

4.5 PSP Cover Sheet (Attach to the front of each proposal)

Proposal Title: IMPROVE DPR, DATABASE PJR
Applicant Name: EMCON
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Amount of funding requested: \$ 204,753 for 2-3 years

Indicate the Topic for which you are applying (check only one box).

- Fish Passage/Fish Screens
- Habitat Restoration
- Local Watershed Stewardship
- Water Quality
- Introduced Species
- Fish Management/Hatchery
- Environmental Education

Does the proposal address a specified Focused Action? yes no

What county or counties is the project located in? CAL FED BAY-DELTA WATERSHED

Indicate the geographic area of your proposal (check only one box):

- Sacramento River Mainstem
- Sacramento Trib: _____
- San Joaquin River Mainstem
- San Joaquin Trib: _____
- Delta: _____
- East Side Trib: _____
- Suisun Marsh and Bay
- North Bay/South Bay: _____
- Landscape (entire Bay-Delta watershed)
- Other: _____

Indicate the primary species which the proposal addresses (check all that apply):

- San Joaquin and East-side Delta tributaries fall-run chinook salmon
- Winter-run chinook salmon
- Late-fall run chinook salmon
- Delta smelt
- Splittail
- Green sturgeon
- Migratory birds
- Other: _____
- Spring-run chinook salmon
- Fall-run chinook salmon
- Longfin smelt
- Steelhead trout
- Striped bass
- All chinook species
- All anadromous salmonids

Specify the ERP strategic objective and target (s) that the project addresses. Include page numbers from January 1999 version of ERP Volume I and II:

To develop a long term comprehensive plan that will restore ecological health and improve water management for beneficial uses of the Bay-Delta System.

**DEPARTMENT OF PESTICIDE REGULATION
PESTICIDE USE REPORT DATABASE MIGRATION
TO DATABASE SERVER AND INTERNET ACCESSIBILITY**

Primary contact:

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Type of Organization and Tax Status:

Corporation

Tax Identification Number:

94-1738964

Executive Summary

This proposal outlines a program to improve access to the Pesticide Use Report (PUR) database maintained by the California Department of Pesticide Regulation (DPR). This will be accomplished by migrating the existing database into a database server and making it accessible over the Internet. By improving access to the database and making it more user-friendly, important information can be made readily available to pesticide users. This will help in the reduction and/or control of agricultural point and nonpoint sources of high concentrations of pesticides. A reduction in the amount of pesticides applied, and changes in the types of pesticides used and in their methods of application will reduce the amount of pesticides entering the Bay-Delta.

The primary ecological goal of this proposal is the reduction of pesticide concentrations entering the waters of the Bay-Delta, leading to an improvement in the overall water quality of the Bay-Delta. This project will help the CalFed Bay-Delta program's overall objectives "to develop a long-term comprehensive plan that will restore ecological health and improve water management for beneficial uses of the Bay-Delta system." The database is currently maintained by the DPR for use throughout California, therefore the entire Bay-Delta region benefits from this proposal.

EMCON is an integrated environmental management services company that has been providing comprehensive engineering, consulting, and construction services in solid and hazardous waste management since 1971. Our firm's technical specialists, including geologists and hydrogeologists; chemists; chemical, environmental, civil, and mechanical engineers; toxicologists; and industrial hygienists, serve a diverse clientele in both the public and private sectors. Water quality issues are an important aspect of the consulting services provided by EMCON. A subsidiary of EMCON, e-COM Solutions is an integrator of Internet technologies. The staff consists of an experienced team with qualifications and technical expertise in application development, database design & development, network design and management, and operating systems. Through this combination of extensive water quality knowledge and Internet technologies, EMCON is uniquely qualified to provide the services described in this proposal.

Data will be collected from the database itself and from the web site operated by the California Department of Water Resources on pesticide concentrations in the Bay-Delta. The proposed database will have the ability to monitor itself for the purposes of reporting on usage. No additional data collection is required for this project, making it cost effective to collect data and monitor the effectiveness of the proposed program in reducing pesticide concentrations in the Bay-Delta ecosystem.

EMCON will contact the DPR and the appropriate County Agricultural offices to discuss the project (if awarded). Based on discussions with this initial group, EMCON will develop a list of other appropriate agencies and entities for contact to provide input and comments on the database project approach and analysis findings.

Third party impacts are minimal, since no land acquisition or land modification is involved. However, users will need to learn how to use the improved database. One third party benefit would come with the ability to file required forms on-line, leading to lower administrative costs.

Costs: \$204,753

Details are included within the following text and attached Table.

Project Description

This proposal outlines a program that will help reduce and/or control agricultural point and nonpoint sources of high concentrations of pesticides. A wide variety of pesticides including herbicides, fungicides, algacides and other toxic materials enter the aquatic environment of the Bay-Delta through agricultural drainage. A reduction in the amount of pesticides applied, and changes in the types of pesticides used and in their methods of application will reduce the amount of pesticides entering the Bay-Delta. Specifically, by using the Internet to improve access to the existing DPR PUR database, ecologically damaging levels of pesticide inputs to the waters of the Bay-Delta can be prevented, controlled, or reduced.

Proposal Goal: Reduction in pesticide concentrations and loadings in the waters of the Bay-Delta, and the mainstem rivers and tributaries entering the Bay-Delta.

Proposal Benefits: An improvement in the overall water quality of the Bay-Delta waters and thus improved productivity and survival rates for the fish and wildlife within the Bay-Delta ecosystem.

Proposal Question: Will a more accessible pesticide use database encourage users to apply pesticides in a more conservative manner?

Proposed Scope of Work

EMCON's scope of services proposes to migrate the PUR database currently maintained by the DPR into a database server and make it accessible over the Internet. This system will also include a mapping server to handle requests to map the data retrieved from the database by the user. The improved database will provide easy accessibility for agricultural growers to file on-line monthly pesticide use reports, Notices of Completion, and Notices of Intent as required by the DPR. The proposed project will require the following tasks:

1. Investigate the current Internet/Intranet infrastructure available for use by the new system, as well as an in-depth analysis of the projected usage.
2. Investigate the mapping products available including an analysis of their suitability, effectiveness, and cost.
3. Design and implement improvements to the PUR database for server migration.
4. Design and implement the user interface and web site.
5. Integrate the mapping software into the new system.
6. Monitor the use of the database server.

Task 1 Infrastructure/Usage Analysis - EMCON will evaluate the current network infrastructure to determine its suitability for the new environment. Several issues will be carefully addressed once this analysis is complete. For example, bandwidth utilization will increase dramatically once the mapping capability has been added to the system. Since the efficiency of a database server is dependent on several variables such as the number of concurrent users, query complexity, and the numbers and details of maps requested by the users, a usage analysis will be required. EMCON expects to propose that an updated infrastructure should be implemented on the basis of the results of these analyses.

Task 2 Mapping Product Analysis - EMCON will complete an in-depth analysis of the various mapping applications available from ESRI, Autodesk, Intergraph, Maptitude, and others to make sure that the final solution best meets the requirements of the DPR and the PUR database. EMCON will include input on required mapping capabilities from the DPR and others, such as Bay-Delta watershed

groups or county agricultural members, to accomplish the stated goal of this proposal. The analysis will include costs, integrated functionality, suitability for stated goal, scalability, and flexibility of output.

Task 3 Design and Implement Improvements to the PUR Database to Enable Server Migration - The DPR has already developed the content of the PUR database. However, EMCON proposes that the best overall database design must take into account the requirements of the mapping software and the scalability requirements of Internet users. EMCON will use information gathered from Tasks 1 and 2 to investigate the existing system and propose an updated design for implementation.

An important part of the web page will be an introductory "Fact Sheet for users". This Fact Sheet will inform users about the ways that specific pesticides can be harmful to the ecosystem and the species that live there. For example, the Fact Sheet might state: "*Newly hatched and young striped bass, delta smelt, Chinook salmon, and other species of fish within the Suisun Bay and the Delta feed almost exclusively on zooplankton. Research has shown that an increased abundance of zooplankton may improve the survival and growth of fish larvae. However, the life cycle and viability of zooplankton are adversely affected by pesticides.*" Another Fact Sheet might state: "*Did you know that by limiting spraying fumigants for rodents in California Red-legged Frog habitat areas would improve this Bay-Delta species chance for survival?*"

Task 4 Design User Interface and Task 5 Map Integration - EMCON will develop a straightforward user interface that makes sense to people who are not familiar with databases. We will use a "natural language query engine" that accepts typical English language input so that users need not understand the underlying database structure to generate useful queries. For example, a user might request "All pesticides used in levee right-of-ways." or "Quantity of alkylaryl polyoxyethylene ethanol used on alfalfa crops in the Sacramento River area". The output will be viewable on-line and can be downloaded for use outside the system. Once the map integration is completed, the output can also be applied to a thematic map, with relevant data graphed appropriately. An inherent issue is that the current database location data is not stored in longitude/latitude form, which is a common method of presenting map request information. However, according to Mr. Larry Wilhoit of the DPR, a converter has already been created to handle the issue. EMCON assumes that the converter will be made available for the implementation of the new system.

Task 6 Monitor the use of the database server - EMCON proposes to monitor the progress of the stated proposal goal: *Reduction in pesticide concentrations and loadings in the waters of the Bay-Delta, and the mainstem rivers and tributaries entering the Bay-Delta* by providing methods to answer the stated Proposal Question: Will a more accessible pesticide use database encourage users to apply pesticides in a more conservative manner? Use of the database server will be monitored in the following ways:

- Include a user survey to ask questions such as "Has using the data made available by this web site allowed you to use pesticides more appropriately?" "Have you gained knowledge as to how to use or limit your pesticide use to be more environmentally friendly?"
- The server will be set up to allow the database manager to calculate the number of users per month, etc. This information will be compared to the amount of pesticides used (from forms filled out by the users) to note progress towards the project goal.

Tasks and Deliverables

TASKS	DELIVERABLES
1 Infrastructure / Usage Analysis	<ul style="list-style-type: none">• Report on the state of the current infrastructure• Submit Implementation Proposal
2 Product Analysis	<ul style="list-style-type: none">• In-depth analysis of popular mapping• Submit Implementation Proposal
3 Database Improvement Design /Implementation	<ul style="list-style-type: none">• Design proposal• Implementation of improved design with customer concurrence
4 User Interface Design and Implementation	<ul style="list-style-type: none">• Initial design for review• Implementation of test site• Implementation of production site
5 Mapping Software Integration	<ul style="list-style-type: none">• Integrate mapping system
6 Monitor Database Users	<ul style="list-style-type: none">• Submit report with statement of estimated achievement of the project goal(s)
Review / sign off	<ul style="list-style-type: none">• Review of documentation• Formal sign-off document

Project Phases and Timetables

Please review Figure 1 for detail regarding the schedule for the proposed project.

Project Management

The proposed scope of work will be managed by Ms. Barbara Heinsch, of the Sacramento EMCON office. Ms. Heinsch will handle all interaction with CalFed regarding project management, such as resources allocated, detailed project plans, change control, etc. Ms. Heinsch will direct all work efforts by EMCON and e-Com.

Project Priority

The investigation stages of the project (Tasks 1 and 2) are required to ensure an appropriate understanding of the existing database and information management system needs. Proposals to upgrade the infrastructure (as a result of Task 1), and any design upgrade recommendations (Tasks 2 and 3) will be provided to CalFed with an outline of potential cost/benefits. This cost/benefit assessment will show where upgrades are critical to improve performance levels or stability of the system, and will also show optional upgrades and resulting additional features. If critical upgrade improvements are not addressed, CalFed and EMCON will have the opportunity to decide whether the work should proceed given the resultant expected performance levels or stability of the final product. All other phases of this project are required for a successful solution.

Location of Geographic Boundaries of the Project

The PUR database is maintained by the DPR, located in Sacramento, California. The database is meant for use within California by the state's counties and other state agencies as applicable. Thus, the geographic boundaries for this project encompass the entire Bay-Delta region (see Figure 2).

Ecological/Biological Benefits

The ecological and biological benefits outlined for this proposal were taken from the two volumes comprising the February 1999 Revised Draft of the Ecosystem Restoration Program Plan (ERPP) distributed by the CalFed Bay-Delta Program and Pesticide Use Reporting An Overview of California's Unique Full Reporting System prepared by the Information Systems Branch of the DPR.

The primary ecological goal of this proposal is *Reduction in pesticide concentrations and loadings in the waters of the Bay-Delta, and the mainstem rivers and tributaries entering the Bay-Delta. The primary ecological and biological benefits of this proposal are: An improvement in the overall water quality of the Bay-Delta waters and thus improved productivity and survival rates for the fish and wildlife within the Bay-Delta ecosystem.* Thus, this project will help achieve the **CalFed Bay-Delta program's overall objectives** "to develop a long-term comprehensive plan that will restore ecological health and improve water management for beneficial uses of the Bay-Delta system."

A restored, healthy Bay-Delta ecosystem would have contaminant levels reduced to the point that primary and secondary productivity, nutrient cycling, and foodweb health are not inhibited. **System-wide ecosystem benefits and Linkages** to the ERPP are stated throughout the following text.

The most serious contamination problems in the waters of the Bay-Delta come from agricultural drainage, mine drainage, and urban runoff. Agricultural drainage can contain a wide variety of pesticides including herbicides, fungicides, algacides and other toxic materials, many of which adversely affect the Bay-Delta ecosystem. Pesticides by design are intended to kill living organisms; this is accomplished by disrupting chemical pathways, destroying the ability to build cells and/or enzymes, and by altering hormonal levels. A reduction in the amount of pesticides applied, and potential changes in the types of pesticides used and in their methods of application, will reduce the amount of pesticides entering the Bay-Delta. This proposal outlines a program that will help reduce and/or control agricultural point and nonpoint sources of high concentrations of pesticides. Specifically, by using the Internet to improve access to the existing DPR PUR database, ecologically damaging levels of pesticide inputs to the waters of the Bay-Delta can be prevented, controlled, or reduced.

This proposal implements an ecosystem-based approach through the management of human activities to provide for adequate future water quality. Through adaptive management, decisions will be made throughout the implementation process to incorporate improvements and changes based on knowledge gained from each task performed. The different species and habitats of the Bay-Delta are interconnected and will be best served by processes that take into account the complexity of the ecosystem. By controlling the concentrations of pesticides that enter the Bay-Delta, water quality will improve, which will in turn contribute to a healthier, more productive aquatic foodweb. Organisms at the base of the foodweb, such as zooplankton and their algal food supply, are essential for the survival and productivity of a wide variety of Bay-Delta species. Productivity at the base of the foodweb has been declining throughout the Delta and northern San Francisco Bay. This decline has been accompanied by declines in several species and trophic groups, such as mysids and longfin smelt.

It has been determined that the effects of pesticide contamination is one of the causes of the decline of plankton populations, and while solving the problem of declining foodweb productivity is a complicated task involving the integration of social, economic, and environmental components, programmatic actions that result in the reduction of pesticide concentrations and loadings in the sediments and water of the Central Valley can contribute to attaining the targets for a healthy Bay-Delta aquatic foodweb. (page 101, ERPP Vol I).

Since deterioration of organisms at the base of the foodweb is a problem that affects the Bay-Delta ecosystem at all trophic levels, enhancing the ecosystem in ways that will lead to increased algae and zooplankton abundance may be a critical point in the restoration of the Bay-Delta. For example, Suisun Bay and the Delta are used as nurseries for striped bass, delta smelt, Chinook salmon, and other aquatic species. The young of these species feed almost exclusively on zooplankton, and research has shown that an increased abundance of zooplankton may improve the survival rate and growth of fish larvae. In the long-term, if foodweb productivity cannot be restored to levels that adequately support organisms at higher trophic levels, the planned restoration of Bay-Delta species of all priority groups will be limited. Thus, programmatic actions that contribute to an overall improvement in water quality, such as the wise use of pesticides, should lead to an improvement in the health of the entire Bay-Delta ecosystem.

The strategic objectives for reducing or eliminating contaminant stressors, such as pesticides, are outlined on page 421 of the ERPP, Vol I. They include reduction of the concentrations and loading of contaminants in all aquatic environments in the Bay-Delta watershed, development of regional plans to reduce the effects of non-point source contaminants, and reduction of contaminant loads in harvested fish. The basis for contaminants being selected as an ecosystem element is that contaminants affect water quality and the survival of fish, waterfowl, and the aquatic foodweb.

Habitats that will benefit from this proposal include riparian communities, seasonal wetlands, and inland dune scrub. Riparian communities can be adversely affected by the overspray of herbicides, and the modification of herbicide application can improve riparian community health. The extent and quality of seasonal wetlands has declined because of the cumulative effects of many factors, one of which is contamination from herbicides. To improve the quality of seasonal wetlands, the effects of stressors, such as herbicides, need to be reduced. Native dune vegetation and wildlife are adversely effected by the use of herbicides, pesticides, and fertilizers, and restoration of this habitat will be enhanced through a reduction of these contaminants.

In addition to enhancement of the restoration of various habitats, the reduction of pesticide inputs to the Bay-Delta would directly and indirectly affect most species in a positive manner. Many pesticides decompose very slowly, may remain in the environment for long periods, and can accumulate in aquatic foodwebs to levels that are toxic. Green sturgeon are long lived and may concentrate pollutants in body tissues from eating contaminated prey over long periods. Green sturgeon would directly benefit from actions to reduce pollutant input to streams and rivers in the Sacramento-San Joaquin River basin.

The use of herbicides and rodenticides degrade many habitats and lead to increased mortality for species such as the giant garter snake, the western pond turtle, the California red-legged frog, the western spadefoot toad, and the California salamander. A major factor that limits the Swainson's hawk's contribution to the health of the Bay-Delta is the adverse effects on reproduction of toxic pesticides that have accumulated in the foodweb over time. Reproduction has declined in part due to thin eggshells from pesticide residues. Reduced pesticide use, which would reduce the concentrations of pesticides in agricultural runoff, can contribute to the restoration of this species.

Water quality in the Delta must be protected and improved for all beneficial uses including municipal and domestic water supply, irrigation, stock watering, contact and noncontact water-related recreation, hydroelectric power generation, industrial service supply, warm and cold freshwater habitats, warmwater and coldwater spawning, fish migration, and wildlife habitats. Since pesticides can have adverse effects on human health, the wise use of pesticides should have positive human health benefits in addition to the environmental benefits outlined above. As a third party benefit, Internet access to the PUR could

contribute to reduced agriculture costs as the need to manually process, handle, and mail pesticide use reports is reduced, and possibly eliminated.

This project does not conflict with any non-ecosystem objectives of CalFed.

Third parties such as water supplies and water consumers would benefit from this proposal as improved water quality is a benefit to all Bay-Delta water users.

Technical Feasibility and Timing

Other alternatives for this project were not considered as the proposed scope of services includes an analysis of the database infrastructure prior to developing an approach to the database server migration. Thus, alternatives for improvements to the databases are part of the proposed scope of services.

The proposed scope of services was formulated with the intent that it will be compatible with current industry standards and with standard components and features. Implementation should be straightforward, unless it is determined that the current infrastructure requires substantial upgrades to support the new system or it becomes difficult to achieve consensus among agency participants on implementation approach. The effort required to upgrade the infrastructure, if required, will be sized appropriately and the costs will be estimated as part of the separate proposal.

This solution is time-critical only in allocation of resources. If notification of acceptance of the proposal were delivered at a much later date than the specified time frame of award notification of July 15th, there may be a short delay as resources are identified and allocated to the project.

No CEQA, NEPA, or other environmental compliance documents is anticipated as being required for this project.

Outstanding implementation issues may include obtaining regulatory agency(ies) consensus regarding what services should be provided on the Internet accessible database and on data confidentiality issues.

Monitoring and Data Collection Methodology

This proposal question/hypothesis is: Will a more accessible pesticide use database encourage users to apply pesticides in a more conservative manner. This, in turn, should reduce the amount of pesticides entering the Bay-Delta ecosystem through agricultural runoff. The PUR database is currently collecting data from pesticide users as part of California's full pesticide use reporting program. These data include the name of the pesticide applied, when and where the pesticide was applied, the application method (i.e., air, ground), the commodity or crop treated, the number of acres or units treated, the number of acres or units planted, the number of pesticide applied. These data will be collected from the database and evaluated to determine if pesticide use per acre or unit has increased, decreased, or remained the same over the previous year. Reporting will be handled by a report generator, capable of producing specialized reports on an as needed basis by the system administration group.

Additionally, data will be collected from the California Department of Water Resources web site which contains information on pesticide concentrations in the Bay-Delta waters and sediment. It is anticipated that this will be done yearly, although a number of years of data may be needed to evaluate trends in sediment and water quality.

The database will be designed to have the ability to monitor itself for the purposes of reporting usage trending and analysis. These data will be used to make adjustments to the database based on user feedback and usage patterns. No additional data collection is required for this project. This data collection methodology will be a cost effective way to collect data and monitor the effectiveness of the proposed program in reducing pesticide concentrations in the Bay-Delta ecosystem.

See the attached table for monitoring details.

Local Involvement

The Sacramento County Board of Supervisors and Planning Department has been notified in writing of the proposed project. A copy of the letters is included as Attachment A. In addition, EMCON has spoken with Mr. Larry Wilhoit of the DPR regarding our intent to submit a proposal for the Ecosystem Restoration Califed Bay-Delta program.

No landowner, facility owners, or facility operators will be affected by this project since it is associated with a computerized database and does not involve any specific geographic location.

Third party impacts are unlikely based on geographical location, since no land acquisition or land modification is involved. However, once the database changes are made, some impacts may occur to third parties that are currently using the existing PUR database, since users will need to learn how to use the improved database.

A plan for public outreach

EMCON will contact the DPR and the appropriate County Agricultural offices to discuss the project (if awarded). Based on discussions with this initial group, EMCON will develop a list of other appropriate agencies and entities for contact to provide input and comments on the database project approach and analysis findings. A comment period will be identified, after which time EMCON will review comments received with the DPR. Comments will be summarized and those with potential to substantially alter the planned system design and implementation will be addressed appropriately with the DPR.

Once the database has been successfully migrated into a server for Internet use, EMCON will prepare a flyer for distribution to potential users via e-mail, fax, and/or mail throughout California.

Cost: \$204,753

Details are included within the attached Table.

Costs do not include potential hardware and software requirements for proposed upgrades, or system software required for implementation, as these will be dependent on the outcome of the investigation phase of the project.

The Project Management Task includes costs associated with tracking accomplishment of a specific tasks including inspection of work in progress, validation of costs, preparation of periodic reporting requirements, response to project specific questions and project oversight.

Our overhead and indirect costs do not exceed 25 percent of direct salary and benefits. We do charge a 3 percent fee based on labor for communications.

See the attached schedule for proposed task completions.

Cost-sharing

No funding commitments or cost sharing is associated with this proposal.

Applicant Qualifications

EMCON is an integrated environmental management services company that has been providing comprehensive engineering, consulting, and construction services in solid and hazardous waste management since 1971. Since its founding in San Jose, California, EMCON has grown to include nearly 1,000 professionals (including its wholly-owned subsidiaries and joint-venture partner) in over 60 offices throughout the U.S. Our firm's technical specialists, including geologists and hydrogeologists; chemists; chemical, environmental, civil, and mechanical engineers; toxicologists; and industrial hygienists, serve a diverse clientele in both the public and private sectors.

Barbara Heinsch, Project Manager. Ms. Heinsch, an Environmental Scientist, has experience in both the water quality and solid waste fields. At EMCON, she serves as a project manager for water quality and solid waste management planning and permitting projects. She has acted as project manager for several large projects involving personnel and data management, project scheduling and budgets, and preparing project reports for regulatory and client review. At EMCON she also tracks environmental legislation and regulations; analyzes water quality and soil data; performs statistical analyses, and trains clients on statistical applications. Past experience includes working for the California State Department of Water Resources, which involved conducting water quality sampling and testing throughout the Sacramento-San Joaquin Delta area, compiling and analyzing water quality data for environmental reports, and analyzing and writing data summary reports. Ms. Heinsch also worked for a non-profit agency managing contracts with field agencies who provide training and technical assistance to rural communities on water and wastewater issues, developing resource materials, preparing guidance documents and conducting training sessions.

Linda Micale, Project Coordinator. Ms. Micale has over 14 years of experience working with regulatory agencies and other clients to evaluate the impacts of applicable requirements, identify workable compliance options, and develop mechanisms to assess ongoing compliance and performance. In the last several years, Ms. Micale has directed complex projects that involve the development and implementation of highly functional electronic tools to assess regulatory thresholds and reporting requirements, as well as to serve as management tools for ongoing compliance. She represents EMCON's Facility Services Division nationally on our company's Electronic Management Information Systems Task Force. She has successfully worked for over 30 major clients on more than 150 projects. Prior to joining EMCON, Ms. Micale owned and operated a successful firm that specialized in developing electronic applications for environmental planning, reporting, training, permitting, and compliance management. Ms. Micale has a Master of Science degree in Renewable Natural Resources from the University of Arizona and has published several articles on environmental management.

Elizabeth Fernandez, Data Quality Control Coordinator. Ms. Fernandez is an Environmental Scientist with more than 12 years of experience and practice in the environmental industry. She is actively involved in water quality assessments for CERCLA and RCRA compliance at industrial sites and Subtitle D and state specific requirements for detection and assessment monitoring at landfill sites. As part of this assessment, her work includes database management, statistical evaluation, oversight and coordination of sample collection and chemical analysis. Her data management experience includes using Microsoft WORD, Microsoft EXCEL, and GIS\Key environmental data management software. Her GIS\Key database management experience includes importing chemistry data using Foxpro and Microsoft EXCEL from electronic deliverables provided by analytical laboratories, and providing tabular and graphical outputs. Her experience with analytical methods and quality control requirements allows her to perform data validation before databases are constructed and assessments are performed.

Lisa Haas, Regulatory Review. Ms. Haas has been involved in research and assessment of environmental contaminants and environmental protection measures since 1981, focusing primarily on analysis, interpretation, and communication of environmental regulatory requirements and management of large complex projects. Her regulatory expertise is combined with a strong scientific background in pollution control and hazardous waste management. Her national regulatory perspective includes 17 years of work experience from locations across the United States. As the national Regulatory and Electronic Information Services Director for EMCON, Ms. Haas works across the country to provide expertise on management of large projects, regulatory issues, electronic information transfer, and client service. She is responsible for keeping staff and clients on the leading edge of environmental regulatory issues through internal communication networks, writing and distributing the *EMCON Reporter*, and developing regulatory training materials for use throughout the company. Ms. Haas also manages EMCON's Regulatory Analysis and Summary Service for clients, EMCON's Internet site, and use of web technology to serve client interests.

e-COM, a subsidiary of EMCON. e-Com Solutions is an integrator of Internet technologies. The staff consists of an experienced team of project managers; I/T (Internet Technology) architects; database programmers; application programmers; creative designers; content designers; network engineers; logistics consultants; and education directors. e-Com's qualifications and technology expertise areas include, but are not limited to, application development; database design & development; network design and management; operating system expertise; creative services; software training and experience; and hardware product line experience.

Chris Hoover, Chief Technical Officer. Mr. Hoover brings 15 years of experience in Software Engineering primarily in process automation and control and network communications. He managed software programming teams at Honeywell Building Services center and was the America's Technical Channel Manager and Principle Consulting Engineer for Banyan Systems. His integration projects have included national building automation and monitoring, automation of shipping and warehousing, and Internet security projects. He is a Certified Banyan Engineer with expertise in Novell IntraNetware, Banyan VINES, Banyan ENS for Unix (SCO, HP-UX, IBM AIX, Sun Microsystems Solaris), Banyan StreetTalk for NT, and Microsoft NT.

Dan Golding, Senior Systems Engineer. Mr. Golding is a Microsoft-Certified Systems Engineer with an extensive background in Network Engineering and Administration. He has served as a Manager of Operations and Engineering/Information Technology where his technical duties included Level 3 Support for SQL Database Applications, oversight of WAN architecture, and troubleshooting NT server issues. He offers expertise in Internet and TCP/IP connectivity, WANs involving ISDN and Frame Relay, Ascend Routers, RAID arrays, Multiple Domain security models, DNS/WINS configuration, and Proxy Server/Firewall implementation. He has specific experience in constructing multi-state WANs with Frame Relay and ISDN links that connect smaller LANs to a primary corporate network.

David Greenwell, Implementation Program Manager. Mr. Greenwell has 20 years of experience in PC based networking technology. Primarily focused in the last 9 years on Banyan's network solutions, Mr. Greenwell has extensive experience with medium to very large LAN/WAN environments supporting protocols such as VINES IP, TCP/IP, IPX and NetBeui, remote ASYNCH and PPP, HDLC, X.25, SNA, and Mini/Mainframe connectivity. He managed retail operations and created/directed a new corporate/end-user Technical Assistance Center for CompuShop. As a District Support Manager at Banyan, he was responsible for the Southeast district Systems Consultants and a Technical Trainer.

Compliance with Standard Terms and Conditions

EMCON's Risk Management Department reviewed the "CALFED BAY-DELTA PROGRAM Ecosystem Restoration Projects and Programs, February 1999, Proposal Solicitation Package" and find that while most provisions are acceptable in their entirety, we reserve the right to negotiate and propose modifications to limited portions of the Contract including but not limited to clauses relating to the "Standard of Professionalism" and "Indemnity." The proposal for modifications to contract language reflect fair risk allocations for the services to be provided and environmental industry standards for consultants on these issues. Additions are indicated by underscore and deletions by strike-through.

Attachment D Terms and Conditions for State (CALFED) Funds

7. **Standard of Professionalism:** Contractor shall conduct all work consistent with the professional standards for the industry and type of work being performed under the contract at the time services are performed subject to any limitations established by Client as to degree of care, time or expense to be incurred or other limitations of this Contract.

9. **Indemnification:** The Contractor agrees to indemnify, defend and hold harmless the CALFED agencies, the State of California, the Resources Agency, Department of Water Resources, and National Fish and Wildlife Foundation and their officers, agents and employees from any and all claims and losses to the extent that such claims and losses accrue accruing or resulting to any or all contractors, subcontractors, material persons, laborers, and any other person, firm or corporation furnishing or supplying work services, materials or supplies in connection with the breach of contract, willful misconduct or negligent performance of this contract, and to the extent from that such claims and losses accrue accruing or resulting to any person, firm or corporation who may be injured or damaged by the Contractor in the due to the breach of contract, willful misconduct or negligent performance of this contract.

**(Table 2 in Proposal Solicitation)
 Improve DPR PUR Database, CalFed Bay-Delta Program
 Ecosystem Restoration Projects and Programs**

I) Biological/Ecological Objectives			
Reduce the amount of pesticides entering the Bay-Delta ecosystem through agricultural runoff.			
Hypothesis/Question to be Evaluated	Monitoring Parameter(s) and Data Collection Approach	Data Evaluation Approach	Comments/ Data Priority
Will a more accessible pesticide use database encourage users to apply pesticides in a more conservative manner	Data will be collected from the database and evaluated to determine if pesticide use per acre or unit has increased, decreased, or remained the same over the previous year.	Reporting will be handled by a report generator, capable of producing specialized reports on an as needed basis by the system administration group	Data will also be collected from the CA DWR web site which contains information on pesticide concentrations in the Bay-Delta waters and sediment.
Will a more accessible pesticide use database encourage users to apply pesticides in a more conservative manner	Conduct user surveys	Questions regarding use of pesticides, gained knowledge of pesticides impact to the Bay Delta will be asked via a survey on the Internet.	These questions will be aimed at finding out if participants still are applying the knowledge gained from the fact sheets and information provided on the Internet..

**(Table 2 in Proposal Solicitation)
 Improve DPR PUR Database, CalFed Bay-Delta Program
 Ecosystem Restoration Projects and Programs**

I) Biological/Ecological Objectives			
Reduce the amount of pesticides entering the Bay-Delta ecosystem through agricultural runoff.			
Hypothesis/Question to be Evaluated	Monitoring Parameter(s) and Data Collection Approach	Data Evaluation Approach	Comments/ Data Priority
Will a more accessible pesticide use database encourage users to apply pesticides in a more conservative manner	Data will be collected from the database and evaluated to determine if pesticide use per acre or unit has increased, decreased, or remained the same over the previous year.	Reporting will be handled by a report generator, capable of producing specialized reports on an as needed basis by the system administration group	Data will also be collected from the CA DWR web site which contains information on pesticide concentrations in the Bay-Delta waters and sediment.
Will a more accessible pesticide use database encourage users to apply pesticides in a more conservative manner	Conduct user surveys	Questions regarding use of pesticides, gained knowledge of pesticides impact to the Bay Delta will be asked via a survey on the Internet.	These questions will be aimed at finding out if participants still are applying the knowledge gained from the fact sheets and information provided on the Internet..

Total Budget
(Table 3 in Proposal Solicitation)
DPR PUR Database Migration to Database Server and Internet Accessibility
CalFed Bay-Delta Program
Ecosystem Restoration Projects and Programs

Task	Direct Labor Hours	Direct Salary and Benefits [1]	Service Contracts	Material and Acquisition Costs	Miscellaneous and Other Costs	Overhead and Indirect Costs [2]	Total Cost per Task in bold
Task 1 - Investigate Infrastructure/Usage Analysis			N/A	N/A			\$53,966
Conduct Infrac. Analysis	120	\$16,080				\$482	\$16,562
Conduct Usage Analysis	80	\$10,720				\$322	\$11,042
Summarize Findings	140	\$18,760				\$563	\$19,323
Proj. Mgmt. Task *	51	\$6,834				\$205	\$7,039
Task 2 - Mapping Product Analysis			N/A	N/A			\$23,808
Conduct Analysis	100	\$13,400				\$402	\$13,802
Summarize Findings	50	\$6,700				\$201	\$6,901
Proj. Mgmt. Task *	22.5	\$3,015				\$90	\$3,105
Task 3 - Design and Implt. Imprvmts for Server Migration			N/A	N/A			\$57,140
Design Improvements	120	\$16,080				\$482	\$16,562
Implement Improvements	180	\$24,120				\$724	\$24,844
Develop Fact Sheet for Web Page	60	\$8,040				\$241	\$8,281
Proj. Mgmt. Task *	54	\$7,236				\$217	\$7,453
Task 4 -Design User Interface			N/A	N/A			\$31,745
Develop interface	80	\$10,720				\$322	\$11,042
Incorporate Interface	120	\$16,080				\$482	\$16,562
Proj. Mgmt. Task *	30	\$4,020				\$121	\$4,141

Total Budget
(Table 3 in Proposal Solicitation)
DPR PUR Database Migration to Database Server and Internet Accessibility
CalFed Bay-Delta Program
Ecosystem Restoration Projects and Programs

Task 5 - Map Integration			N/A	N/A			\$12,698
Integrate Map	80	\$10,720				\$322	\$11,042
Proj. Mgmt. Task *	12	\$1,608				\$48	\$1,656
Task 6 - Monitor Use of the database server			N/A	N/A			\$25,396
Develop user survey related to knowledge gained	40	\$5,360				\$161	\$5,521
Monitor database use [3]	120	\$16,080				\$482	\$16,562
Proj. Mgmt. Task *	24	\$3,216				\$96	\$3,312

TOTAL ALL TASKS \$204,753

[1] = Billing rate of \$134/hr

[2] = 3 % fee on labor

[3] = 30 hours start up costs and then average of 3 hours/month effort for 30 months
(after database server is up and running, through June 2002)

* Project management includes local involvement and monitoring of project tasks, schedule, and budget (15 % of total labor)

Quarterly Budget
(Table 4 in Proposal Solicitation)
DPR PUR Database Migration to Database Server and Internet Accessibility
CALFED Bay-Delta Program
Ecosystem Restoration Projects and Programs

Task	Quarterly Budget	Total Budget				
	Oct -Dec 99	Jan-Mar 00	Apr-Jun 00	Jul-Sep 00	Oct -Dec 00	
Task 1 - Investigate Infrastructure/Usage Analysis	\$53,966					\$53,966
Task 2 - Mapping Product Analysis	\$23,808					\$23,808
Task 3 - Design and Implt. Imprvmts for Server Migration		\$57,140				\$57,140
Task 4 -Design User Interface		\$31,745				\$31,745
Task 5 - Map Integration		\$12,698				\$12,698
Task 6 - Monitor Use of the database server (Start up costs in Jan - Mar 2000)		\$4,020	\$7,125	\$7,125	\$7,125	\$25,396

**Proposed Schedule for DPR Pesticide Database Migration to Database Server
CalFed Bay-Delta Ecosystem Restoration Projects and Programs**

ID	Task Name	Duration	99		2000				2001				2002				2	
			Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2
1	Task 1 - Investigate Infrastructure/Usage Ana	52d	■															
2	Conduct Infrs. Analysis	30d	■															
3	Conduct Usage Analysis	30d	■															
4	Summarize Findings	30d		■														
5	Task 2 - Mapping Product Analysis	52d	■															
6	Conduct Analysis	30d	■															
7	Summarize Findings	30d		■														
8	Task 3 - Design and Implt. Imprvmts for Serve	52d	■															
9	Design Improvements	30d		■														
10	Implement Improvements	30d			■													
11	Develop Fact Sheet for Web Page	30d			■													
12	Task 4 -Design User Interface	52d	■															
13	Develop interface	30d			■													
14	Incorporate Interface	30d			■													
15	Task 5 - Map Integration	30d	■															
16	Integrate Map	30d			■													
17	Task 6 - Monitor Use of the database server	860d	■															
18	Develop user survey related to knowledge g	30d			■													
19	Monitor database use	860d	■															

Project: Environ. Education
Date: 4/16/99

Task



Milestone ◆

Summary



1-019387

1-019387



EMCON

1433 North Market Boulevard • Sacramento, CA 95834-1943 • (916) 928-3300 • Fax (916) 928-3341

April 15, 1999
Proposal 92099-030.071

Sacramento County Board of Supervisors
and Planning Department
700 H Street
Sacramento, CA 95814

Re: Notification of upcoming proposal submittal regarding the CalFed Bay-Delta
Ecosystem Restoration Program

To whom it may concern:

EMCON is pleased to inform you of a proposal we will be submitting for the migrate the Pesticide Use Report (PUR) database currently maintained by the California Department of Pesticide Regulation (DPR) into a database server and make it accessible over the Internet. development of an environmental education program on the Bay-Delta region. The program will target ages 12 years through adult with the main purpose being to increase the public awareness and knowledge of: 1) the delta region (physical and biological characteristics); 2) the CalFed Bay-Delta Program; 3) the on-going CalFed Bay-Delta ecosystem restoration activities; and 4) specific suggestions of activities that each individual can do to preserve this ecosystem. If selected, EMCON's program will provide a video, written materials, lesson plans, and speakers which will be available to County departments such as yourself, as well as to school districts, environmental groups, etc.

We would welcome any comments you have regarding this project. Should EMCON be selected for this project, you will be notified when the materials will be available should you choose to take advantage of this program.

Please call us if you have any questions or would like additional information.

Sincerely,

EMCON

Barbara Heinsch
Proposal Manager

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NONDISCRIMINATION COMPLIANCE STATEMENT

STD. 18 (REV. 3-95) FMC

COMPANY NAME

EMCON

The company named above (hereinafter referred to as "prospective contractor") hereby certifies, unless specifically exempted, compliance with Government Code Section 12990 (a-f) and California Code of Regulations, Title 2, Division 4, Chapter 5 in matters relating to reporting requirements and the development, implementation and maintenance of a Nondiscrimination Program. Prospective contractor agrees not to unlawfully discriminate, harass or allow harassment against any employee or applicant for employment because of sex, race, color, ancestry, religious creed, national origin, disability (including HIV and AIDS), medical condition (cancer), age, marital status, denial of family and medical care leave and denial of pregnancy disability leave.

CERTIFICATION

I, the official named below, hereby swear that I am duly authorized to legally bind the prospective contractor to the above described certification. I am fully aware that this certification, executed on the date and in the county below, is made under penalty of perjury under the laws of the State of California

OFFICIAL'S NAME

Julian C. Isham

DATE EXECUTED

4/16/99

EXECUTED IN THE COUNTY OF

Sacramento

PROSPECTIVE CONTRACTOR'S SIGNATURE

Julian C. Isham

PROSPECTIVE CONTRACTOR'S TITLE

Geology Manager

PROSPECTIVE CONTRACTOR'S LEGAL BUSINESS NAME

Julian C. Isham

**STANDARD CLAUSES --
SMALL BUSINESS PREFERENCE AND CONTRACTOR IDENTIFICATION NUMBER**

NOTICE TO ALL BIDDERS:

Section 14835, et. seq. of the California Government Code requires that a five percent preference be given to bidders who qualify as a small business. The rules and regulations of this law, including the definition of a small business for the delivery of service, are contained in Title 2, California Code of Regulations, Section 1896, et. seq. A copy of the regulations is available upon request. Questions regarding the preference approval process should be directed to the Office of Small and Minority Business at (916) 322-5060. To claim the small business preference, you must submit a copy of your certification approval letter with your bid.

Are you claiming preference as a small business?

_____ Yes*

No

*Attach a copy of your certification approval letter.

4.5 PSP Cover Sheet (Attach to the front of each proposal)

Proposal Title: ENVIRONMENTAL EDUCATION
Applicant Name: EMCON
Mailing Address: 1433 NORTH MARKET BOULEVARD SUITE 1
Telephone: (916) 928-3300
Fax: (916) 928-3341
Email: BHeinsch@emconinc.com

Amount of funding requested: \$ 161,468 for 2-3 years

Indicate the Topic for which you are applying (check only one box).

- | | |
|--|---|
| <input type="checkbox"/> Fish Passage/Fish Screens | <input type="checkbox"/> Introduced Species |
| <input type="checkbox"/> Habitat Restoration | <input type="checkbox"/> Fish Management/Hatchery |
| <input type="checkbox"/> Local Watershed Stewardship | <input checked="" type="checkbox"/> Environmental Education |
| <input type="checkbox"/> Water Quality | |

Does the proposal address a specified Focused Action? yes no

What county or counties is the project located in? CAL FED BAY-DELTA WATERSHED

Indicate the geographic area of your proposal (check only one box):

- | | |
|---|--|
| <input type="checkbox"/> Sacramento River Mainstem | <input type="checkbox"/> East Side Trib: _____ |
| <input type="checkbox"/> Sacramento Trib: _____ | <input type="checkbox"/> Suisun Marsh and Bay |
| <input type="checkbox"/> San Joaquin River Mainstem | <input type="checkbox"/> North Bay/South Bay: _____ |
| <input type="checkbox"/> San Joaquin Trib: _____ | <input checked="" type="checkbox"/> Landscape (entire Bay-Delta watershed) |
| <input type="checkbox"/> Delta: _____ | <input type="checkbox"/> Other: _____ |

Indicate the primary species which the proposal addresses (check all that apply):

- | | |
|---|---|
| <input checked="" type="checkbox"/> San Joaquin and East-side Delta tributaries fall-run chinook salmon | |
| <input checked="" type="checkbox"/> Winter-run chinook salmon | <input checked="" type="checkbox"/> Spring-run chinook salmon |
| <input checked="" type="checkbox"/> Late-fall run chinook salmon | <input checked="" type="checkbox"/> Fall-run chinook salmon |
| <input checked="" type="checkbox"/> Delta smelt | <input checked="" type="checkbox"/> Longfin smelt |
| <input checked="" type="checkbox"/> Splittail | <input checked="" type="checkbox"/> Steelhead trout |
| <input checked="" type="checkbox"/> Green sturgeon | <input checked="" type="checkbox"/> Striped bass |
| <input checked="" type="checkbox"/> Migratory birds | <input checked="" type="checkbox"/> All chinook species |
| <input type="checkbox"/> Other: _____ | <input checked="" type="checkbox"/> All anadromous salmonids |

Specify the ERP strategic objective and target (s) that the project addresses. Include page numbers from January 1999 version of ERP Volume I and II:

VOL. I - 20, 32, 42, 103, 176, 181, 238, 288, 344, 394, 420, 421, 424
VOL. II - 18

Native Species Recovery & Conservation, Rehabilitation & Protection of Natural Processes, Habitat Protection & Restoration

Indicate the type of applicant (check only one box):

- | | |
|--|---|
| <input type="checkbox"/> State agency | <input type="checkbox"/> Federal agency |
| <input type="checkbox"/> Public/Non-profit joint venture | <input type="checkbox"/> Non-profit |
| <input type="checkbox"/> Local government/district | <input type="checkbox"/> Private party |
| <input type="checkbox"/> University | <input checked="" type="checkbox"/> Other: <u>PUBLICLY TRADED CORPORATION</u> |

Indicate the type of project (check only one box):

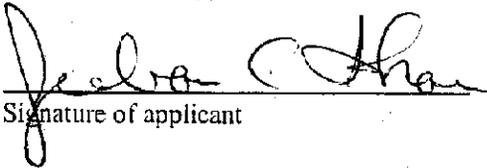
- | | |
|-------------------------------------|---|
| <input type="checkbox"/> Planning | <input type="checkbox"/> Implementation |
| <input type="checkbox"/> Monitoring | <input checked="" type="checkbox"/> Education |
| <input type="checkbox"/> Research | |

By signing below, the applicant declares the following:

- 1.) The truthfulness of all representations in their proposal;
- 2.) The individual signing the form is entitled to submit the application on behalf of the applicant (if the applicant is an entity or organization); and
- 3.) The person submitting the application has read and understood the conflict of interest and confidentiality discussion in the PSP (Section 2.4) and waives any and all rights to privacy and confidentiality of the proposal on behalf of the applicant, to the extent as provided in the Section.

JULIAN C. ISHAM

Printed name of applicant



Signature of applicant

**APPLICATION FOR
FEDERAL ASSISTANCE**

OMB Approval No. 0348-0043

1. TYPE OF SUBMISSION: Application <input type="checkbox"/> Construction <input checked="" type="checkbox"/> Non-Construction		Preapplication <input type="checkbox"/> Construction <input type="checkbox"/> Non-Construction	2. DATE SUBMITTED APRIL 16, 1999	Applicant Identifier
			3. DATE RECEIVED BY STATE	State Application Identifier
			4. DATE RECEIVED BY FEDERAL AGENCY	Federal Identifier
5. APPLICANT INFORMATION				
Legal Name: EMCON			Organizational Unit: EMCON	
Address (give city, county, State, and zip code): SACRAMENTO SACRAMENTO COUNTY, CA 95834			Name and telephone number of person to be contacted on matters involving this application (give area code) BARBARA HEINSCH (916) 928-3300	
6. EMPLOYER IDENTIFICATION NUMBER (EIN): 94-1738964			7. TYPE OF APPLICANT: (enter appropriate letter in box) <input checked="" type="checkbox"/> M	
8. TYPE OF APPLICATION: <input checked="" type="checkbox"/> New <input type="checkbox"/> Continuation <input type="checkbox"/> Revision If Revision, enter appropriate letter(s) in box(es) <input type="checkbox"/> <input type="checkbox"/> A. Increase Award B. Decrease Award C. Increase Duration D. Decrease Duration Other (Specify):			A. State H. Independent School Dist. B. County I. State Controlled Institution of Higher Learning C. Municipal J. Private University D. Township K. Indian Tribe E. Interstate L. Individual F. Intermunicipal M. Profit Organization G. Special District N. Other (Specify) _____	
			9. NAME OF FEDERAL AGENCY: CAL FED	
10. CATALOG OF FEDERAL DOMESTIC ASSISTANCE NUMBER: TITLE: 11. DESCRIPTIVE TITLE OF APPLICANT'S PROJECT: ENVIRONMENTAL EDUCATION SEE ATTACHED EXECUTIVE SUMMARY				
12. AREAS AFFECTED BY PROJECT (Cities, Counties, States, etc.): CAL FED BAY-DELTA AREA - SEE ATTACHED MAP				
13. PROPOSED PROJECT		14. CONGRESSIONAL DISTRICTS OF: 1, 6, 7, 8, 9, 10, 12, 13, 14, 15, 16 & 18		
Start Date 7/1/99	Ending Date 6/30/02	a. Applicant EMCON		b. Project ENVIRONMENTAL EDUCATION
15. ESTIMATED FUNDING: 161,468		16. IS APPLICATION SUBJECT TO REVIEW BY STATE EXECUTIVE ORDER 12372 PROCESS?		
a. Federal	\$	a. YES. THIS PREAPPLICATION/APPLICATION WAS MADE AVAILABLE TO THE STATE EXECUTIVE ORDER 12372 PROCESS FOR REVIEW ON: DATE _____		
b. Applicant	\$	b. No. <input checked="" type="checkbox"/> PROGRAM IS NOT COVERED BY E. O. 12372 <input type="checkbox"/> OR PROGRAM HAS NOT BEEN SELECTED BY STATE FOR REVIEW		
c. State	\$ 161,468			
d. Local	\$			
e. Other	\$			
f. Program Income	\$			
g. TOTAL	\$ 161,468	17. IS THE APPLICANT DELINQUENT ON ANY FEDERAL DEBT? <input type="checkbox"/> Yes If "Yes," attach an explanation. <input checked="" type="checkbox"/> No		
18. TO THE BEST OF MY KNOWLEDGE AND BELIEF, ALL DATA IN THIS APPLICATION/PREAPPLICATION ARE TRUE AND CORRECT, THE DOCUMENT HAS BEEN DULY AUTHORIZED BY THE GOVERNING BODY OF THE APPLICANT AND THE APPLICANT WILL COMPLY WITH THE ATTACHED ASSURANCES IF THE ASSISTANCE IS AWARDED.				
a. Type Name of Authorized Representative JULIAN C. ISHAM		b. Title EXECUTIVE MANAGER		c. Telephone Number (916) 928-3300
d. Signature of Authorized Representative <i>Julian C. Isham</i>				e. Date Signed APRIL 16, 1999

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Standard Form 424 (Rev. 7-97)
Prescribed by OMB Circular A-102

BUDGET INFORMATION - Non-Construction Programs						
SECTION A - BUDGET SUMMARY						
Grant Program Function or Activity (a)	Catalog of Federal Domestic Assistance Number (b)	Estimated Unobligated Funds		New or Revised Budget		
		Federal (c)	Non-Federal (d)	Federal (e)	Non-Federal (f)	Total (g)
1. CALFED		\$	\$	\$	\$ 161,468	\$ 161,468
2.						
3.						
4.						
5. Totals		\$	\$	\$	\$ 161,468	\$ 161,468
SECTION B - BUDGET CATEGORIES						
6. Object Class Categories	GRANT PROGRAM, FUNCTION OR ACTIVITY				Total	
	(1)	(2)	(3)	(4)	(5)	
a. Personnel (INCLUDES b)	\$	\$	\$	\$ 90,600	\$ 90,600	
b. Fringe Benefits						
c. Travel						
d. Equipment						
e. Supplies					37,000	37,000
f. Contractual					31,150	31,150
g. Construction						
h. Other						
i. Total Direct Charges (sum of 6a-6h)						
j. Indirect Charges					2,718	2,718
k. TOTALS (sum of 6i and 6j)	\$	\$	\$	\$	\$ 161,468	\$ 161,468
7. Program Income						

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SECTION C - NON-FEDERAL RESOURCES					
(a) Grant Program	(b) Applicant	(c) State	(d) Other Sources	(e) TOTALS	
8. CALFED	\$	\$ 161,468	\$	\$ 161,468	
9.					
10.					
11.					
12. TOTAL (sum of lines 8 - 11)	\$	\$ 161,468	\$	\$ 161,468	
SECTION D - FORECASTED CASH NEEDS					
	Total for 1st Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
13. Federal	\$	\$	\$	\$	\$
14. NonFederal	161,468 (1)	25,755	20,243	6,644	1,622
15. TOTAL (sum of lines 13 and 14)					
SECTION E - BUDGET ESTIMATES OF FEDERAL FUNDS NEEDED FOR BALANCE OF THE PROJECT					
(a) Grant Program	FUTURE FUNDING PERIODS (Years)				
	(b) First	(c) Second	(d) Third	(e) Fourth	
16.	\$	\$	\$	\$	
17.					
18.					
19.					
20. TOTAL (sum of lines 16-19)	\$	\$	\$	\$	
SECTION F - OTHER BUDGET INFORMATION					
21. Direct Charges:			22. Indirect Charges:		
23. Remarks: (1) \$107,204 WILL BE SPENT IN 4TH QUARTER 1999					

1-019397

Quarterly Budget
(Table 4 in Proposal Solicitation)
Environmental Education
CALFED Bay-Delta Program
Ecosystem Restoration Projects and Programs

Task	Quarterly Budget Oct -Dec 99	Quarterly Budget Jan-Mar 00	Quarterly Budget Apr-Jun 00	Quarterly Budget Jul-Sep 00	Quarterly Budget Oct -Dec 00	Total Budget
Task 1 - Educational Pamphlet	\$24,208					\$24,208
Task 2 - Overheads and Slides	\$15,953					\$15,953
Task 3 - Speaker for Hire	\$8,509	\$1,418	\$1,418	\$1,418	\$1,418	\$14,181
Task 4 - Lesson Plan	\$7,903					\$7,903
Task 5 - Video - Healing the Waters	\$22,464	\$13,479	\$8,986			\$44,929
Task 6 - Video - Alien Bullies	\$22,048	\$8,819	\$8,819	\$4,410		\$44,096
Project Management Task	\$6,118	\$2,039	\$1,020	\$816	\$204	\$10,197
TOTAL	\$107,204	\$25,755	\$20,243	\$6,644	\$1,622	\$161,468

ASSURANCES - NON-CONSTRUCTION PROGRAMS

OMB Approval No. 0348-C

Public reporting burden for this collection of information is estimated to average 15 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0040), Washington, DC 20503.

PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE OFFICE OF MANAGEMENT AND BUDGET. SEND IT TO THE ADDRESS PROVIDED BY THE SPONSORING AGENCY.

NOTE: Certain of these assurances may not be applicable to your project or program. If you have questions, please contact the awarding agency. Further, certain Federal awarding agencies may require applicants to certify to additional assurances. If such is the case, you will be notified.

As the duly authorized representative of the applicant, I certify that the applicant:

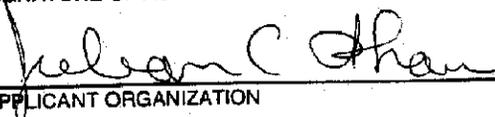
1. Has the legal authority to apply for Federal assistance and the institutional, managerial and financial capability (including funds sufficient to pay the non-Federal share of project cost) to ensure proper planning, management and completion of the project described in this application.
2. Will give the awarding agency, the Comptroller General of the United States and, if appropriate, the State, through any authorized representative, access to and the right to examine all records, books, papers, or documents related to the award; and will establish a proper accounting system in accordance with generally accepted accounting standards or agency directives.
3. Will establish safeguards to prohibit employees from using their positions for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain.
4. Will initiate and complete the work within the applicable time frame after receipt of approval of the awarding agency.
5. Will comply with the Intergovernmental Personnel Act of 1970 (42 U.S.C. §§4728-4763) relating to prescribed standards for merit systems for programs funded under one of the 19 statutes or regulations specified in Appendix A of OPM's Standards for a Merit System of Personnel Administration (5 C.F.R. 900, Subpart F).
6. Will comply with all Federal statutes relating to nondiscrimination. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C. §§1681-1683, and 1685-1686), which prohibits discrimination on the basis of sex; (c) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. §794), which prohibits discrimination on the basis of handicaps; (d) the Age Discrimination Act of 1975, as amended (42 U.S.C. §§6101-6107), which prohibits discrimination on the basis of age; (e) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended relating to nondiscrimination on the basis of drug abuse; (f) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism; (g) §§523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. §§290 dd-3 and 290 e-3), as amended, relating to confidentiality of alcohol and drug abuse patient records; (h) Title VIII of the Civil Rights Act of 1968 (42 U.S.C. §§3601 et seq.), as amended, relating to nondiscrimination in the sale, rental or financing of housing; (i) any other nondiscrimination provisions in the specific statute(s) under which application for Federal assistance is being made; and, (j) the requirements of any other nondiscrimination statute(s) which may apply to this application.
7. Will comply, or has already complied, with the requirements of Titles II and III of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646) which provide for fair and equitable treatment of persons displaced whose property is acquired as a result of Federal or federally-assisted programs. These requirements apply to all interests in real property acquired for project purposes regardless of Federal participation in purchases.
8. Will comply, as applicable, with provisions of the Hatch Act (5 U.S.C. §§1501-1508 and 7324-7328) which limit the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.

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Standard Form 424B (Rev. 7)
Prescribed by OMB Circular A

9. Will comply, as applicable, with the provisions of the Davis-Bacon Act (40 U.S.C. §§276a to 276a-7), the Copeland Act (40 U.S.C. §276c and 18 U.S.C. §874), and the Contract Work Hours and Safety Standards Act (40 U.S.C. §§327-333), regarding labor standards for federally-assisted construction subagreements.
10. Will comply, if applicable, with flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973 (P.L. 93-234) which requires recipients in a special flood hazard area to participate in the program and to purchase flood insurance if the total cost of insurable construction and acquisition is \$10,000 or more.
11. Will comply with environmental standards which may be prescribed pursuant to the following: (a) institution of environmental quality control measures under the National Environmental Policy Act of 1969 (P.L. 91-190) and Executive Order (EO) 11514; (b) notification of violating facilities pursuant to EO 11738; (c) protection of wetlands pursuant to EO 11990; (d) evaluation of flood hazards in floodplains in accordance with EO 11988; (e) assurance of project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972 (16 U.S.C. §§1451 et seq.); (f) conformity of Federal actions to State (Clean Air) Implementation Plans under Section 176(c) of the Clean Air Act of 1955, as amended (42 U.S.C. §§7401 et seq.); (g) protection of underground sources of drinking water under the Safe Drinking Water Act of 1974, as amended (P.L. 93-523); and, (h) protection of endangered species under the Endangered Species Act of 1973, as amended (P.L. 93-205).
12. Will comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. §§1271 et seq.) related to protecting components or potential components of the national wild and scenic rivers system.
13. Will assist the awarding agency in assuring compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. §470), EO 11593 (identification and protection of historic properties), and the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. §§469a-1 et seq.).
14. Will comply with P.L. 93-348 regarding the protection of human subjects involved in research, development, and related activities supported by this award of assistance.
15. Will comply with the Laboratory Animal Welfare Act of 1966 (P.L. 89-544, as amended, 7 U.S.C. §§2131 et seq.) pertaining to the care, handling, and treatment of warm blooded animals held for research, teaching, or other activities supported by this award of assistance.
16. Will comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. §§4801 et seq.) which prohibits the use of lead-based paint in construction or rehabilitation of residence structures.
17. Will cause to be performed the required financial and compliance audits in accordance with the Single Audit Act Amendments of 1996 and OMB Circular No. A-133, "Audits of States, Local Governments, and Non-Profit Organizations."
18. Will comply with all applicable requirements of all other Federal laws, executive orders, regulations, and policies governing this program.

SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL 	TITLE EXECUTIVE MANAGER
APPLICANT ORGANIZATION EMCON	DATE SUBMITTED APRIL 16, 1999

Standard Form 424B (Rev. 7-97)

Executive Summary

This proposal outlines a program to improve access to the Pesticide Use Report (PUR) database maintained by the California Department of Pesticide Regulation (DPR). This will be accomplished by migrating the existing database into a database server and making it accessible over the Internet. By improving access to the database and making it more user-friendly, important information can be made readily available to pesticide users. This will help in the reduction and/or control of agricultural point and nonpoint sources of high concentrations of pesticides. A reduction in the amount of pesticides applied, and changes in the types of pesticides used and in their methods of application will reduce the amount of pesticides entering the Bay-Delta.

The primary ecological goal of this proposal is the reduction of pesticide concentrations entering the waters of the Bay-Delta, leading to an improvement in the overall water quality of the Bay-Delta. This project will help the CalFed Bay-Delta program's overall objectives "to develop a long-term comprehensive plan that will restore ecological health and improve water management for beneficial uses of the Bay-Delta system." The database is currently maintained by the DPR for use throughout California, therefore the entire Bay-Delta region benefits from this proposal.

EMCON is an integrated environmental management services company that has been providing comprehensive engineering, consulting, and construction services in solid and hazardous waste management since 1971. Our firm's technical specialists, including geologists and hydrogeologists; chemists; chemical, environmental, civil, and mechanical engineers; toxicologists; and industrial hygienists, serve a diverse clientele in both the public and private sectors. Water quality issues are an important aspect of the consulting services provided by EMCON. A subsidiary of EMCON, e-COM Solutions is an integrator of Internet technologies. The staff consists of an experienced team with qualifications and technical expertise in application development, database design & development, network design and management, and operating systems. Through this combination of extensive water quality knowledge and Internet technologies, EMCON is uniquely qualified to provide the services described in this proposal.

Data will be collected from the database itself and from the web site operated by the California Department of Water Resources on pesticide concentrations in the Bay-Delta. The proposed database will have the ability to monitor itself for the purposes of reporting on usage. No additional data collection is required for this project, making it cost effective to collect data and monitor the effectiveness of the proposed program in reducing pesticide concentrations in the Bay-Delta ecosystem.

EMCON will contact the DPR and the appropriate County Agricultural offices to discuss the project (if awarded). Based on discussions with this initial group, EMCON will develop a list of other appropriate agencies and entities for contact to provide input and comments on the database project approach and analysis findings.

Third party impacts are minimal, since no land acquisition or land modification is involved. However, users will need to learn how to use the improved database. One third party benefit would come with the ability to file required forms on-line, leading to lower administrative costs.

Costs: \$204,753

Details are included within the following text and attached Table.

to contribute to problem resolutions instead of contributing to creating additional problems. Thus, by conducting before and after surveys, we will be able to measure progress to obtaining our stated goal.

EMCON provides comprehensive environmental engineering, consulting, and construction management services. The firm is publicly held, and has been developing environmentally safe, technically sound, cost-effective solutions for environmental concerns since 1971. EMCON has successfully solved thousands of environmental problems for a variety of industries, on time and within budget. More than 1,000 technical and support staffpersons serve clients from over 60 offices nationwide. In addition, EMCON has years of practical experience in offering training, and its personnel develop and deliver dozens of training programs each year. EMCON works directly with clients to develop and deliver effective, cost-efficient training programs that incorporate existing plans, procedures, and operational requirements. This project will be staffed with a team of experienced professionals consisting of EMCON employees: Barbara Heinsch, as the Project Manager, JoEllen Strait, Bruce McAlister, and Jefferey Peterson. Lief Joslyn of Xenobiota Xposures will be working with EMCON as the video cinematographer.

EMCON has contacted Ms. Diane Hickson of the California Department of Fish and Game (CDFG) and Mr. Mike Eaton, of the Nature Conservancy and Project Manager of the Consumnes River Preserve. Ms. Hickson indicated that the CDFG would provide information regarding fish and wildlife within the Bay Delta for the preparation of the proposed educational materials as part of their public service program. Likewise, Mr. Eaton indicated that the Nature Conservancy would work with EMCON by allowing us to video tape and/or photograph portions of the Consumnes River Preserve for our educational program. Both parties said their organizations have staff that would be willing to be interviewed for the purpose of providing education on the CalFed Bay Delta ecosystem to people ages 12 and up.

Upon completion of the environmental education program, an announcement/information letter explaining the program and the materials/services available through the program will be sent to select agencies and organizations. The target region will include all areas that are located within the entire Bay-Delta Region. The groups/organizations which EMCON has identified include, but are not limited to, the following: School Districts, County Boards of Supervisors, City Councils, Chambers of Commerce, Community Organizations such as Boy Scout Councils, Rotary Clubs, Watershed groups, etc.

This proposal will not adversely affect third parties but instead will assist others by providing education on the overall CalFed program goals, objectives, and restoration efforts.

Cost: \$161,468

Details are included within the following text and attached Table.