

**SOUTHERN CALIFORNIA COASTAL WATER RESEARCH PROJECT
(SCCWRP)
REQUEST FOR PROPOSALS**

**DEVELOPMENT AND TESTING OF RAPID METHODS FOR THE
DETECTION AND ENUMERATION OF BACTERIAL INDICATORS**

I. INSTRUCTIONS TO BIDDERS

The Bidder's complete Proposal to provide the services detailed are to be enclosed in a sealed envelope, marked "Rapid Indicator Methodologies" and addressed to:

Bryan Nece
Administrative Officer
7171 Fenwick Lane
Westminster, CA 92683-5218

All supplemental materials requested within this Proposal must be attached to the Proposal. Any unauthorized conditions, limitations, or provisions attached to this Proposal may be cause for rejection.

If a Bidder wishes to withdraw its Proposal, the Bidder may do so without prejudice by delivering a written notice of withdrawal to the Administrative Officer at any time before the time fixed for the opening of bids.

Sealed bids will be received at SCCWRP's offices, 7171 Fenwick Lane, Westminster, CA, up to the hour of 11:00 am on September 9, 2002, at which time, the Administrative Officer will open the bids. Bids received by facsimile or E-mail will not be accepted.

All Bidders should inform SCCWRP via email (bryann@sccwrp.org), FAX (714.894.9699) or letter mail by August 13, 2002 of their intention to submit a bid. Notification is not mandatory, but is necessary to receive future updates to this bid notification. SCCWRP will hold a non-mandatory bidders meeting at 9:00 a.m. on August 13, 2002, at SCCWRP's office in Westminster. This meeting is intended to provide Bidders the opportunity to ask questions and request clarifications about this document. Bidders who are unable to attend may provide written requests for clarification prior to the meeting. SCCWRP's response to both written and verbal questions will be sent to the Bidders by E-mail and posted on the SCCWRP web site (www.sccwrp.org).

This solicitation for proposals shall not be construed as obligating SCCWRP to award a contract or pay any compensation for the information solicited.

II. BACKGROUND

California's beach water quality monitoring programs are the most comprehensive in the nation. State Health Department regulations implemented in response to California Assembly Bill 411 require measurement of three indicator bacteria (total coliforms, fecal coliforms and enterococci) on at least a weekly basis at high use beaches. Regulations further require that the public be warned of possible health risk if any of these indicator bacteria exceed threshold values that were established through epidemiological studies.

While these beach monitoring programs are extensive, there remains opportunity for improvement. Current laboratory measurement methods used to enumerate indicator bacteria (multiple tube fermentation, membrane filtration and chromogenic substrate) require an 18 to 96 hour incubation period, which is too slow to keep pace with changes in bacterial indicator levels in the environment. Recent studies have shown that 70% of contaminated beaches are clean 24 hours later. Thus, contaminated beaches remain open during the incubation period, but may already have returned to acceptable levels by the time laboratory results are available and warning signs are posted.

The incubation time lag also makes it difficult to track sources of microbiological contamination. Most sources of contamination are intermittent and, like beach contamination, last less than a day. Without a rapid method, investigators are unable to follow the trail of contamination back to its origin.

Recognizing the temporal shortcoming of current methods for the measurement of indicator bacteria, the State Water Resources Control Board has contracted with SCCWRP to develop new methods for detection and enumeration of bacterial indicators. The goal of this effort is to develop rapid methods that can replace the existing methods for one or more indicator bacteria.

III. SCOPE OF WORK

SCCWRP is requesting proposals from potential subcontractors to develop a method(s) for rapid identification and enumeration of indicator bacteria in water. The method should detect viable indicator organisms, or a molecular substructure of the organism, that can be related to viability of the indicator bacteria. If the method detects an agent or molecular substructure of an agent other than viable indicator bacteria, the relationship between the agent and indicators upon which current water quality standards are based must be established. Suitable methods should also have the following attributes:

- 1) Speed. The method should produce reliable results within four hours of sample collection. An even shorter enumeration time would be preferable.
- 2) Accuracy. The results should produce results at least as accurate and precise as the three methods that are currently approved for use by the State of California. Accuracy should be assessed with respect to both false positives and false negatives.

- 3) Sensitivity. The methods should be able to detect concentrations of indicator bacteria within the range established by California's AB 411 regulations.

In addition, preferable methods will have the following additional attributes:

- 4) Portability. The method should allow for performance of assays in the field to enhance effectiveness for upstream tracking of contaminant sources.
- 5) Ease of use. The method should be sufficiently simple that a technician with minimal training can perform it.
- 6) Economy. Low cost per/sample.
- 7) Free of matrix interferences. The method should be equally applicable for samples collected from marine, estuarine and fresh waters.

Work will be conducted in two separately funded phases:

Phase I will consist of method development and will last for a period of eight months. During this phase, multiple contractors will be selected to develop their methods to meet as close as possible the above-described criteria for applicability to our intended use. Near the end of the eight -month period, contractors will present their work to date at a public workshop. Each contractor will be rated on their progress toward development of a working methodology that meets the needs defined in the **Scope of Work**. A sub-group of contractors demonstrating the best progress towards these goals will then be selected to participate in Phase II of the project.

Phase II will consist of continued development for a period of six months followed by a three month comparative testing period. The testing will be administered by an independent laboratory and will be designed to assess the ability of each method to detect and enumerate indicator bacteria in sets of water samples with varying salinity, turbidity, and bacterial composition. Results will be judged against those obtained by enumerating bacteria in split samples using standard EPA-approved methods in a state-certified laboratory.

Description of Work Elements

Phase I. Method Development

Description

Contractors will be responsible for developing a technology/methodology for rapid detection of waterborne indicators of microbiological contamination (total coliforms, fecal coliforms, and enterococci). Contractors are required to match, as close as possible, the attributes described in the **Scope of Work** above.

Product

The contractor shall deliver an oral presentation detailing progress to date at a public workshop to be held in Monterey, California, tentatively scheduled for the week of May 5, 2003.

Phase II.

A. Continued Method Development

Description

The contractor will continue to refine the method in preparation for comparative testing.

Product

The contractor shall prepare a detailed Standard Operating Procedure (SOP) for the method.

B. Comparative Testing

Description

The contractor will participate in comparative testing between the method developed under this contract and current EPA-approved methods. Samples will be provided by SCCWRP. Testing will consist of three rounds of sample analysis consisting of approximately 24 samples during each round.

Product

The contractor shall provide results of testing in an electronic format to be determined by SCCWRP.

3. Reporting

Description

The contractor will be responsible for preparing a final report. The final report will contain detailed sections on materials and methods, results, data analysis, a discussion of results, and pertinent appendices containing supporting information.

Product

The contractor shall prepare a final report in both electronic and hard copy format at the end of the contract period.

IV. SPECIAL REQUIREMENTS AND INSTRUCTIONS

Bidders will be required to comply with the following special requirements and instructions during the performance of services rendered under this project.

General

Bidders are required to comply with all general terms and conditions, certifications, assurances, provisions, laws, regulations, statutes and standards set by the State Water Resources Control Board. This information is available on the Internet at www.dgs.ca.gov/contracts.

Insurance

Bidders shall, at their sole expense, maintain in effect the following insurance coverage and include SCCWRP as an additional insured on their policy:

Workers' Compensation insurance shall be held and maintained by the Bidders as required by applicable laws of the State of California with a minimum amount and limit of One Million Dollars (\$1,000,000) for each accident.

General Liability insurance shall be held and maintained by the Bidders covering all operations by or on behalf of the Bidders providing insurance for bodily injury liability and property damage liability. The combined single limits of liability for bodily injury or property damage shall be One Million Dollars (\$1,000,000) for each occurrence, and One Million Dollars (\$1,000,000) aggregate.

Automobile Liability (Bodily Injury and Property Damage Liability) insurance shall be held by the Bidders, including coverage for all owned, hired, and non-owned automobiles. The combined single limit of liability shall be Two Hundred Fifty Thousand Dollars (\$250,000) for any one accident or loss.

Determination of Satisfactory Progress

Satisfactory progress will be determined through quarterly written progress reports.

Billing and Retention

The Bidders' shall provide invoices for work completed on a monthly basis. SCCWRP shall have the right to retain from the Bidders' earnings for each period for which payment is made an amount equal to ten percent (10%) of such earnings, pending satisfactory completion of the agreement.

Ownership

Methods developed using these public funds are intended for public use and not for proprietary development. If the method relies on previously developed technology, work developed outside the scope of this contract is subject to proprietary claims and rights thereof. Proposals should clearly delineate the portions of the proposed work that are based on previously developed proprietary technology.

V. AWARD PROCESS

Phase I.

Between four and six contracts totaling approximately \$750,000 will be awarded in Phase I of the project.

Phase II.

Between two and four contractors totaling approximately \$450,000 will be awarded in Phase II. Contractors will be selected from among those participating in Phase I, based on progress toward developing a method with applicability to our intended use.

Bonus.

The contractor advancing to Phase II and performing the best in the comparative testing will be awarded a bonus of \$50,000. Performance will be based on mutually agreed upon quantitative criteria closely matching the attributes defined under **Scope of Work**.

Length of Contract

The initial term under Phase I of the contract will be eight months. Contracts will be issued within one month following the bid submittal date. Contractors selected to participate in Phase II of the project will be renewed and funded for an additional nine-month period.

VI. PROPOSAL SUBMISSION

Length and Content of Proposal

Proposals are limited to 10 single spaced pages (Times New Roman, 12-point font), exclusive of resumes, qualifications and budgets. Bidders must submit five copies of their entire proposal package.

Content of the proposal should address the following:

- 1) What is the technical approach and present state of development for the proposed methodology?
- 2) How does the proposed technology meet the criteria for our intended application as described in the **Scope of Work**?
- 3) What are the qualifications and experience of the Bidders' organization and those personnel that will be working on the proposed project?

Additional Information to Accompany Proposal Form

Budget

The total fixed-price cost for Phase I of the project should be submitted with the bid. The award amount for those bidders selected to participate in Phase II will be approximately equal to that awarded to them in Phase I and will be negotiated at the end of Phase I.

Detailed budgets for each phase outlining the proposed expenditures may be requested by SCCWRP from the winning Bidders.

Qualifications

Include resumes for principal personnel who will participate in development of the methodology.

VI. BID EVALUATION PROCESS AND CRITERIA

Following the opening of bids, a review panel will evaluate the bids using the following criteria and scoring system. A maximum score of 100 points is possible.

1. Applicability of method. Each method will be rated based on the likelihood that it will meet our intended use as described under **Scope of Work** (40 pts.)
2. Current development state of the proposed technology. Proposals to complete development of partially developed methods, or to adapt methods that have been successfully developed for rapid detection of other pathogens, will receive higher marks than methods that have only a theoretical basis for potential success (20 pts.).
3. Qualifications and experience. Proposals will be rated based upon each bidder's qualifications, experience, and track record in developing and implementing similar technology (30 pts.).
4. Cost. Each Bidder will be rated on its proposed cost for Phase I. Lower costs will receive more points (10 pts.).