standards	J1			
At a minimum, be able to perform the following statistical functions:				
Maximum	J2			
Minimum	J2			
Average	J2			
Count	J2			
Standard Deviation	J2			
Allow selection of how “less than” (<) data is treated				
Zero returns 0 in place of < value	J3			
½ entered value returns ½ the value	J3			
Allow selection of how “greater than” (>) data is treated				
blank – no data	J4			

entered value	J4			
preserve > value	J4			
Allow selection of how non-detect data is treated	J5			
Provide graphics capabilities for display and reporting of statistical information	J6			
Produce a variety of charts, plots and maps	J7			
Produce time series graphs	J7			
If the statistical analysis and / or graphics functionality are not part of the standard database package, provide a seamless interface between a recommended product and the operations database	J8			

2K. On-Line Queries

	REF.	COMPLY	DO NOT COMPLY	Comply With Modification
End users shall be able to quickly and easily retrieve logically related data, in an interactive environment, without the need for detailed understanding of data storage and programming techniques	K1			
Provide an easy to use data inquiry facility for efficient retrieval of data based on:				
Sample location	K2			
Result Values	K2			
Date	K2			
Parameter	K2			
Sample type	K2			
Provide a query facility which supports nested query, table joins, and outer join functionality	K3			
Provide standard queries for:				
A specific sample's associated data	K4			
All results for a sample location	K4			
Status of samples	K4			
Query results can be displayed as:				
On the workstation screen	K5			
Sent to a printer	K5			
Saved as an ASCII file	K5			
Saved queries shall be exportable from OBDC drivers	K5			

2L. Information Reporting

	REF.	COMPLY	DO NOT COMPLY	Comply With Modification
Reporting tool includes the following minimal capabilities:				
ODBC compliant	L1			
GUI interface	L1			
Calculations such as total, subtotal, subtraction, addition, multiplication, division, average, maximum, minimum, standard deviation, mean, median and mode	L1			
Cross tab report format	L1			
Format options such as font size and type, page headers and footers, report headers and footers, significant digits	L1			
Capable of merging, text, graphics and charts in one report	L1			
Retrieve and integrate data from the operations database, the LIMS SQL database and Excel spreadsheets	L1			
Create barcharts, trend lines, pie charts with retrieved data	L1			

Provide pre-programmed reports:				
Samples received for a user-specified time frame	L2			
Data results report including comments	L2			
Power usage	L2			
Chemical usage	L2			
Turbidity compliance reports	L2			
Test results out of limits report	L2			
NPDES discharge monitoring report	L2			
Hourly summary report per parameter	L2			
Weekly summary report per parameter	L2			
Yearly summary report per parameter	L2			
Multi-year summary reports	L2			
Duration of any compliance violation (chlorine / turbidity, etc)	L2			
Date compliance violation reported to state	L2			
Duration of exceedence of defined action limits for each location / parameter	L2			
Ability to save reports to disk for submission to EPA	L3			
User definable reports	L3			
Ability to generate reports automatically				
For a predefined schedule	L4			
In response to certain trigger events	L4			
Reports can be e-mailed or faxed from within the operations database	L5			
Supports electronic signatures according to 21 CFR 11	L6			

2M. Minimum data to be collected / calculated in database (note some items may be duplicated in other parts of the checklist)

	REF.	COMPLY	DO NOT COMPLY	Comply With Modification
Water levels (ft)	M1			
Pumpage rate (mgd)	M1			
# filters in service	M1			
Flow through pumps	M1			
Run times for each pump	M1			
Electrical power consumption for pumps, electrical feeders and power demand	M1			
Water temperature for various locations	M1			
Air temperature	M1			
Plant flow for each facility in MGD	M1			
CT for each clearwell	M1			
Minimum disinfectant residual entering distribution systems	M1			
Energy costs	M1			
Run hours per filter	M1			
Flow rates per filter	M1			
Headloss per filter	M1			
Filter effluent turbidity per filter	M1			
Backwash water per filter (gallons)	M1			
Surface wash per filter (gallons)	M1			
Pump number used for backwash	M1			
Backwash pump flow rate	M1			
Average filter run time	M1			
Maximum filter run time	M1			
Minimum filter run time	M1			
Total number of hours filter run time	M1			
Number of filters washed	M1			

Filter to waste duration	M1			
Filter to waste rate	M1			
Filter to waste volume of water	M1			
Total amount of wash water used	M1			
% wash water used	M1			
Filter elevation	M1			
Number of combined filter effluent turbidity measurements	M1			
Filter surface loading rate	M1			

3.0 Interface Requirements

3A. Software Interface

	REF.	COMPLY	DO NOT COMPLY	Comply With Modification
Provide interface for operations database to interface with:				
Sample Master Pro LIMS by Accelerated Technology Laboratories (SQL based)	A1			
_____ SCADA by Bristol Babcock	A1			
HACH Particle Counters Software	A1			
Software interface should preferable be an enterprise “portal”	A2			
Enterprise portal should be configurable per user group	A2			
User group security should be possible	A2			
Portal should provide ability to do reports based on information from various connected databases	A2			
Reports should be e-mailable	A2			
Portal should be able to be accessible by external customers through modem connectivity	A2			
Browser interface preferred	A2			
Real time access to information	A2			

3B. Transferring Information

	REF.	COMPLY	DO NOT COMPLY	Comply With Modification
Uniquely identify each device data is transferred from	B1			
Ability to receive and process data directly from SCADA – especially 15 minute individual filter effluent data	B2			
Ability to receive and process data directly from LIMS	B2			

4.0 Other Functionality

4A. Cost Accounting

	REF.	COMPLY	DO NOT COMPLY	Comply With Modification
As an option the operations database may provide a cost accounting function:				
Ability to associate appropriate accounting codes with treatment chemicals	A1			
Provide a means for tracking costs of pumpage to various customers	A1			
Provide a means for tracking costs of electrical power usage	A1			
Describe all accounting features available with the operations database	A2			

	REF.	COMPLY	DO NOT COMPLY	Comply With Modification
Feature should be able to be turned on and off	A3			

4B. Chemicals

	REF.	COMPLY	DO NOT COMPLY	Comply With Modification
Be able to track the following chemical at a minimum:	B1			
Chlorine in ppm, lbs/MG and lbs/hr	B1			
Chlorine residuals and chlorine target in mg/L	B1			
Ammonia dosage in mg/L, lbs/hr and gph	B1			
Fluoride mg/L	B1			
Copper mg/L	B1			
PACl mg/L, ml/min, lbs/hr and calculate dose	B1			
Lime in lbs/MG, lbs/hr	B1			
Alum – lb/MG, dose per flume	B1			
Total alum used per day in lbs	B1			
Algaecide dose in ppm	B1			
Algaecide dose as Copper in ppm	B1			
Ability to add new chemicals as needed	B2			
Track chemical pump speed and % stroke	B3			
Track chemical tank elevation	B3			
Chemical feed rate (ml/min)	B3			
Amount of chemical received	B4			
Storage location of chemical	B4			
Inventory of chemicals on hand	B4			
Cost of chemicals	B4			
Chemical supplier	B4			
Date chemical ordered	B4			
Amount of chemical ordered	B4			
Estimated chemical delivery date	B4			
Actual chemical delivery date	B4			
Chemical receiver	B4			
Chemical delivery ticket number	B4			
Chemical receiver	B4			
# of chlorine cylinders returned	B4			
Lab tests of treatment chemicals such as:	B5			
% CaCO3 for lime	B5			
% solids for lime	B5			
temperature of lime	B5			
specific gravity of alum and fluoride	B5			
% fluoride	B5			

4C. Pumpage and Flows

	REF.	COMPLY	DO NOT COMPLY	Comply With Modification
Track flows through pumps	C1			
Track peak flow rates	C1			
Run times for each pump (time on, time off, run hours)	C1			
Track water levels of reservoirs and clearwells	C1			
Track flow in MG	C1			
Track pumpage hours per location	C1			
Track KW/MG pumpage power	C1			

	REF.	COMPLY	DO NOT COMPLY	Comply With Modification
Track KW/HR pumpage power	C1			
Track elevation of conduits	C1			
Track elevation of reservoirs	C1			
Track elevation of clearwells	C1			

4D. Basin Discharges

	REF.	COMPLY	DO NOT COMPLY	Comply With Modification
Track date basin is out of service	D1			
Track date basin put back in service	D1			
Track # days between discharges per basin	D1			
Track basin flow	D1			
Calculate amount of sediment discharged	D1			

4E. Personnel Module

	REF.	COMPLY	DO NOT COMPLY	Comply With Modification
Track personnel certification and training	E1			
Provide notification that training is due	E2			

4F. Equipment Maintenance Module

	REF.	COMPLY	DO NOT COMPLY	Comply With Modification
Track instrument calibrations	F1			
Pump calibration information	F2			
Track instrument repairs	F2			
Date of maintenance	F2			
Name of person who performed maintenance	F2			
Type of maintenance performed	F2			
Time required for maintenance	F2			
Schedule routine maintenance	F2			
Inventory of Equipment	F3			
Equipment manufacturer	F3			
Location of equipment	F3			

4G. Portable Data Entry Terminal

	REF.	COMPLY	DO NOT COMPLY	Comply With Modification
As an option the operations database may provide a portable data entry terminal that:				
Used for data collection and entry of field data	G1			
Entries should contain a date/time stamp	G2			
Data is downloaded into the operations database	G2			
Can read barcodes	G3			
All hardware and software is provided	G4			

5.0 Product Support

5A. Technical Support

	REF.	COMPLY	DO NOT COMPLY	Comply With Modification
Provide support for all software products installed by vendor	A1			
Support staff should respond within two (2) to four (4) hours to all calls placed during normal business hours	A1			
Support calls placed after normal business hours or on Saturday and Sunday shall be responded to within four (4) hours on the first regular business day following notification	A1			
One year of support shall be provided with contract	A2			
Support agreement shall be renewable on an annual basis	A2			
Provide a toll-free number for support calls	A3			
Have newsletter and user groups	A4			
Have remote diagnostics	A5			
Have bulletin board / internet support	A5			
Assign an operations database account manager	A6			

5B. Upgrade / Fixes

	REF.	COMPLY	DO NOT COMPLY	Comply With Modification
Functional fixes to software are provided as they are released at no extra cost	B1			
Supply supporting documentation reflecting software modifications	B1			
Provide automatic software upgrades at no cost as long as USACE maintains an active support agreement	B2			
Supporting documentation for software reflecting upgrades and enhancements shall be supplied at no extra cost	B2			
Service packs shall be downloadable from vendor's web site	B3			

5C. Documentation

	REF.	COMPLY	DO NOT COMPLY	Comply With Modification
Provide source code directly or in escrow	C1			
Provide complete hard and soft documentation for the operations database application including:				
Installation instructions	C2			
System administration and maintenance	C2			
Technical reference and user manuals	C2			
Any other manuals relevant to the database application	C2			
Documentation on interfaces	C2			
Simple step-by-step users manual for end users	C3			
Documentation should include system validation to ensure accuracy, reliability and consistent intended performance of the operation database system	C4			

5D. Customization

	REF.	COMPLY	DO NOT COMPLY	Comply With Modification

	REF.	COMPLY	DO NOT COMPLY	Comply With Modification
Populate database with historical data contained in Excel spreadsheets and an Access database	D1			
Development of Customized reports (see included samples)	D2			
Other customizations as needed to fulfill requirements of this specification	D3			

6.0. Training

	REF.	COMPLY	DO NOT COMPLY	Comply With Modification
Provide training on the use of all database and portal application software	1			
Follow-up training to be provided on-site or at regional training centers	2			
Provide all training equipment and materials	3			
Shall coordinate with USACE-WAD regarding the use of facilities if courses are to be held on-site	4			
Courses that include general programming elements shall provide instruction such that the attending student will be capable of programming related software applications and/or modifications without guidance or with minimal supervision	5			
At a minimum the required courses are as follows:				
End User training to instruct thirty (30) End Users in two (2) sessions	5			
Onsite training for three (3) System Administrators	5			
Course outlines are to be submitted	5			

7.0 Installation Services

7A. Services

	REF.	COMPLY	DO NOT COMPLY	Comply With Modification
Vendor shall provide installation and startup services including:				
Loading of required software on Server and Clients	A1			
Creating all necessary custom command files to automatically activate the system upon startup	A1			
System validation	A1			
Population of operations database with historical data from spreadsheets and ACCESS database	A1			
Design and install customized reports	A1			

7B. Documentation

	REF.	COMPLY	DO NOT COMPLY	Comply With Modification
Complete hard and soft copy documentation for the database	B1			
Complete hard and soft copy documentation for the interfaces	B1			
Include user and reference manuals	B1			

8. Functional and Acceptance Testing

8A. Functional Testing

	REF.	COMPLY	DO NOT COMPLY	Comply With Modification
Provide a test plan and perform testing on the system after installation to demonstrate functionality and performance (system validation)	A1			

8B. Acceptance Testing

	REF.	COMPLY	DO NOT COMPLY	Comply With Modification
Acceptance period runs for 90 days as the vendor will provide the following services:				
Telephone assistance to users in operation of the system	B1			
Resolution of deficiencies noted during the functional test and acceptance testing period	B1			
Correction of software failures	B1			
Upon notification of a failure, diagnose and provide fixes, work-arounds to the failed software	B1			
Provide assistance necessary to return system to correct operation	B1			

8C. Final Acceptance

	REF.	COMPLY	DO NOT COMPLY	Comply With Modification
Final acceptance is accomplished by successful functional testing and successful completion of the ninety (90) day test period as determined by USACE-WAD.	C1			

SCOPE OF WORK PART III

SCOPE OF WORK

PART III - QUESTIONNAIRE

Instructions for Completing Questionnaire

The Offeror shall answer the questionnaire following the format provided. Be brief. However, use as many lines as necessary to answer completely.

System and LIMS Information

A. Hardware Compatibility

1. Has the product been tested with and installed on Ethernet networks?

2. Specify any additional equipment or software required to be compatible with the existing network architecture, or to implement instrument interfaces.

B. Relational Database Management System

3. Describe the licensing options for the ODMS including operations database software and enterprise portal software including number of users, type of user (concurrent or named), right-to-copy, and number of hard copies of documentation.

C. Operating Systems

4. Is Windows 2000 server and client software appropriate for your recommended RDMS? If not, list your recommendations.

D. Export Functions

5. List the ASCII format options the product can export data to (ex: Comma delimited, space delimited).

6. List report writer tools that include native interfaces to the product (i.e. do not need to go through an ODBC driver).

E. Front-End Development

7. List the SQL front-end development tools that have been installed and tested with the product.

8. List the SQL front-end development tools that are recommended with the product.

F. Report Writer

9. List report writer tools that have been tested with the product.

10. List manufacturer, product name and version for recommended report development tool to satisfy Information Reporting requirements.

G. Statistical Analysis and Graphics

11. Please describe the Statistical Analysis and Graphical functionality provided.

H. ODMS Interfaces with Other Products

12. List Offeror and third party Word Processing and Spreadsheet products with which the ODMS has interfaces.

13. Can your product communicate with other software with or without the aid of other products such as Lotus Notes?

I. Product Support

14. Please describe your product support options, including response times, days available each week, and what support is provided.

15. Are there user groups for your products? If so, where? How often do they meet?

16. What is your process for identifying and setting priorities on enhancements and fixes?

17. What is the frequency of new releases? What is the estimated time in person hours required to upgrade to new releases?

18. Please provide description and recommendations for product/staff training including which types for users, administrators and support staff, and how many days each.

J. Offeror Information

19. How long has your company been in business selling the proposed type of system?

20. What is the address of your office supporting the LIMS?

21. How many professional personnel are dedicated to the ODMS?

Research and development:

Software support:

22. How many customers have the proposed ODMS software installed?

23. What is the profile of your customer base (i.e. what % are water utilities, wastewater utilities, commercial, etc.)?

24. Please provide a list of at least water treatment plant customers who have the same system as you are proposing.