

**California Department of Public Health  
Drinking Water Capacity Development Program  
Report to the Governor  
Fiscal Years 2005-08**

**Mark B Horton, MD, MSPH  
Director**

**July 2009**

## TABLE OF CONTENTS

EXECUTIVE SUMMARY.....	1
I. Introduction.....	2
II. Program Accomplishments and Improvements .....	3
III. Capacity Development Successes.....	10
IV. Capacity Development Challenges.....	12
V. Summary.....	13

**California Department of Public Health  
Drinking Water Capacity Development Program  
Report to the Governor  
Fiscal Years 2005-08**

**EXECUTIVE SUMMARY**

This report is the second triennial Report to the Governor prepared by the California Department of Public Health (CDPH) drinking water capacity development program as required by the provisions of the federal Safe Drinking Water Act (SDWA). U.S. Environmental Protection Agency (EPA) has delegated State primacy to CDPH for enforcement of the provisions of the federal SDWA.

To assist water systems in meeting the standards of the SDWA, EPA provides funds to the CDPH drinking water program through the Safe Drinking Water State Revolving Fund (SRF) program, which enables CDPH to administer low-interest loans and grants to public water systems for infrastructure improvement projects.

Within the SRF program, EPA provides set-aside funds for the capacity development program which seeks to improve the viability of public water systems by improving their technical, managerial, and financial (TMF) capacity. Capacity can be defined as those TMF elements that affect the ability of public water systems to operate in compliance with the federal SDWA on a sustained basis.

This report is intended to document the efficacy of California's capacity development strategy and the progress made toward improving the TMF capacity of public water systems.

In August 2000, EPA approved California's Capacity Development Strategy. The overall goal of the plan is to increase the ability of public water system operators, managers, and decision-makers to consistently operate, maintain, and manage their public water systems in a manner that protects public health.

The capacity development program's accomplishments and improvements are detailed in this report as well as the successes and challenges the program has experienced in the past three years. As CDPH looks to the next three years, challenges still are evident, but the components of the capacity development program are in place to provide assistance to public water systems where needed.

**California Department of Public Health  
Drinking Water Capacity Development Program  
Report to the Governor  
Fiscal Years 2005-08**

**I. Introduction**

Under the provisions of United States Codes, Section 1420(c)(3) of the federal Safe Drinking Water Act (SDWA), the California Department of Public Health (CDPH) drinking water program is required to prepare a Report to the Governor every three years on its capacity development program. These reports are to be made available to the public and are intended to document the efficacy of California's capacity development strategy and the progress made toward improving the technical, managerial, and financial (TMF) capacity of public water systems.

This report spans the State fiscal years (FYs) from July 1, 2005 to June 30, 2008.

The U.S. Environmental Protection Agency (EPA) has delegated primacy to CDPH for enforcement of the provisions of the federal SDWA. Local Primacy Agencies (LPAs) are local environmental health agencies that regulate small public water systems of 200 service connections or less. However, CDPH retains regulatory oversight of the 35 counties that chose to become LPAs.

To assist public water systems in meeting the standards of the federal SDWA, EPA provides funds from the Safe Drinking Water State Revolving Fund (SRF) to the CDPH drinking water program to administer low-interest loans and grants to public water systems for infrastructure improvement projects. In addition, EPA provides set-aside funds for capacity development and technical assistance. These two set-aside funding sources are combined in this report as the capacity development program.

In August 2000, EPA approved CDPH's Capacity Development Strategy. This approval was required by the federal SDWA to enable California to access the federal matching funds available through the SRF.

At a minimum, EPA required that each state address specific core issues in their Capacity Development Strategies to ensure that new community and nontransient, noncommunity water systems as well as systems with SRF funded projects demonstrate TMF capacity prior to receiving authority to operate. In addition, EPA wanted to ensure that TMF deficiencies of existing public water systems were identified and corrected.

The overall goal of CDPH's Capacity Development Strategy is to increase the ability of public water system operators, managers, and decision-makers to consistently operate, maintain, and manage their public water systems in a manner that protects public health. The approved Capacity Development Strategy is designed to:

1. Define those factors that encourage or impair capacity development.
2. Identify and prioritize public water systems most in need of TMF capacity improvement.
3. Provide technical assistance and training to those public water systems in need of TMF capacity improvement.

During 2005-08, the capacity development program endeavored to ensure the viability of public water systems by improving their TMF capacity. By definition, EPA used the TMF categories to determine whether a water system had adequate capacity. Early in the capacity development program, CDPH identified 16 elements that contribute to a public water system's ability to operate in compliance with the SDWA on a sustained basis. These TMF elements included:

1. System Description
2. Technical Evaluation/Consolidation
3. Certified Operators
4. Source Capacity Assessment
5. Operations Plans
6. Training
7. Ownership
8. Organization
9. Water Rights
10. Planning
11. Emergency Response Plans
12. Policies
13. Budget Projection
14. Budget Control
15. Capital Improvement Plans
16. Reserves

## **II. Program Accomplishments and Improvements**

From 2005-08, the capacity development program witnessed many successful activities that assisted public water systems in improving their TMF capacities. CDPH utilized a variety of tools to measure capacity development program accomplishments and improvements. Some of these tools included compliance information recorded as the number of watersystems with violations, certification of water treatment and distribution system operators, completed TMF assessments, and online TMF Tune-ups.

The SRF capacity development and technical assistance set-aside funds enabled CDPH to contract with a number of third-party providers to offer services that directly targeted public water systems that either lacked or desired to improve their TMF capacity. These third-party providers were:

1. California Rural Water Association
2. Rural Community Assistance Corporation
3. Self-Help Enterprises
4. University of California, Davis
5. California State University, Sacramento

These providers participated in the outreach advisory committee known as the California Technical Assistance Providers (CaTAP) Workgroup.

### ***Technical Assistance***

Technical assistance was provided to public water systems by CDPH and LPA staff as well as by third-party providers.

### **CDPH**

From 2005-08, CDPH staff provided technical assistance using the SRF technical assistance set-aside funding to public water systems as follows: FY 2005-06, 1,837 systems; FY 2006-07, 1,963 systems; and FY 2007-08, 2,044 systems. This assistance included:

1. Recommendations to water system staff made during inspections and sanitary surveys;
2. Education about the regulatory requirements specific to individual water systems;
3. Consultation regarding water system upgrades and potential funding projects;
4. Evaluation of TMF assessments;
5. Review of permit amendments following construction projects; and
6. Other services as needed.

For the SRF program during the last three FYs, 187 applications for funding were completed and 58 Notices of Application Acceptance (NOAA) for funding were issued. The NOAA reserves funds for the specific project and outlines any conditions that the water system needs to complete prior to the issuance of funds.

### **Small Water Systems Unit**

In 2007, CDPH has created a small water systems unit with staff who provide support to the LPAs and to CDPH field offices that regulate small water systems. This unit helps water systems through the CDPH funding process when difficulties are encountered. In addition, the unit offers assistance to LPAs by providing ongoing training and oversight to assist them

in helping small water systems achieve and maintain compliance with all drinking water standards.

### **California Rural Water Association (CRWA)**

CDPH identified water systems that lacked TMF capacity by using information provided by the CDPH field staff based on inspections, sanitary surveys, monitoring results, and other information. These identified deficient water systems were placed on the assistance referral list and were prioritized according to public health risk.

From this list, CRWA SRF specialists were assigned to provide assistance. During FYs 2005-08, CRWA staff provided technical assistance to 771 small public water systems which included:

1. Rectifying compliance issues for those water systems with significant violations or other deficiencies that have or could lead to violations of primary drinking water standards;
2. Completing the SRF and other CDPH funding programs' applications and required TMF assessments for water systems with funding projects; and
3. Improving the overall TMF capacity of small public water systems by completing:
  - a. Five-year budget projections and capital improvement plans;
  - b. Water system technical evaluations;
  - c. Operations plans; and
  - d. Emergency response plans.

### **Self-Help Enterprises (SHE)**

Under a contract that commenced during FY 2007-08, SHE provided technical assistance to water systems in Stanislaus, Merced, Mariposa, Madera, Fresno, King, Tulare, and Kern Counties that had applied for CDPH funding. Many of these water systems were disadvantaged.

Often this assistance consisted of SHE community outreach with water system decision-makers and constituents to facilitate the acquisition of funding. SHE helped water systems obtain and prepare project designs, engineering services, environmental documents, and funding applications.

SHE also provided assistance in completing the required TMF documents for CDPH funding as well as ongoing advice to water boards regarding management and policies. During FY 2007-08, SHE provided assistance to 32 public water systems.

**Engineering, University of California, Davis (UCD)**

Under an agreement that commenced in FY 2006-07, UCD provided three types of services to:

1. Assist water systems in identifying and developing appropriate improvements to their infrastructure. During 2006-07, UCD provided the services of a licensed engineer to over 25 small water systems;
2. Gather information and create a database of existing and developing treatment technologies appropriate for small water systems. During this reporting period UCD participated in a number of related activities including bench-scale research, arsenic removal current practices survey, cost evaluation associated with arsenic leachability from spent media, and other endeavors; and
3. Develop and teach a small water system design course for undergraduate and graduate students at UCD. During this reporting period the course was offered during two terms. It is expected that a modified class will be offered in Fall 2008 via webcast to interested CDPH and LPA staff.

***Capacity Development***

The California SDWA requires that TMF assessments and staff evaluations be completed for all new water systems and for changes of ownership and for all SRF funded projects.

**CDPH**

The TMF assessments and CDPH field staff evaluations for new community and nontransient, noncommunity water systems and SRF funded projects were forwarded to CDPH to have the mandatory TMF elements reviewed for completeness and consistency.

During FY 2007-08, the mandatory elements reviewed for SRF funded projects were consolidation feasibility, ownership, water rights, and budget projection. For new water systems, the mandatory elements included these items as well as system description, source capacity assessment, organization, planning, emergency response plan, and capital improvement plan.

During 2005-08, necessary TMF elements that had not been completed were to be listed as permit conditions. In the past three FYs, CDPH reviewed the required TMF documents for 76 new water systems and for 113 SRF funded projects.

### **CDPH Small Water System Website**

CDPH focused on tools that small water systems could use to develop their TMF capacities. All of the current TMF documents were posted on the website, including the TMF assessment and staff evaluation forms for SRF funded projects, new public water systems, and changes of ownership for community and noncommunity water systems as well as TMF guidance criteria and checklists.

Other useful tools on the website included various five-year budget projection and capital improvement plan calculators, equipment life expectancy chart, sample emergency notification letters, and operations plan and emergency response plan templates. In addition, links to the websites of organizations that provide services for small water systems were provided. The CDPH small water system website is located at:

<http://www.cdph.ca.gov/certlic/drinkingwater/Pages/TMF.aspx>

### **Rural Community Assistance Corporation (RCAC)**

RCAC developed and conducted statewide classroom and online training workshops that focused on building the TMF capacity of small public water systems. Input concerning the content and location of these workshops was obtained from CDPH and LPA field staff as well as public water systems and other existing training and outreach staff.

RCAC completed a total of 152 classroom and online workshops during FYs 2005-08. Average attendance at the classroom workshops rose from 25 participants in FY 2005-06 to over 32 in FY 2007-08.

RCAC is continuing to develop meaningful measurements of changes that water systems have implemented as a result of the workshops. Data is currently being collected of responses made after the workshops.

RCAC provided technical assistance upon request without the need to be on a priority list to water system personnel who had attended one or more of the RCAC workshops. This was often on financial assistance to demonstrate how to develop a budget with a capital improvement plan or to give a presentation to water system constituents and management staff regarding the need for increased revenues. During FYs 2005-08, RCAC provided technical assistance to 33 small public water systems.

At the request of CDPH, RCAC conducted focused Median Household Income (MHI) surveys to determine whether or not a water system could qualify for disadvantaged status for CDPH funding programs, which included SRF as well as Propositions 50 and 84. If this survey determined the MHI was under the established threshold for disadvantaged community status, then the proposed project could rank higher on the project priority lists,

and the water system could qualify for better funding opportunities. During FYs 2005-08, RCAC completed 14 MHI surveys.

## **Baseline Assessment**

### **TMF Tune-up**

During 2005-08 FYs, the capacity development program worked with UCD to develop an online baseline assessment tool, the TMF Tune-up, that was designed to measure the present status of TMF capacity for public water systems and to track TMF capacity changes in the future.

The reporting component of the TMF Tune-up database is still under development, but over time when water systems complete subsequent TMF Tune-ups, CDPH expects to be able to track the capacity development and technical assistance services that water systems have received.

The intent is to quantitatively identify deficient TMF areas that public water systems have in order to direct capacity development and technical assistance services to address those needs. The answers to the questions on the assessment are not shared with the regulators but are used for statistical purposes. As of June 30, 2008, 294 public water systems had completed the TMF Tune-up.

Although the purpose of the TMF Tune-up was to provide statistical information about the efficacy of the capacity development services provided to public water systems, it also was designed to be a tool that water systems could use to measure their relative strengths and weaknesses in a variety of TMF categories.

After the participant answered the assessment questions, the TMF Tune-up printed the relative TMF scores along with a list of resources that included information about free workshops, technical assistance, Expense Reimbursement Grant (ERG), and links to various organizations and agencies that specialize in providing materials and services to small water systems. This resource information was intended to enable public water systems to proactively improve their systems.

The TMF Tune-up is designed to be specific to California public water systems. Individuals not associated with a public water system can access the TMF Tune-up by using fictitious system numbers. The TMF Tune-up can be accessed at:

<http://neien.des.ucdavis.edu/tmf/>

## California State University, Sacramento (CSUS)

### Video Training Series

CDPH and CSUS have completed the production of the *Water Systems Operation and Maintenance Training Series* that is available in both video and DVD formats along with an instruction manual. The seven titles include:

1. Wellhead Protection
2. Hypochlorination
3. Water Storage Tanks
4. Sampling and Testing
5. Inspecting a Pump Station
6. Distribution Systems
7. Approaches to Compliance with Standards

Guidelines for obtaining operator certification contact hours are available. These sets have been distributed to CDPH and LPA field offices, county public libraries, and university and community college libraries. This training series is available for sale to the public at:

[http://www.owp.csus.edu/training/courses/drinking\\_water/707.php](http://www.owp.csus.edu/training/courses/drinking_water/707.php)

## CSUS

### Basic Course

CDPH and CSUS recently completed the basic course project. Prospective operators who do not have a high school or general equivalency diploma may read the new book entitled, *Basic Small Water System Operations*, and if they successfully complete the accompanying exam, they qualify to take the operator certification exam.

This basic course will be administered through the CDPH operator certification program. In the course of the project, the book evolved into a resource book for small water systems. The capacity development program intends to make this book available to the public in the coming year.

## ERG

CPS Resource Services (CPS) administered the ERG program for CDPH. These federal grant funds were intended to alleviate the costs for small water system operators to obtain certification.

Operators and prospective operators who were associated with community or nontransient noncommunity water systems serving populations of 3,300 or less were eligible to apply to CPS to receive an ERG identification number. This ERG number could be used to register for drinking water related conferences, workshops, and specialized training courses as well as for related materials and

exam and certification fees. The ERG also covered mileage up to 100 miles one way to attend these activities. Because of the potential impact that this program would have upon operator certification, CPS participated in the CalTAP Workgroup advisory committee that integrated all of the capacity development services.

### III. Capacity Development Successes

#### CalTAP

All of the CDPH drinking water contractors as well as CDPH staff comprised the CalTAP outreach advisory committee. The CalTAP Workgroup was a subcommittee and did not include CDPH.

The following mission statement for CalTAP was written during this reporting period:

*The mission of CalTAP is to reliably deliver a pure, safe, and adequate drinking water supply to all Californians by coordinating capacity development activities that will enable water systems to measurably improve their technical, managerial, and financial capacities.*

During FYs 2005-08, CalTAP was successful in a number of ways. It provided a forum for all of the technical assistance providers and regulatory staff to share their activities and to work collaboratively. The various CalTAP entities promoted each other's activities at workshops, conferences, technical assistance visits, and other outreach events as well as in registration fliers and trade publications. In discussing potential solutions to common problems, a number of improvements came to be implemented in the capacity development program through CalTAP:

#### 1. Online Workshops

When the CalTAP discussions cited the difficulty that water board members had in leaving other jobs in order to attend all-day board trainings, RCAC began the process of developing an online workshop platform. This online format was especially effective with the board training workshop series.

For the past two years, RCAC offered an online Board Basics series in one- to two-hour segments that enabled board members to attend these workshops using their own computers without traveling or devoting an entire day to the training.

#### 2. ERG Number

Initially, few operators were applying to CPS to be reimbursed for certification-related expenses under the ERG program. During the last two years, CalTAP held a series of meetings to try to determine the reasons why operators were not using this grant money.

One of the main reasons cited was that operators financially were not able to pay for training and conferences and then wait for reimbursement. CalTAP facilitated the

process for changing the procedure to access the ERG money. Now operators apply directly to CPS. Once their eligibility is established, CPS issues them an individual ERG number that can be used on registration forms for workshops, courses, and conferences as well as on order forms for drinking water related materials in lieu of payment. CPS then pays the training vendors the costs incurred by the operator that were identified by the ERG number. Since this procedure was implemented, 49 percent of the total number of ERG operators enrolled in the program in FY 2007-08.

### **3. ERG Training**

Another need of operators that was cited in the CalTAP discussions was that small water system operators in very rural areas often are on-call continuously with no secondary relief and cannot leave their water systems to attend trainings. CalTAP was instrumental in adding the provision to the ERG program that qualified operators now can request specific training at their site, and CPS will arrange to have a training vendor provide the requested services.

Some LPA programs in the state also are using the ERG program to assemble their ERG qualified operators and have the ERG training vendors present workshops regarding topics of common interest. San Diego County offers these workshops on a quarterly basis.

### **4. ERG/TMF Tune-up Incentive**

The CalTAP discussions also led to the development of an incentive plan to encourage the use of three of the capacity development activities: ERG, TMF Tune-up, and the training video/DVD series.

When a qualified operator enrolled in the ERG program and completed the TMF Tune-up, CSUS then sent that operator a complete set of the *Water Systems Operation and Training Series* in video or DVD format along with the accompanying manual at no charge to the operator. The program began in Fall 2006. During FYs 2006-08, CSUS mailed 221 video/DVD sets to operators who had enrolled in the ERG and had completed the TMF Tune-up.

### **5. CalTAP Fair**

Because the CalTAP activities were beginning to have potentially wide-reaching impacts on the public water systems, the CalTAP Workgroup held two one-day CalTap Fair workshops. These events enabled all of the CalTAP participants to speak about their programs in the morning sessions. In the afternoon, a variety of specific workshops were offered, including a hands-on computer lab session to enable participants to complete the TMF Tune-up.

RCAC agreed to handle the logistics and advertising by incorporating the CalTAP Fair into their workshop schedule. These events were extremely well-received. Fairs were held in

Southern California and Northern California for a combined attendance of 135 participants during FY 2007-08.

#### **6. CalTAP Strategic Plan**

In an effort to focus the CalTAP activities on specific goals, the CalTAP Workgroup developed a two-year strategic plan. The five goals described activities for the promotion of the ERG, TMF Tune-up, CalTAP resources, operator certification and career opportunities, and the review and revision of the TMF elements and documents.

### **IV. Capacity Development Challenges**

#### **TMF Tune-up Participation**

It has been challenging to engage water systems in the TMF Tune-up even though a number of strategies were implemented since its inception during FY 2006-07:

1. CalTAP organizations promoted the TMF Tune-up at workshops and other outreach events;
2. CDPH capacity development program staff promoted the TMF Tune-Up at CDPH drinking water local and regional meetings;
3. Fliers promoting TMF Tune-Up were included with CDPH mailings to all public water systems;
4. CRWA was especially diligent about utilizing a portable TMF Tune-up spreadsheet with water systems that do not have Internet connections; and
5. The ERG video/DVD incentive helped to enroll systems into the TMF Tune-up.

Since greater participation is desired, CDPH designated the promotion of the TMF Tune-up as the second goal in the CalTAP Strategic Plan. CDPH will continue to explore opportunities to promote the TMF Tune-up.

#### **Measurable Outcome Tool**

The capacity development program investigated methods of measuring actual changes that water systems experienced as a result of the capacity development services that they received.

RCAC worked to refine their Performance Assessment Rating Tool, which polls participants one to three months after the workshops to see what changes they made to their water system as a result of the information received from the workshop. The response rate to the

inquiry has been the biggest challenge, but RCAC is hopeful that a change from mailing postcards to emailing messages will increase this return rate.

Another challenge is to transfer the responses to meaningful reportable statistical data. Once a workable measurement format is developed, the intention is to expand its use to include the workshops presented under the ERG program as well.

### **Small System Financial Solvency**

The greatest challenge faced by small water systems is financial solvency. While most systems meet their routine financial obligations and do satisfy the regulatory standards, many systems have not planned for the reserves that are necessary to replace their aging infrastructure in a timely manner on an appropriate schedule.

The challenge for the capacity development program is to ensure that water systems use the resources that are available to them, specifically the RCAC Board Basics online workshop series, the TMF Tune-up, and the ERG trainings.

The capacity development program is working with regulators to encourage water systems to utilize these services especially when deficiencies are noted during inspections or sanitary surveys that reflect a lack of fiscal resources. The overall challenge is to integrate the capacity development program services with the regulatory enforcement activities to ensure that water systems in need of assistance maximize the services that are available to them.

## **V. Summary**

During FYs 2005-08, the goals of the Capacity Development Strategy outlined the focus for the program. The factors that encouraged or impaired capacity development were defined and the TMF elements were revised. The TMF capacity of new water systems and water systems with completed SRF funded projects were assessed with the successful completion of the TMF assessment form and the compliance of subsequent permit conditions. Public water systems that were most in need of TMF capacity improvement were identified and prioritized. Technical assistance and training were offered to those public water systems in need of TMF capacity improvement.

In the last three FYs, the capacity development program has worked toward the overall goal of the Capacity Development Strategy. Challenges still are evident, but the components of the capacity development program are in place to provide assistance where needed. The program will continue working toward this goal to increase the ability of public water systems to provide drinking water that consistently meets all drinking water standards over time in a manner that protects public health.