

East Bay Municipal Utility District



in cooperation with



BAY AREA REGIONAL DESALINATION PROJECT

GRANT PROPOSAL For PROPOSITION 50 CHAPTER 6(a) FUNDING

January 18, 2005



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January 14, 2005

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**SUBJECT: Bay Area Regional Desalination Project – Feasibility Study
2004 Proposition 50 Chapter 6 (a) Grant Application**

Dear Dr. Karajeh:

East Bay Municipal Utility District (EBMUD) is pleased to submit an application for the Bay Area Regional Desalination Project Feasibility Study for funding under the 2004 Proposition 50 Chapter 6 (a) : Desalination of Ocean and Brackish Waters program. The Bay Area Regional Desalination Project is a joint project being developed in collaboration by EBMUD, San Francisco Public Utilities Commission (SFPUC) Santa Clara Valley Water District (SCVWD), and Contra Costa Water District (CCWD). Applying a centralized regional approach to developing a desalination project offers numerous benefits such as forming complementary goals and objectives, reducing capital outlays for each participating agency, reducing infrastructure development, minimizing environmental effects, and providing effective and coordinated redundancy/backup facilities to be shared by a whole region.

This application is being submitted by EBMUD on behalf of the four Bay Area agencies. We urge you to approve this grant request. If you have any questions, please feel free to contact me at (510) 287 0550.

Sincerely,

A handwritten signature in black ink, appearing to read 'Hasan M. Abdullah'.

Hasan M. Abdullah, P. E.
Desalination Project Coordinator

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EXECUTIVE SUMMARY

The East Bay Municipal Utility District (EBMUD) is pleased to submit this grant application for a feasibility study that would advance the development of the Regional Desalination Project (RDP) in the greater San Francisco Bay Area. EBMUD is one of four partner water agencies that is committed to developing a centralized regional project that can either directly or indirectly serve the water needs of more than 5 million residential and business water users in northern California. The partner agencies for the RDP include four of the San Francisco Bay Area's largest water suppliers: EBMUD, the San Francisco Public Utilities Commission (SFPUC), the Santa Clara Valley Water District (SCVWD), and the Contra Costa Water District (CCWD) (hereafter referred to collectively as the agencies).

The agencies expect that the RDP would eventually consist of one or possibly two desalination plants located in the San Francisco Bay Area. By pooling resources under the umbrella of a single project, the RDP would maximize benefits and efficiencies and minimize potential environmental impacts associated with pursuing independent desalination projects within a small geographic area along the California coastline. It would serve as a new, safe, and reliable water supply source that can be used to meet diverse water needs including: supplemental water during emergencies and unplanned facility outages; relief during periods of drought; and full-time supplemental water to increase the diversity of the existing water supply portfolio. The RDP would provide a new potable water source consistent with the requirements of Chapter 6(a) of Proposition 50.

Applying a centralized regional approach to developing desalination offers numerous benefits such as forming complementary goals and objectives, reducing capital outlays for each participating agency, reducing

infrastructure development, minimizing environmental effects, and providing effective and coordinated redundancy/backup facilities to be shared by a whole region.

While the agencies have made significant progress over the past two years and continue to advance the RDP, the feasibility study plan and scope included in this proposal would complete additional tasks that will be critical to the long-term success of the RDP. First, the feasibility study will provide an analytical and comprehensive decision-making system for assessing and testing the viability of a complex regional project in which stakeholders have different needs, priorities, and constraints. Second, the feasibility study will incorporate an assessment of site and infrastructure configuration options based on environmental, permitting, cost, and design implications. Third, the feasibility study will include a site layout plan(s) for the RDP. Fourth, the feasibility study will provide a scope of work for detailed environmental analysis for the full-scale RDP. Finally, the study will provide important information to decision-makers and water users on the costs and benefits of a centralized regional project.

In addition to providing a foundation for the development of the RDP in the Bay Area, the proposed feasibility study is also designed to result in a user-friendly tool that can be used by other water agencies planning desalination projects in close proximity to one another throughout California. An analytical approach for systematically identifying, developing, and executing a regional framework will be a product of the experience of the RDP. It will be modeled in a way that can be replicated throughout the state.

State funding support for this feasibility study will expedite the advancement of an important regional project that will affect the greater San Francisco Bay Area. It will also enable the project to have a broader reach by serving as a model for other planned desalination projects. Finally, state funding

will demonstrate the state's commitment to a project that strives to use innovative solutions to solve regional water challenges in California.

1.0 STATEMENT OF WORK, SECTION 1: RELEVANCE AND IMPORTANCE- SELECTION CRITERION I (20 PTS)

1.1 Background and Need for Desalination

Historically, northern California has been susceptible to long periods of drought. Each of the agencies is also vulnerable to a water supply disruption in the event of a major catastrophe or unplanned facility outages. For example, a levee failure in the Sacramento--San Joaquin River Delta (Delta) could result in seawater intrusion and high salt levels, precluding use of the Delta for up to six months. An earthquake could damage water delivery systems that convey water from the Sierra Nevada across the Delta to the Bay Area, such as EBMUD's Mokelumne Aqueduct. In addition, agencies have identified the need to diversify their water supply portfolio to meet long-term water supply needs. Desalination provides a new reliable water supply source that meets the collective needs of the agencies.

Each agency is taking steps to secure their own systems and implementing additional measures to provide continuous water supply; however, a major disruption could result in emergency water demands that exceed the capacity of existing Bay Area storage facilities. Bay Area water districts are evaluating cooperative projects to meet their water supply reliability and drinking water quality objectives through the Bay Area Regional Water Quality and Supply Reliability Program (formerly known as the BAB/E II program). Although the program details have not yet been finalized, the RDP is included as one of the key project concepts in the BAB/E II program. The RDP has also

been endorsed by the Northern California Salinity Coalition (NCSC). Official endorsement for the project from the NCSC is provided in **Attachment 1**.

Each of the agencies is subject to the provisions of Assembly Bill 1747 and has adopted an Urban Water Management Plan (UWMP) in compliance with the Urban Water Management Act and submitted it to the California Department of Water Resources. Relevant programs and goals of each agency's UWMP, along with the details of each agency's water conservation and recycling programs, are described below.

1.1.1 East Bay Municipal Utility District

Approximately 95 percent of the water used by EBMUD comes from the 577-square-mile Mokelumne River watershed. EBMUD has the water rights and infrastructure to divert up to 325 million gallons per day (MGD), subject to availability of runoff and the water rights of other users who may have seniority. Many factors affect the reliability of EBMUD's water supply. The most important factors are the occurrences of drought and the vulnerability of the aqueducts in the Delta to earthquakes or flooding. Other factors include potential contamination of supply or other emergencies. These factors could result in an extreme shortage of water for basic needs such as fire fighting and drinking. Consequently, following the 1976-77 drought and the beginning of the 1986-1992 drought, EBMUD acted to ensure adequate and reliable water supplies to meet East Bay water needs well into the 21st century.

In October 1993, EBMUD adopted a long-term Water Supply Management Program (WSMP) to guide the provision of a reliable high-quality water supply to the East Bay through the year 2020. The WSMP and the 2000 UWMP both describe other programs EBMUD has initiated to diversify and improve reliability of its water supply portfolio.

The WSMP examined what EBMUD and its customers had done and could do to ensure wise water use. It established plans for conservation and water recycling that has resulted in award winning and successful programs. Over 170 MGD of wastewater is currently generated in EBMUD's service area, and that quantity is expected to increase to over 200 MGD by 2020. EBMUD is working toward the goal of maximizing both the cost-effectiveness of recycled water projects and the volume of water delivered.

Some of the measures EBMUD uses to promote the use of recycled water include the following:

- Providing subsidized costs and reduced rates for recycled water.
- Funding retrofit costs for customers' facilities to accommodate recycled water use.
- Participating in long-range water resource management planning through the San Francisco Bay Area Regional Water Recycling Program (BARWRP), a cooperative effort involving 16 entities including Bay Area water and wastewater agencies and state and federal organizations.
- Providing education and information sharing through presentations to community groups, workshops, and meetings with public groups.

In addition to recycling, EBMUD strives to maximize conservation efforts. EBMUD has set a conservation goal of 34 MGD for the year 2020. EBMUD prepared a Water Conservation Master Plan in 1994 that developed conservation programs and recommendations for natural replacement of conservation hardware such as toilets, showerheads, and faucets. But even with successful demand reduction, according to the WSMP, EBMUD would be unable to meet its customers' water needs during severe

droughts with its existing source of supply, the Mokelumne River.

EBMUD's planning objective is to not impose rationing of more than 25 percent on customers during a critical drought. Desalination would provide a sustainable and reliable water supply resource for EBMUD.

1.1.2 San Francisco Public Utilities Commission

The SFPUC delivers water to both retail and wholesale water customers from a combination of Bay Area supplies and diversions from the Tuolumne River through the Hetch Hetchy Water and Power System. A small portion of San Francisco's water is supplied by groundwater. Over 2.4 million people within the counties of San Francisco, San Mateo, Santa Clara, Alameda, and Tuolumne rely entirely or in part on water supplied by the SFPUC.

The SFPUC is currently preparing a Recycled Water Master Plan (RWMP) to provide guidance for implementation of recycled water projects in San Francisco. The development of recycled water will help San Francisco meet its long-term water supply needs, while increasing its overall water supply reliability. Funding for the RWMP and for the recycled water projects is included in the Capital Improvement Program approved by San Francisco voters in 2002. The plan is scheduled to be completed in 2006.

San Francisco encourages water recycling through Ordinances 390-91 and 391-91, which require dual plumbing for recycled water use for the following:

- New or remodeled buildings and all subdivisions with a total of 40,000 square feet or more
- New and existing landscaped areas of 10,000 square feet or more

The SFPUC has also been an active participant in Bay Area Regional Water

Recycling Program (BARWRP). In December 1999, BARWRP produced a Recycled Water Master Plan (RWMP) for regional water recycling that identifies demands and provides a plan to achieve 125,000 acre-feet per year (AFY) of recycled water in the Bay Area within the next 10 years.

The SFPUC and its customers have a proven record of commitment to and implementation of water conservation programs. Its first conservation efforts began in 1928 with the inauguration of the high bills inspections. In 2000, San Francisco won the award for “Best Conservation Program – Large Utility” by the California Municipal Utilities Association. The SFPUC implements water conservation efforts through distribution efficiency and residential and commercial water conservation programs. Between 1994 and 2000, residential per capita water use has decreased from 74 to 61 gallons per capita per day.

1.1.3 Santa Clara Valley Water District

The SCVWD continues to be a leader in water use efficiency, with programs that are innovative and comprehensive in scope. It has been awarded a number of accolades for its achievements in water use efficiency. In fiscal year (FY) 2003/04, these water conservation and water recycling programs helped to save the district a total of 43,280 acre-feet of water, which amounts to approximately 10 percent of Santa Clara County’s total annual water use. By 2020, the district envisions meeting 20 percent of the county’s total annual water use through water conservation and recycling.

Recycled water use programs alone accounted for a total of 9,881 acre-feet in FY 03-04, marking a continued and steady increase since the district’s recycling program began in 1977. The key recycled water projects include the following:

- Constructed the award-winning (Outstanding Innovative Water Project

from WaterReuse Association) pump station at Christmas Hill Ranch Park and the reservoir above Eagle Ridge Golf Club.

- Contracted with Calpine at both the Metcalf Energy Center and at Gilroy Energy Center to use recycled water for its new energy plants’ cooling towers.
- Developing the South County Recycled Water Master Plan, which will identify short and long-term capital improvement projects for recycled water expansion.
- Creating a long-term master plan for recycled water in the Palo Alto Regional Water Quality Control Plant service area.
- Using financial incentives (since 1997) with the City of Sunnyvale to increase its recycled water delivery.
- Exploring additional sources of emergency water supply such as desalination. Desalination has been evaluated in SCVWD’s Integrated Water Resources-Management Plan, the BAB/E II program, and SCVWD’s FY 2003/04 Water Use Efficiency annual report.
- Participating in water resource regional recycled water management planning through the San Francisco Bay Area Regional Water Recycling Program (BARWRP).
- Completed an Advanced Treated Recycled Water Feasibility Study to further evaluate and expand recycled water to other markets and uses.

SCVWD implements all 14 Water Conservation Best Management Practices. SCVWD also has several ongoing conservation programs. They include:

- Weather-based Irrigation Controller Program, which provides historical and real-time evapotranspiration controllers to residential and small commercial sites throughout Santa Clara County.

- High Efficiency/Dual Flush Toilet Rebate Program, which provides a \$125 rebate to users who replace old, inefficient toilets with new, high-efficiency models.
- Commercial/Industrial/Institutional Water Use Survey Program, which offers free water use evaluations and water efficiency recommendations to businesses in Santa Clara County.
- Water Softener Rebate Program, which offers a \$150 rebate to residents who replace timer-based water softener systems installed before 1999 with new demand-initiated regeneration water softeners.
- Low-flow Showerhead and Aerator Replacement Program.
- Residential Clothes Washer Rebate Program.
- Irrigation Technical Assistance Program.
- Water Efficient Technologies Program.

In addition to SCVWD's recycling and conservation programs, the district provides public information and institutes outreach efforts on its various programs.

1.1.4 Contra Costa Water District

CCWD provides both retail and wholesale water supply to a population of approximately 500,000. CCWD relies almost entirely on the Delta for its water supply. CCWD's primary source of water is the Bureau of Reclamation's Central Valley Project. CCWD, in cooperation with the Central Contra Costa Sanitary District (CCCSD) and the Delta Diablo Sanitation District (DDSD), is working to identify opportunities for using recycled water. Although CCWD itself does not distribute recycled water, it actively participates with the CCCSD and DDSD, which both provide sanitary services within the CCWD service area, to facilitate and develop regional recycled water projects. The

two sanitary districts currently deliver recycled water to meet more than 10% of CCWD's annual demand (about 11 million gallons per day) including landscape irrigation and power plant use. CCWD also provides maintenance services for the CCCSD recycled water distribution system.

CCWD has a long history of implementing quality water conservation programs. In 1991, CCWD was one of the original signatories to the Best Management Practices (BMPs) identified in the Memorandum of Understanding (MOU) Regarding Urban Water Conservation in California. The BMPs are specific conservation measures that the MOU signatories voluntarily agreed to implement. These measures include:

- Conservation Survey Programs (Single Family Surveys, Multi-Family Surveys, Commercial, Institutional & Industrial Surveys, Large Landscape Surveys)
- Conservation Incentive Programs (Residential ULFT Voucher/Distribution Program, CII ULFT Replacement Program, Residential High Efficiency Clothes Washer Rebate Program, Rinse & Save – Pre-Rinse Spray Nozzle Replacement Program, Light Wash-Commercial High Efficiency Clothes Washer Rebate Program, Commercial Equipment and Irrigation Upgrade Rebates), and
- Public Information Programs.

One of the three components of CCWD's 1998 Future Water Supply Implementation Plan is to implement an expanded water conservation program to encompass wholesale and retail customers to achieve a minimum 5 percent District-wide savings by 2040.

Fiscal Year 2004 water conservation program highlights include:

- United States Bureau of Reclamation's 2003 Commissioner's Award for Water

Conservation efforts in the Mid-Pacific Region.

- Implementation of a new Ultra Low Flow Toilet (ULFT) Voucher/Distribution Program to make the former rebate program more cost effective.
- An interactive and comprehensive website that provides their customers easy access to water conservation information.

In Fiscal Year 2004 CCWD's conservation program saved over 2,200 acre-feet of water and by 2050 is projected to provide 15,000 acre-feet, or 38 percent of the future water supply needed in the District.

1.2 Goals and Objectives

Common goals such as improving water supply reliability have brought the four agencies together to explore seawater/brackish water desalination as a way to maximize social, environmental, and economic benefits and to better serve the more than 5 million residents and businesses that make up their collective customer base. The agencies are seeking grant funding support to conduct a feasibility study for a Regional Desalination Project (RDP) in the San Francisco Bay Area. Although all four agencies are working together to develop the RDP, EBMUD is submitting this application and would be the designated contracting entity for the feasibility study grant (see **Attachment 2**).

A number of issues and challenges are involved in developing a regional desalination project for agencies with distinct water needs. The feasibility study would develop a process by which the institutional, physical, environmental, and economic feasibility of the Bay Area RDP can be evaluated. From this analysis, the agencies would extrapolate the key 'lessons learned' in the form of a step-by-step process that can be replicated by other water agencies considering desalination.

The goal of the RDP is to further develop desalination as a water supply for the region. The goals and objectives of the feasibility study are to:

- Develop a process for evaluating the feasibility of regional collaboration for seawater/brackish water desalination.
- Identify a mechanism (such as a MOU or Joint Powers Authority) that can be implemented by multiple participants in a desalination project and execute an institutional agreement for the RDP.
- Develop and implement a process by which various criteria relevant to desalination projects can be evaluated to select optimal site(s). These criteria would include issues such as physical infrastructure, environmental issues and permitting, and cost. Apply this process to the RDP sites and select a site or sites for detailed evaluation.
- Provide information about the costs and benefits of a centralized regional approach to desalination to the public, other water agencies, and environmental groups.
- Produce a template that can be replicated elsewhere in the state, potentially reducing adverse environmental and socioeconomic effects along the California coast.
- Prepare preliminary site layout for selected RDP site(s) and scope of work for environmental impact analysis of the proposed Bay Area RDP

The concepts and process developed to successfully build an RDP in the Bay Area would directly benefit the participating agencies. In addition, it would have broader ramifications for the state and for other water agencies pursuing desalination as a viable water supply source. The Bay Area RDP would achieve many of the goals and recommendations of the State Desalination Task Force, which include the following:

- Include desalination, where economically and environmentally appropriate, as an element of a balanced water supply portfolio, which also includes conservation and water recycling to the maximum extent practicable.
- Ensure seawater desalination projects are designed and operated to avoid, reduce, or minimize impingement, entrainment, brine discharge, and other environmental impacts. Regulators, in consultation with the public, should seek coordinated mechanisms to mitigate unavoidable environmental impacts.
- If multiple desalination projects are proposed within a region, coordinate development and analysis of these projects, including their benefits and cumulative impacts.

1.3 Project Readiness and Environmental Impacts

1.3.1 Environmental Impacts

Proposed development of desalination plants raises a number of important environmental issues. These include potential adverse environmental impacts associated with new intake and/or outfall structures, and significant energy consumption. By developing a centralized regional project, the RDP would minimize the footprint of desalination plants along the coastline and reduce the potential environmental impacts. In addition, there are substantial cost savings associated with multiple agencies pooling their resources to develop a single project.

The proposed feasibility study will include an assessment of site and infrastructure configuration options for the RDP. One of the key factors in this assessment will be the environmental effects associated with locating the RDP at a particular site. During the feasibility study, additional sites may be

considered to ensure that environmental effects are minimized.

As the proposed feasibility study and RDP are developed, the agencies will also coordinate with other proposed projects in the region including the Delta Diablo Sanitation District Demonstration Project and the Marin Municipal Water District Desalination Project to the extent practicable so that information sharing is maximized and potential project linkages identified. Schedules will be coordinated so that data from these projects can also be used in preparation for the RDP. By coordinating with other projects and incorporating their findings as appropriate, the RDP is likely to avoid redundancies and possible environmental impacts.

1.3.2 Project Readiness

EBMUD, SFPUC, SCVWD, and CCWD have a long history of working together. SFPUC and EBMUD have partnered with the City of Hayward to construct new facilities to allow up to 30 MGD of water to be shared among these systems in the San Lorenzo/Hayward area. A 40 MGD emergency intertie exists between SFPUC and SCVWD in the vicinity of the City of Milpitas and can transfer water between the two systems. A new 100 MGD intertie facility will be built to allow CCWD to receive CVP supplies through the EBMUD Freeport project. Other such interties also exist among the agencies.

In 2003, the agencies entered into a MOU to explore the initial pre-feasibility of the RDP. In October 2003, the agencies completed a Phase 1 Pre-Feasibility Study that included a permit reconnaissance, evaluation of product water quality from desalination, and a siting study (**Attachment 3**). The siting study included an assessment of site-specific feed water quality, review of permitting and water rights issues, and environmental justice. The study resulted in the short-listing of three of 21 potential sites considered. In June 2004,

the agencies entered into a second (Phase 2) MOU (**Attachment 4**) to conduct preliminary environmental screening and an evaluation of conveyance options for the three short-listed sites. Phase 2 is currently underway. The current MOU could be amended to perform the proposed feasibility study.

In order to implement the RDP, the agencies must obtain environmental clearance and regulatory permits; construct a pilot or demonstration project; complete final engineering and design plans; and construct a full-scale plant. Prior to embarking on these steps, it is critical that the agencies conduct a feasibility study that will establish the viability of a regional approach based on specific goals and constraints. A well-structured and well-thought-out institutional agreement is crucial to the success of a regional project involving multiple agencies with different sets of priorities and limitations. In addition, the agencies will need to select a preferred site or sites, further evaluate product water conveyance options based on the selected site(s), identify feasible combinations of site and infrastructure configurations, prepare preliminary site layout(s), and scope the studies that will be needed to obtain environmental clearance. This feasibility study will provide a clear, documented analytical approach that will serve as the foundation for the RDP.

The feasibility study will also serve to justify, to agencies' Board members, stakeholders, and the public, why the commitment of considerable resources for the RDP is a worthy pursuit.

Having expended significant time and resources on the Phase 1 and 2 Pre-Feasibility Study portion of the RDP, the agencies have demonstrated their commitment to a centralized regional approach in pursuing desalination in the Bay Area. State funding support of this feasibility study will ensure that the project progresses in an efficient, replicable, and timely manner.

2.0 STATEMENT OF WORK, SECTION 2: INNOVATION AND TECHNOLOGICAL ADVANCEMENT – SELECTION CRITERION II (20 PTS)

While numerous collaborative efforts such as BAB/E and the convening of the Desalination Task Force have been undertaken in California to help solve regional water challenges, the RDP is unique in its centralized approach to project implementation. In addition to sharing information and benefiting from each other's experiences, the agencies participating in the RDP are committed to working together to develop a single desalination project, emphasizing common goals and objectives. As outlined in Section 1.3.1, the RDP would minimize potential adverse environmental impacts associated with the construction of separate desalination plants in close proximity to one another; it would also provide substantial cost savings to each of the agencies, and thereby to the water users in their respective service areas. Through the proposed feasibility study, the agencies will be able to: 1) build a strong foundation and complete tasks that are critical to the success of a complex regional desalination project and 2) provide a clear and sound rationale for initiating the RDP.

A primary focus of the feasibility study would be to use systematic technical analytical processes to strengthen and improve the decision-making system for identifying, evaluating, collaborating, and managing the RDP. Experience from other types of regional projects has shown that missing or inconsistent local or regional decision-making authority is a severe constraint to effective management, and therefore strengthening of regional institutions in the future must be oriented toward strengthening the decision-making processes. As the level of participation in the RDP is not determined by equal division but rather by the needs and priorities of each water agency (i.e., **needs driven**), one of the main innovations

associated with this feasibility study project is that it will target specific priority needs and problems set by the water agencies and bring them together under the umbrella of a centralized regional project.

Another unique aspect of the proposed feasibility study is that it would be designed to serve as a tool for other water agencies considering the centralized regional approach. There are several areas along the California coastline where desalination projects are being considered in close proximity to one another; however, a centralized regional project is not being explored elsewhere in the state. Issue papers (described in Section 3.6) produced over the course of the feasibility study will include user-friendly templates that can be used by other water agencies to build their own regional projects, based on the experience of the agencies participating in the RDP. If a regional approach is feasible and can be implemented in the Bay Area, it could be applied in other areas of the state. In this way, this feasibility study will both pave the way for the continued development of the RDP and establish an analytical model to advance opportunities for other regional desalination projects.

3.0 STATEMENT OF WORK, SECTION 3: TECHNICAL/ SCIENTIFIC MERIT, FEASIBILITY, AND PROJECT READINESS – (20 PTS)

The scope of the feasibility study will be divided into two key sections with distinct deliverables.

3.1 Task 1: Develop Institutional Agreement

The development of a regional desalination plant will require significant collaboration and coordination among the regional water agencies. Because different agencies would have different needs, constraints, and value systems, developing institutional agreement among the agencies would be challenging. A transparent and defensible process must be used to make and document key technical and policy decisions. As a part of the proposed feasibility study, we will develop such a process for the Bay Area RDP.

Figure 1 shows a conceptual flowchart of the major steps in developing institutional agreement for a regional desalination plant. Brief descriptions of these steps follow. As stated under “Project Readiness and Environmental Impacts,” above, the agencies have already completed some of the earlier steps as part of previous studies. These steps will be generalized to make them transferable and usable by other agencies interested in developing regional projects. Additional steps that have not yet been undertaken as part of the previous Bay Area RDP studies will be developed and validated for the proposed feasibility study. All steps will be fully described in issue papers produced as part of the feasibility study deliverables.

FIGURE 1. ROADMAP FOR DEVELOPING INSTITUTIONAL AGREEMENTS

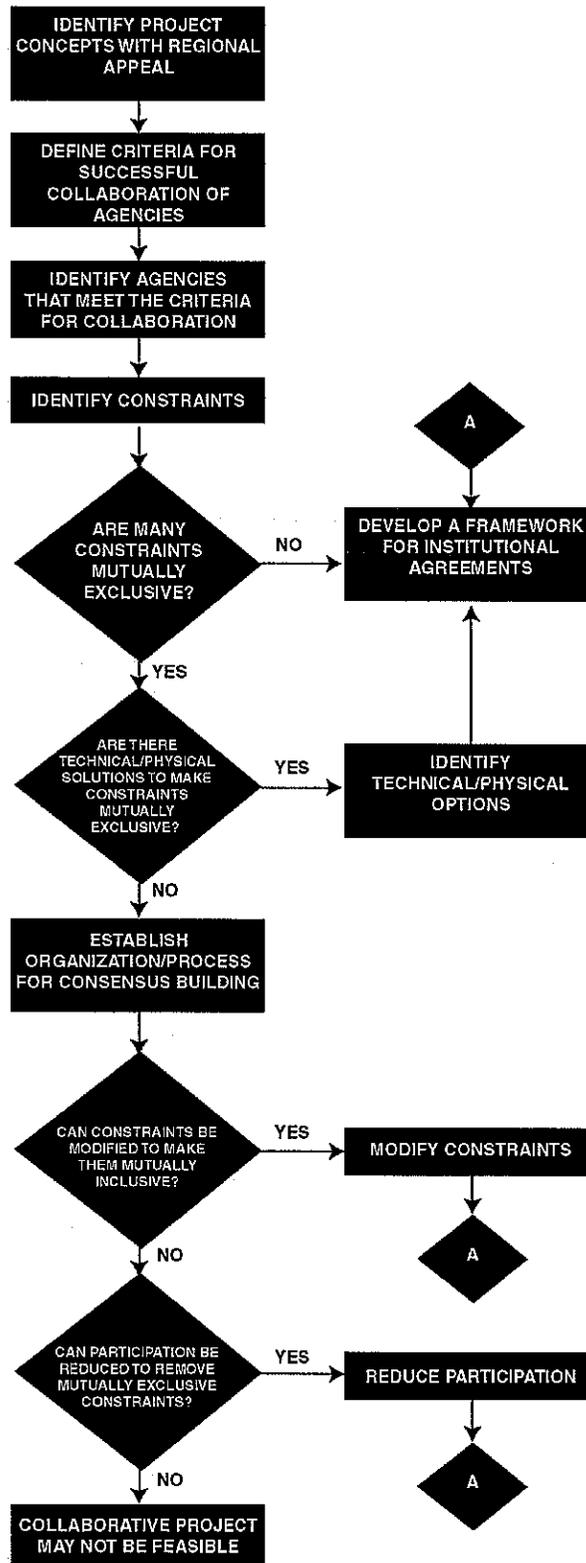


Figure 1

1. **Identify Project Concepts with Regional Appeal.** In this step, broad concepts for a regional desalination plant are identified. These would include preliminary areas for the plant and options for integration with existing or new water distribution infrastructure facilities. Certain minimum capacity and operational goals may also be defined to make sure that the plant can meet the some of the needs of multiple agencies. *The agencies have already completed this step for the RDP.*
2. **Define Criteria for Successful Collaboration of Regional Agencies.** In this step, criteria are defined for a successful collaboration among the regional agencies. The criteria would identify characteristics of the agencies that would enhance the chance of achieving interagency agreements. Examples of such characteristics include prior collaboration, interconnectivity of the existing infrastructure facilities, common vulnerability to interruption of water supply from natural or human-made hazards, and political leadership that would encourage and support a regional project. The criteria would identify any fatal flaws that could prevent the agencies from collaboration, such as current disputes about water rights. *This step has been completed for the four partner agencies.*
3. **Identify Agencies that Meet the Criteria for Collaboration.** In this step, potential agencies that meet the criteria for collaboration are identified. If feasible, agencies beyond the four currently under consideration may be identified. This step may also be undertaken later in the process if other agencies get interested as the project matures and benefits of collaboration become clear.
4. **Identify Institutional Constraints.** In this step, institutional constraints are

identified for each participating agency. For the proposed study, we will develop a checklist of potential institutional constraints and describe the issues involved in addressing each constraint. The checklist of constraints will be reviewed with the agencies and modified or expanded, as appropriate.

Mutually exclusive constraints are those that cannot be satisfied simultaneously. That is, if one constraint is satisfied, another constraint cannot be satisfied. For example, one agency may require that only existing infrastructure facilities be used to transport water due to environmental concerns, while another agency insists that new infrastructure facilities would be required to satisfy their water needs. Both conditions cannot be satisfied, and hence they would be mutually exclusive. Mutually inclusive conditions, those that can be simultaneously satisfied, will also be identified.

5. **Identify Technical/Physical Options.** In this step, technical/physical options are identified to address mutually exclusive constraints. Mutually exclusive constraints, if left unresolved, would become fatal flaws for the project. Therefore, such constraints must be modified to make them mutually inclusive. In the example given above, one option could be to explore whether both agencies would accept limiting new infrastructure construction to an area that would cause minimal environmental impact. Another option could be to improve the condition of existing infrastructure to increase its capacity, thus avoiding the need for new infrastructure. As part of the proposed study, potential technical/physical options will be developed that could address the mutually exclusive constraints identified in the previous step.

6. Establish Organization/Process for Consensus Building. In this step, an organization/process is established to address any mutually exclusive constraints that could not be resolved in the previous step. An interagency Consensus Building Group may be organized with appropriate responsibility and authority to resolve any remaining mutually exclusive constraints. Guidance will be developed for details such as membership in the group; roles and responsibilities of individual members; and processes for interaction, negotiation, and decision making. The interagency consensus building group will be formed and discussions will be held and moderated by an independent third party. All mutually exclusive constraints will be resolved through this process.

7. Develop a Formal Document for Interagency Agreement. This task will consist of identifying the appropriate mechanism for an institutional agreement. The agreement will be drafted based on information obtained from Steps 1 through 6. The agreement will constitute the contractual basis for implementing the Bay Area RDP.

As progress is made towards developing a viable interagency agreement, additional agencies in the Bay Area may get interested in joining the coalition of the four currently committed agencies. If this were to occur, Steps 4 through 6 will be repeated to expand the agreement framework among the four agencies to incorporate a new agency (or agencies) being considered for partnership. This step then will require additional analysis of common goals and constraints between the group of the four current agencies and a new agency under consideration.

8. Develop a Framework for Interagency Agreements. In this step, a framework will be developed to establish formal

interagency agreements. Practical options for such agreements (e.g., MOUs) will be identified. A checklist will be developed to identify important issues that should be addressed in the agreement documents. The framework developed in this step will be applicable to any water agency considering participation in a regional desalination project in California.

3.2 Task 2: Assess Site/Infrastructure Options

Depending on the size of the study region, many potential sites may be considered for a regional desalination plant. For each possible site, several infrastructure configurations may be feasible. Thus, many combinations of site-infrastructure configurations (project alternatives) may need to be evaluated to identify a preferred combination. Individual agencies would have their own goals, needs, preferences, and user expectations. The relative importance of the different goals may also vary among the agencies. Again, a transparent, systematic, and reproducible process must be used to meet public and regulatory scrutiny. For the proposed study, we will develop such a process and demonstrate its effectiveness and practicality by implementing it for the Bay Area RDP.

Figure 2 shows the key steps in the conceptual framework for the development and evaluation of project alternatives. As a part of the proposed study, we will fully develop and document each step and demonstrate its usefulness by applying it to the RDP. Guidance will be developed for each key step to provide details on roles and responsibilities of representatives of participating agencies, organization of project meetings, format for feedback to the agency management and public, and process for consensus building to address issues of institutional disagreements.

FIGURE 2. ASSESSMENT OF SITE/INFRASTRUCTURE OPTIONS

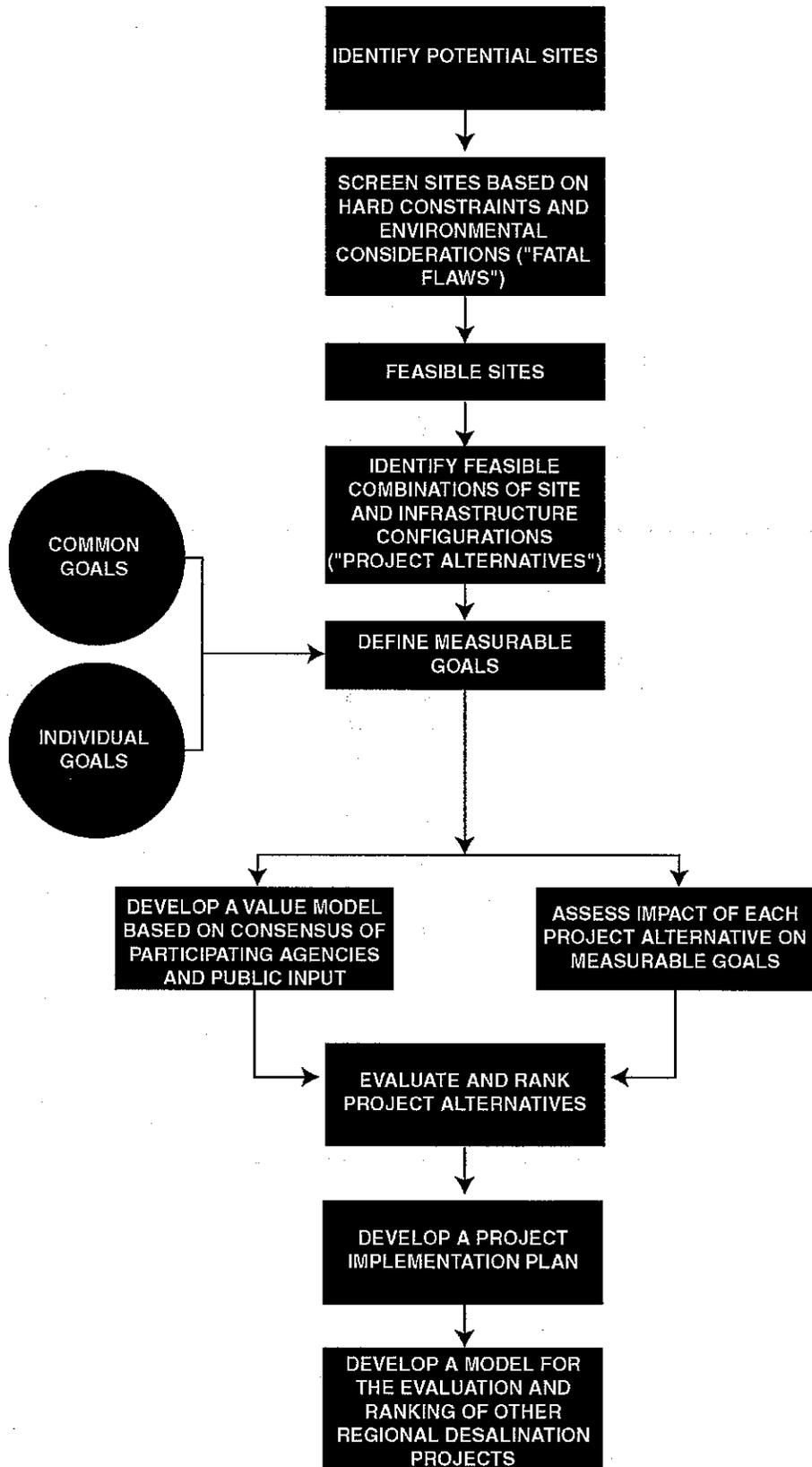


Figure 2

1. **Identify Potential Sites.** In this step, potential sites for a regional plant are identified. For the proposed study, we will develop criteria for identifying potential sites and provide sources of available data for applying these criteria. This step has been already completed for the Bay Area RDP. However, if additional agencies are identified in the process of completing Task 1, it may be necessary to identify additional sites that would address the needs of the expanded group of agencies. We will also generalize this step to make it useful in developing other regional projects.
2. **Screen Potential Sites Based on Hard Constraints and Environmental Considerations (“Fatal Flaws”).** In this step, a screening process is applied to eliminate less attractive sites and produce a set of feasible sites that should be pursued further in the evaluation process. The screening process will use hard constraints (“fatal flaws”) such as proximity to an environmentally sensitive areas. A site that is affected by a hard constraint is eliminated from further consideration or changed to avoid the effect of the hard constraint. The output of this step will be a set of feasible sites that are carried to the next step. We will develop a comprehensive list of hard constraints and identify any site or infrastructure modifications that could avoid the effect of a hard constraint. The screening analysis has already been performed for the Bay Area RDP. We will generalize and document the process so that it will provide useful guidance for other regional projects.
3. **Identify Feasible Combinations of Site and Infrastructure Configurations (“Project Alternatives”).** In this step, alternative infrastructure configurations are developed for each feasible site. Options are investigated for both using the existing infrastructure facilities (such as

pipelines and storage facilities), possibly with some modifications, and constructing new facilities. For the proposed study, we will develop criteria and guidelines for identifying feasible options for infrastructure facilities. Constraints on constructing new facilities will be identified. Some of the infrastructure configurations may not be feasible at one or more sites because of site-specific constraints. The output of this step will be a set of feasible combinations of sites and alternative configurations (project alternatives).

4. **Define Measurable Goals.** The objective of this step is to define system performance goals for the Bay Area RDP and to establish one or more specific evaluation measures for each goal. Evaluation measures could include cost, schedule, reliability and redundancy; potential safety and security hazards; permitting difficulties; environmental impacts; and socioeconomic impacts. Each measure should provide a scale that quantifies the degree to which the underlying goal has been achieved. The scale could be natural (such as acre-feet of storage capacity or MGD of supply) or constructed (e.g., high, medium, and low levels of environmental impact). The set of measurable goals should be *complete* (i.e., the set should include all aspects of system performance that are of concern to the agencies), *unique* (i.e., there should be no double counting among the selected measures), and *efficient* (i.e., only significant aspects of system performance should be represented to produce a minimum-size set).

The process should include both common goals for all participating agencies and distinct individual goals for each agency. Examples of common goals include minimizing the total project cost, maximizing water yield, and minimizing project completion schedule. Individual

goals may include achieving some minimum water quality for the new yield and minimizing the construction of new infrastructure facilities.

For the proposed study, we will develop a comprehensive list of goals and measures and customize this list for the RDP.

5. Develop a Value Model Based on Consensus of Participating Agencies.

The objective of this step is to develop a model of the value judgments of the decision makers and key stakeholders that would guide their preferences among the various alternatives. A key component of the value model is identifying value tradeoffs between competing evaluation measures. For example, a particular alternative may provide greater reliability with added redundancy but may generate greater environmental impacts. Such value tradeoffs, in turn, provide the means with which to assess the relative weights of the different evaluation measures. These weights may be assessed using the structured *Delphi* method of assessment, feedback, and opportunity to revise. The *Delphi* method is useful for developing a consensus among experts or policy makers by facilitating an exchange of information and viewpoints.

One major advantage of the decision analysis process is that the value judgments that would be used to evaluate alternatives are fully documented. Both consensus value judgments as well as any differing viewpoints are documented so that the sensitivity of results to the differing viewpoints could be evaluated (as described in Step 7, below). Note that the value judgments are assessed in terms of the relative importance of goals and measures rather than direct preferences for project alternatives. This approach minimizes the influence of any stakeholder bias toward specific alternatives by focusing on the assessment

of value judgments regarding the importance of fundamental project goals and measures.

We will complete the development of a value model for the agencies participating in the RDP. It is expected that this step will require structured workshops with the participating agencies to develop consensus value judgments. Values and tradeoffs regarding common goals as well as individual goals will be assessed. The process and its implementation will be documented to make it usable in other regional projects.

6. Assess the Impact of Each Project Alternative on Measurable Goals.

The objective of this step is to estimate the impacts of each alternative on the evaluation measures defined in Step 4. The layout and design of each alternative will be developed in sufficient detail so that necessary data could be compiled to estimate the impact of the alternative on such measures as cost, schedule, reliability and redundancy; potential safety and security hazards; permitting difficulties; environmental impacts; and socioeconomic impacts. The results of this step are summarized in the form of an *Alternatives Impact Matrix*. The rows of this matrix are the alternatives that would be evaluated, and the columns are the various evaluation measures.

We will complete the assessment of impacts for the project alternatives defined for the Bay Area RDP. The process and its implementation will be documented for application to other regional projects.

7. Evaluate and Rank Project Alternatives.

The objective of this step is to integrate the information from the previous steps and compute an overall value of each alternative. The alternatives can then be ranked in a descending order of the overall value.

An important part of decision analysis is evaluating the sensitivity of the ranking of alternatives to the various assumptions and value judgments used in the analysis. For example, the acceptable value tradeoffs between conflicting measures may vary among different stakeholders. The degree of acceptability of various alternatives among the stakeholders can be evaluated by examining the influence of the different value tradeoffs on the overall value of each alternative. Results of the sensitivity analysis assist in identifying one or more alternatives that consistently receive high rankings under a variety of plausible value judgments, and hence are likely to receive wider acceptance among the stakeholders. The evaluation and ranking of project alternatives for the Bay Area RDP will include cost considerations of each alternative.

8. Develop a Project Implementation Plan.

In this step, a plan is developed to implement the selected project alternative(s). For the proposed study, we will identify the key elements of the plan, including those related to project cost and schedule. The process and the specific guidelines for the development of the project implementation plan will be documented. Using these guidelines, this step will be completed for the RDP.

9. Develop a Model for the Evaluation and Ranking of Other Desalination Projects.

Based on the processes and analyses performed in Steps 1 through 8, a generalized model will be developed that can serve as a template for the evaluation and ranking of any desalination project in California. This step will emphasize the common issues faced by water agencies across the state, as well as recommendations on how they may be weighted to develop a rational ranking system.

3.3 Task 3: Prepare Preliminary Site Layout

This task will consist of preparing a preliminary site layout(s) for a full-scale desalination plant at the preferred alternative site identified in Task 2. The site layout will consider connections to existing infrastructure, identification of required new infrastructure, pretreatment processes, desalination (reverse osmosis) processes, and post-treatment processes. A memorandum will be prepared explaining the process flow of the preliminary site layout.

3.4 Task 4: Prepare Detailed Scope for Environmental Impact Analysis

A detailed scope of work for an environmental impact analysis of the RDP based on the preliminary site layout at the preferred alternative site will be prepared. This scope will include analysis of impacts to all resource categories as required by the California Environmental Quality Act (CEQA). Technical studies to support the impact analysis will also be scoped, as appropriate. Technical studies to be scoped may include fisheries studies and hydrological modeling of the brine discharge, among others. The scope of work will be tailored for the preferred RDP alternative and would include the preparation of an Environmental Impact Report under CEQA.

3.5 Task 5: Conduct Public Outreach

Public outreach is an important component of the proposed feasibility study. Sixteen percent of the proposed feasibility study budget is earmarked for public outreach. As described in the "Outreach, Information Sharing, Environmental Benefits, and Environmental Justice" Section, it will focus on information sharing and gathering input from the public throughout the feasibility study.

1. Develop an Interactive Project Website.

The agencies will create a project website,

which would be linked to each of their sites, the DWR site, and the sites of other interested agencies or organizations. The site would be continually maintained and updated, providing information on the feasibility study progress as well as responses to issues and concerns raised by the public.

2. **Hold Meetings with Representative Organizations and Environmental Groups.** A minimum of three meetings between the participating Bay Area agencies and citizens' groups and environmental organizations will be held during the feasibility study to provide an avenue for communication on the feasibility study and the Bay Area RDP before the feasibility study is completed. Input from various entities will be sought to strengthen the process by which a regional institutional framework is developed.
3. **Hold Public Workshops.** Two public workshops will be held in the vicinity of the selected site(s), one mid-way through the project and one at the conclusion of the feasibility study. If two sites are selected, a total of four public workshops will be conducted. The workshops will serve as a forum for information sharing. Written materials documenting the feasibility study results will be made available to the public at these meetings.

3.6 Reporting

Quarterly project fiscal and programmatic reports will be prepared to document progress on the feasibility study tasks. At the conclusion of the feasibility study, a final report will be submitted, which will include issue papers related to the tasks as described above. The issue papers, in turn, will include two parts: (1) a description of the approach, analysis, and results of the feasibility task as it relates to the Bay Area RDP, and (2) a model that provides a framework, based on the experience gained during the Bay Area RDP,

that can be replicated by other water agencies considering regional desalination projects in California. The model will include checklists and decision flowcharts, as appropriate.

At the conclusion of the feasibility study the agencies will have:

- An interagency agreement for the RDP,
- Definition of RDP alternatives,
- A public, stakeholders, and agency outreach program,
- Preliminary Site Layout, and
- Environmental Impact Analysis Scope of Work.

3.7 Monitoring and Assessment

The agencies will regularly monitor progress on each of the steps undertaken under Tasks 1 through 5 described above. Progress will be reported, as described in Section 3.6, through quarterly programmatic reports and on a project website that will be maintained by the agencies. Details of this task are provided in Section 4.

3.8 Project Management/Administration

The feasibility study will be managed by Dr. Hossein Ashktorab. Management of the feasibility study will entail: internal work planning (budgeting, scheduling, task work plans, management review), management and administrative controls (project cost controls, communications, filing, data management), performance and quality monitoring (task milestone development and tracking deliverables' progress) and progress reporting. Mr. Alexander Coate will be the contract manager for this project and will oversee the contractual details of the feasibility study. He will be responsible for administering the contract with DWR and fulfilling obligations specified in the contract.

3.9 Environmental Documentation/Permitting and Health and Safety Requirements

The proposed feasibility study will provide the framework through which the four Bay Area agencies can participate in a regional desalination project. The development and implementation of the framework itself does not require CEQA compliance in the form of an environmental document. However, the framework provides the basis for the future planning and implementation of the RDP. For the RDP, an Environmental Impact Report would have to be prepared pursuant to CEQA, and all relevant permits would be required, such as a National Pollutant Discharge Elimination System (NPDES) permit, a U.S. Army Corps of Engineers Section 404 permit, a Bay Conservation and Development Commission permit, and amendment of drinking water permits. Additional permits and consultations may be required depending on the site. The environmental review and permitting for the RDP will be conducted once the viability of a regional project is demonstrated.

Initial environmental screening based on CEQA checklist criteria was carried out as part of the Phase 1 Pre-Feasibility Study to narrow the number of sites being considered from 21 to three (**Attachment 3**).

A detailed schedule including start dates, end dates, cost, and deliverables is provided in **Table 1**.

4.0 STATEMENT OF WORK, SECTION 4: MONITORING/ASSESSMENT AND ASSURANCES – SELECTION CRITERION IV (10 PTS)

The feasibility study will contribute to the success of the RDP by providing a foundation for the institutional, physical, and economic framework of the overall RDP. Unlike a project that entails the physical construction of a plant, the monitoring of the proposed

feasibility study will be qualitative in nature and based on progress made in developing and executing a workable agreement between multiple agencies. Ultimately, the success of the feasibility study will be measured by the execution of an interagency agreement that is satisfactory to each of the participating agencies.

Progress will be recorded on a regular basis. For example, the details of structured workshops held as part of the site assessment section of the feasibility study will be recorded and made available to the public. Similarly, the legal discussions between agencies will be recorded by a qualified professional who will provide summaries of the salient legal issues that surface in the interagency discussions. Status and schedule updates, as well as records of tasks undertaken for the feasibility study, will be provided on a project Web site. The Web site will disseminate information to a broad audience including the public and agencies such as the California Department of Water Resources such that they can understand the process and apply lessons learned to other projects. Individuals will be able to submit questions about the project, which would then be posted with responses in a Q&A section of the Web site.

The details of the progress on feasibility tasks, including public concerns and comments raised during the process, will also be incorporated into quarterly and annual programmatic reports provided to the state as part of the project.

5.0 OUTREACH, INFORMATION SHARING, ENVIRONMENTAL BENEFITS, AND ENVIRONMENTAL JUSTICE – SELECTION CRITERION V (10 PTS)

Public outreach for the proposed feasibility study will focus on three primary groups: (1) water agencies considering participation in desalination projects in California, (2)

environmental groups that may be concerned about the environmental effects of constructing numerous desalination plants along the California coastline, and (3) individual residential or business water users who are seeking information on the benefits and drawbacks of regional desalination projects. Public outreach activities will focus on information sharing and gathering input from each of these groups to strengthen the process by which the regional framework is developed.

Community interviews and focus groups will be conducted to identify public opinion and perception of desalination among users in the region served by the four participating Bay Area agencies. Because desalination is still a relatively new concept in California, there are strong perception issues associated with it. It is likely that some environmental groups and citizens groups will oppose the development of the RDP. Since the regional project affects a large population across four service areas, the opposition to the RDP and the use of resources to establish an interagency framework may also be significant. Clear communication with these groups and demonstration of a transparent process by which decisions are made will be particularly important. For example, the methods will be described by which environmental justice issues are taken into account in the evaluation of alternatives. The need for the feasibility study for the long-term success of a regional project will also be explained. The environmental and cost benefits of a regional project compared to individual projects (such as fewer intake and outfall structures) will also be detailed.

Meetings will be held with representative organizations such as the Association of Bay Area Governments (ABAG), the Northern California Salinity Coalition (NCSC), the Bay Area Council, and the Bay Area Economic Forum. Interactive workshops will be held toward the conclusion of the feasibility study to describe findings and provide tools that demonstrate how the feasibility study

methodology and results can be used to efficiently replicate the process in other parts of the state. Information will be disseminated in written form through CDs, reports, and the interactive project Web site. Information will also be provided orally in meetings and workshops.

6.0 QUALIFICATIONS OF THE APPLICANTS AND COOPERATORS—SELECTION CRITERION VI (10 PTS)

For over two years, EBMUD, SCVWD, CCWD, and SFPUC have been working together toward developing the Bay Area RDP. The MOU between the four participating agencies (**Attachment 4**) defines their relationships, roles, and general responsibilities for Phase 2 of the RDP Pre-Feasibility Study. The Phase 1 Pre-Feasibility Study was completed by the participating agencies in October of 2003.

On the basis of the Phase 2 MOU, EBMUD will serve as the applicant for this feasibility study proposal. EBMUD has appointed a Contract Manager, Alexander Coate, to oversee the contractual details of the feasibility study. Mr. Coate will manage all day-to-day contractual issues with DWR, among agencies, and with any consultants retained for the project. The Project Manager for the proposed feasibility study will be Hossein Ashktorab of the SCVWD. Mr. Ashktorab will serve as the direct project contact with the Department of Water Resources for the proposed feasibility study. A technical advisory team, including representatives from each of the four participating agencies will provide input to the Project Manager and work directly with any consultants for the project.

An organizational chart demonstrating the roles of each of the agency representatives is provided in **Figure 3**. Biosketches for each of the individuals listed in the chart are provided below. Mr. Ashktorab's resume follows **Figure 3**.

Alexander Coate – Alexander Coate is currently Manager of EBMUD’s Water Supply Improvements Division with 23 staff and a five-year combined capital and operating budget of more than \$500 million. For ten of the 12 years that Mr. Coate has been employed with EBMUD he has held various management positions. Prior to joining EBMUD, Mr. Coate worked for ten years with engineering consulting (CH2M Hill), research (U.C. Berkeley Sanitary Engineering Environmental Health Research Labs), and legal (McCutchen, Doyle, Brown and Emerson) businesses.

Suresh Patel – Suresh Patel is a registered Civil Engineer in California and has worked for the past 28 years. He has worked on water-related projects as a Project Engineer and as Project Manager for the last 10 years. Since 2001, he has managed the Regional Desalination Project for SFPUC and worked with other partners (EBMUD, CCWD, and SCVWD) on the RDP and the SFPUC-EBMUD Intertie Project. He has represented SFPUC in the SCVWD Reliability Study.

Hasan Abdullah – Mr. Abdullah has been working as EBMUD’s Desalination Project Coordinator for the past two years. He is also the Project Manager for the Phase 2 Pre-Feasibility Study of the Bay Area Regional Desalination Project. He is a member of the ACWA Desalination Sub-committee. Mr. Abdullah has over 15 years of project management and engineering experience, most of it working in Bay Area. He has lead several water supply projects for EBMUD and has been coordinating EBMUD’s desalination efforts lately. Mr. Abdullah has a Bachelors Degree in Chemical Engineering (Professional Engineer in California) with an emphasis on water treatment and a Masters Degree in Environmental Engineering.

Pamela John – Pamela John is a registered Civil Engineer in the state of California and holds a Water Treatment Operator license T-4 from the California Department of Health

Services. She holds both bachelor and master degrees in Civil Engineering with emphasis in water resources and environmental engineering. In addition to prior civil engineering experience, she has worked professionally on *water* projects since 1990, in the capacity of project engineer, project manager, senior project manager and senior engineer. Since 2003, she has managed the Regional Desalination Project for SCVWD.

Marie Valmores – Marie Valmores is a registered Civil Engineer in the state of California and has over 20 years of work experience at EBMUD. She worked as a project engineer on water resources, treatment, operations and distribution planning projects, and as a senior engineer she supervised the water service planning section which served as the environmental documentation and preliminary design review clearinghouse of projects that potentially impact the District’s raw water, treatment or distribution systems. Currently with the CCWD, she manages the various water recycling agreements with two local wastewater agencies and has managed the Regional Desalination Project since mid-2004. She is an active member of the AWWA Information Management Technology Committee.

7.0 COSTS AND BENEFITS–SELECTION CRITERION VII (10 PTS)

Cost associated with the proposed feasibility study will be primarily labor. No equipment will be purchased and no travel expenses will be incurred. Some materials will be required for report production and public information sharing. Costs associated with these materials have been budgeted in the Public Outreach task. The Planning/Design Engineering line of the Project Costs includes some budget for legal review associated with preparation of the framework agreement. However, because these are not fees associated with obtaining permits or other construction-related issues they have not been itemized in the Project Legal/License

Fees line of the Project Costs. It is anticipated that the participating Bay Area agencies would retain the services of a consultant who would serve as an independent party throughout the feasibility study process. The consultant will be responsible for Public Outreach and the decision analysis process to be used in conducting the feasibility study. The budget assumes that the consultant would have senior level (at least 20 years) in decision analysis modeling as well as siting and permitting experience with desalination projects in California.

The project for which grant funding is being requested is a feasibility study. Costs for the Non State Share for this project will be funded equally among the four participating Bay Area water agencies. It is anticipated that the amount each agency will need to contribute for the feasibility study is \$62,439. Therefore, for this project no other funding entities will be required for the Non State Share and a financial model has not been developed. Funding mechanisms for the full-scale Regional Desalination Project will be determined at a later date.

The Bay Area RDP Feasibility Study will provide a foundation for the four participating Bay Area agencies, establishing the goals, measures and criteria by which they will be able to collaborate on moving the RDP forward. By pooling their resources the four participating agencies will limit the footprint of desalination projects in the region thus reducing environmental impacts such as those associated with intakes, outfalls, and other infrastructure. This centralized approach to solving a regional problem will also result in cost-savings to the consumers. In addition, through the feasibility study, the agencies will develop a model that can be used as a tool by other water agencies throughout the State to develop a regional desalination project. The tool will be user friendly and can be easily replicated. The information to be obtained from this feasibility study will greatly benefit other areas of the State where regional projects may be

considered and will result in costs savings to other agencies by providing a model and template they can follow.

HOSSEIN ASHKTORAB
Santa Clara Valley Water District
5750 Almaden Expressway
San Jose, CA 95118-3614
(408) 265-2600

EDUCATION:

Ph.D., University of California, Davis, 1989. Plant, Soil and Water Science.
Master of Science, California State University, Chico, 1981. Irrigation.
Bachelor of Science, University of Mazandaran, 1979. Agriculture Engineering.

PROFESSIONAL EXPERIENCE:

Unit Manager, Water Conservation & Recycling Unit, Santa Clara Valley Water District
Jan. 2001-Present

Responsible for managing the District Water Use Efficiency Unit (WUE) providing technical direction, coordinating its activities with other District Units, and external stakeholders including 11 water retailers. The water conservation program is a long-term commitment of the District, which provides the highest quality programs and educational opportunities to residents businesses, and growers in Santa Clara County.

Managing the implementation of all 14 BMPs required by the Memorandum of Understanding Regarding Urban Water Conservation in California (MOU). In addition, managing the adopted Water Conservation Plan (including agriculture water conservation program) to comply with US Bureau of Reclamation mandate as required by the Central Valley Project Improvement Act (CVPIA).

Manage and participate in the development, implementation and administration of the water conservation and water recycling programs with more than \$9 million annual budget in Santa Clara County. In addition to this, managed numerous grant funded programs, which, in FY 03/04 alone, totaled over \$2.8 million.

Develop partnership with local and regional cities including various water conservation programs with City of San Jose with more than \$3 million cost-sharing budget as well as cost-sharing agreement with six other agencies in Northern California for residential efficient clothes washing machine.

Participate and engage in the recycled water partnership such as South Bay Water Recycling cost sharing agreement for the \$50 million of projects in the Santa Clara County.

Responsible for implementation of CALF ED grants for the District Agricultural and Urban Water Use efficiency programs. Developed proposals and received grant fund for two District's water recycling projects from Propostion13 grant funding.

Water Conservation Specialist, Water Conservation & Recycling Unit, Santa Clara Valley Water District Jan. 1997-Jan. 2001

Developed and managed water conservation programs including programs for agricultural and large landscape water users.

RESEARCH AND TEACHING EXPERIENCE:

Researcher/ Assistant professor, University of California, Davis. June 1996-Dec 1997.
Crop water requirement and water management

Assistant Professor, Dept. of Irrigation Eng., Shiraz University. Sept. 1993-June 1996.
Lectured on urban water use, conservation, cropwater requirements, and irrigation systems

Associate Land Water Use Analyst, California Department of Water Resources, Dec. 1986-Sept. 1993.

Technical coordinator for the Assembly Bill 325 Task Force Advisory Committee in 1991 and 1992 and facilitated the development of the State Landscape Water Conservation Model Ordinance. Assisted water agencies, cities and counties to develop and implement landscape water conservation guidelines and ordinances.

As a member of the State Water Conservation Advisory Committee, participated in the development of the Best Management Practices (BMPs) in water conservation.

Developed a new method using nonlinear regression model to estimate crop water requirement values for major crops in the Delta's agricultural area, which was the basis for the negotiation of the irrigation water use.

Supported agencies in the development of their water management plan, implementation and evaluation of various water conservation programs such as the ULF toilet replacement, toilet displacement devices, low flow shower heads and outdoor water audits.

Developed a new method using nonlinear regression model to estimate historical ETo values in the Delta's agricultural area.

Research Assistant, University of California, Davis. Sept. 1981-May 1982 and April 1983-Dec. 1986

Field laboratory investigations related to the separation of soil evaporation and transpiration of tomato plants. Studied the evaporation rate under different plant growth stages and soil moisture contents using highly sensitive Lysimeter.

**APPENDIX A:
PROJECT INFORMATION FORM**

1. Applying for (select one):
- Feasibility Study**
- Research and Development Project**
- Pilot or Demonstration Project**
- Construction Project**
2. Principal Applicant (Organization or Affiliation): East Bay Municipal Water District (EBMUD), on behalf of the Bay Area regional desalination partnership
3. Project Title: Bay Area Regional Desalination Project
4. Person authorized to sign and submit proposal and contract:
- | | |
|------------------|--|
| Name, Title: | Dennis M. Diemer,
General Manager |
| Mailing address: | East Bay Municipal
Utility District |
| | P.O. Box 24055,
Oakland, CA 94623 |
| Telephone: | 510-287-0101 |
| Fax: | 510-287-1295 |
| E-mail: | dennis@ebmud.com |
5. Contract Person (if different):
- | | |
|------------------|--|
| Name, Title: | Hasan M. Abdullah,
P.E. Desalination
Project Coordinator |
| Mailing address: | East Bay Municipal
Utility District |
| | P.O. Box 24055,
Oakland, CA 94623 |
| Telephone: | 510-287-0550 |
| Fax: | 510-287-1295 |
| E-mail: | habdulla@ebmud.com |
6. Funds requested (dollar amount): \$249,756
7. Applicant funds pledged (dollar amount): \$249,756
8. Total project costs (dollar amount): \$499,512
9. Life of the project: 1 Year

**APPENDIX A:
PROJECT INFORMATION FORM**

10. Estimated annual amount of water to be produced (in acre-feet) if applicable: N/A
11. State Assembly District where the project is to be conducted: 11, 12, 14, 15, 16, 18, 20, 21, 22, 23, 24, 27, 28
12. State Senate District where the project is to be conducted: 3, 7, 9, 10, 11, 13, 15
13. Congressional district(s) where the project is to be conducted: 7, 8, 9, 10, 11, 13, 14, 15, 16, 17
14. County where the project is to be conducted: Alameda, Contra Costa, Santa Clara, and San Francisco Counties
15. Location of project (longitude and latitude) N/A
16. Type of applicant (select one):
- (a) public entity, specify Local Agency per Water Code 79171 (d)
 - (b) other, specify _____
17. Project related to:
- (a) Construction of a brackish water desalination project
 - (b) Construction of a seawater desalination project
 - (c) Brackish water desalination research & development; feasibility studies; pilots and demonstration projects
 - (d) Seawater desalination research & development; feasibility studies; pilots and demonstration projects

**APPENDIX B:
SIGNATURE PAGE**

By signing below, the official declares the following:

The truthfulness of all representations in the proposal;

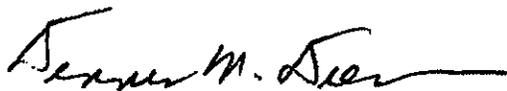
The individual signing the form has the legal authority to submit the proposal on behalf of the applicant;

There is no pending litigation that may impact the financial condition of the applicant or its ability to complete the proposed project;

The individual signing the form read and understood the Conflict of Interest, Confidentiality, and Intellectual and Proprietary Rights section and waives any and all rights to privacy and confidentiality of the proposal on behalf of the applicant;

The applicant will comply with all terms and conditions identified in this PSP if selected for funding; and

The applicant has legal authority to enter into a contract with the State.



January 14, 2005

Signature

Dennis Diemer, General Manager

Date

**APPENDIX C:
PROJECT COSTS (BUDGET)**

APPLICANT: EBMUD

	Budget Category (I)	Non State Share (50%) (II)	State Share (Grant) (50%) (III)	Total Project Costs (IV)=(II+III)
(a)	Administration			
	Salaries, wages	\$4,189.50	\$4,189.50	\$8,379
	Fringe benefits	\$1,650.50	\$1,650.50	\$3,301
	Supplies	--	--	N/A
	Equipment	--	--	N/A
	Consulting services	\$8,829	\$8,829	\$17,658
	Travel	--	--	N/A
(b)	Planning/Design/Engineering	*\$102,385	*\$102,385	*\$204,770
(c)	Equipment Purchases/Rentals/Rebates/Vouchers	--	--	N/A
(d)	Materials/Installation/Implementation	--	--	N/A
(e)	Implementation Verification	--	--	N/A
(f)	Project Legal/License Fees	--	--	N/A
(g)	Structures	--	--	N/A
(h)	Land Purchase/Easement	--	--	N/A
(i)	Environmental Compliance/Mitigation/Enhancement	--	--	N/A
(j)	Construction	--	--	N/A
(k)	Other (Specify) Public Outreach	\$27,692	\$27,692	\$55,384
(l)	Monitoring and Assessment	\$6,293.50	\$6,293.50	\$12,587
(m)	Report Preparation	\$14,426.50	\$14,426.50	\$28,853
(n)	SUBTOTAL (a+ ... +m)	\$165,466	\$165,466	\$330,932
(o)	Overhead	\$84,290	\$84,290	\$168,580
(p)	Contingency (specify % used)	--	--	N/A
(q)	TOTAL (n + o + p)	\$249,756	\$249,756	\$499,512

*Planning costs include legal review of institutional agreement document. Legal costs have been factored into planning because they are not fees associated with permitting fees of construction implementation.

Attachment 1

NCSC Endorsement

NORTHERN CALIFORNIA SALINITY COALITION

*Alameda County Water District
Contra Costa Water District
Delta Diablo Sanitation District
East Bay Municipal Utility District
Marin Municipal Water District
San Francisco Public Utilities Commission
Santa Clara Valley Water District
Solano County Water Agency
Sonoma County Water Agency
Zone 7 Water Agency*

SUMMARY OF LOCAL & REGIONAL PROJECTS ENDORSED BY THE COALITION

SEPTEMBER 2004

PROJECT DESCRIPTIONS PREPARED BY: *The Coalition Working Group*

Eric Cartwright	Alameda County Water District
Scott Weddle	Contra Costa Water District
Jerry Brown	Contra Costa Water District
Marie Valmores	Contra Costa Water District
Molly Petrick	Contra Costa Water District
Greg Baatrup	Delta Diablo Sanitation District
Brian Campbell	East Bay Municipal Utility District
Hasan Abdullah	East Bay Municipal Utility District
Thomasin Curtis	Marin Municipal Water District
Suresh Patel	San Francisco Public Utilities Commission
Pam John	Santa Clara Valley Water District
David Okita	Solano County Water Agency
Chris Tomasik	Solano County Water Agency/City of Benicia
Jay Jasperse	Sonoma County Water Agency
Vince Wong	Zone 7 Water Agency
Carl Morrison	Zone 7 Water Agency
Ernesto A. Avila	Avila & Associates Consulting Engineers, Inc.

EXECUTIVE SUMMARY

The Northern California Salinity Coalition (Coalition) Working Group Report dated September 2004 is a compilation of thirty-one local and regional projects that have been endorsed by the Coalition. The Coalition Working Group developed and evaluated the projects contained in this Report knowing that this endorsement represents a unanimous Coalition affirmation that these projects meet the spirit of the Coalition mission, that related Coalition partnership opportunities have been evaluated to the extent possible, and that the Coalition would unanimously support the implementation efforts of the Coalition sponsoring agency or agencies. The Coalition Working Group also acknowledged that a sponsoring agency would be responsible for project development, management, funding, schedule, implementation decisions, and related tasks, and that all projects would have equal value and priority.

Program Classifications

The Coalition Working Group organized the thirty-one projects according to six program classifications. These program classifications were selected after a review of the project selection criteria contained in several State and Federal water management-related grant programs associated with the Coalition's mission, a review of the U. S. Bureau of Reclamation's Desalination Roadmap Report, and a detailed analysis of approximately 200 projects short-listed for funding consideration by the California Department of Water Resources and the State Water Resources Control Board in 2003.

The program classifications include:

- Watershed Management and Habitat/Ecosystem Restoration (WH),
- Water Quality Improvements (WQ),
- Innovation/New Technology (IN),
- Groundwater Management (GM),
- Conservation/Reclamation (CR), and
- Water Supply Reliability/Drought Management (WD).

Where applicable, each project summary also notes related or secondary program classifications that apply to the project based a careful review of the project objectives and benefits.

The following Program Classification tables note the specific Coalition Working Group projects included in this Report.

WATERSHED MANAGEMENT & HABITAT/ECOSYSTEM RESTORATION (WH)		
PROJECT NUMBER	SPONSORING AGENCY	PROJECT TITLE
WH-1	Sonoma County Water Agency	Napa River Salt Marsh Restoration Project

WATER QUALITY IMPROVEMENTS (WQ)		
PROJECT NUMBER	SPONSORING AGENCY	PROJECT TITLE
WQ-1	Alameda County Water District	ACWD Peralta-Tyson Groundwater Treatment Facility
WQ-2	Contra Costa Water District	Advanced Treatment of Delta Water Supplies
WQ-3	Contra Costa Water District	Alternative Water Source Location Study
WQ-4	Contra Costa Water District	Salinity Intrusion Management and Drinking Water Protection Demonstration Project
WQ-5	East Bay Municipal Utility District	Public Outreach Efforts to Identify and Abandon Unused Wells in South East Bay Plain
WQ-6	Santa Clara Valley Water District	Advanced Treated Recycled Water Project
WQ-7	Santa Clara Valley Water District	Implementation of Salinity Management Strategies to reduce salt loading to sewer systems
WQ-8	Santa Clara Valley Water District	Residential/Commercial Water Softener Replacement Rebate Project

INNOVATION / NEW TECHNOLOGY (IN)		
PROJECT NUMBER	SPONSORING AGENCY	PROJECT TITLE
IN-1	Santa Clara Valley Water District	Tailored Municipal Wastewater Reclamation for Industrial Applications
IN-2	Santa Clara Valley Water District (SCVWD) East Bay Municipal Utility District (EBMUD) San Francisco Public Utilities Commission (SFPUC) Contra Costa Water District (CCWD) Marin Municipal Water District (MMWD)	Bay Area Water Desalination Pretreatment and Treatment Study
IN-3	Sonoma County Water Agency	Investigation of the Rejection Behavior of Trace Organic Compounds Using Advanced Separation Membrane Processes

GROUNDWATER MANAGEMENT (GM)		
PROJECT NUMBER	SPONSORING AGENCY	PROJECT TITLE
GM-1	Alameda County Water District	Monitoring Well Construction and Water Quality Monitoring Project
GM-2	Dublin San Ramon Services District / East Bay Municipal Utility District Recycled Water Authority	Salt Migration from DERWA Recycled Water into Alameda Creek Watershed
GM-3	Santa Clara Valley Water District	Emerging Chemicals (up to 4 chemicals) Fate and Transport Project
GM-4	Zone 7 Water Agency	Livermore-Amador Valley Wellhead Demineralization Project

CONSERVATION / RECLAMATION (CR)		
PROJECT NUMBER	SPONSORING AGENCY	PROJECT TITLE
CR-1	East Bay Municipal Utility District	C&H Sugar Desalination Project
CR-2	East Bay Municipal Utility District	East Bay Municipal Utility District/ChevronTexaco Recycled Water Expansion Project
CR-3	Santa Clara Valley Water District	Electrodialysis Reversal vs. Reverse Osmosis Comparison Pilot Study – Phase 2
CR-4	Solano County Water Agency / City of Fairfield and Fairfield-Suisun Sewer District	Central Solano Recycled Water TDS Reduction Study
CR-5	Solano County Water Agency / City of Benicia	City of Benicia Water Reuse Project
CR-6	Delta Diablo Sanitation District	Delta Diablo Recycled Water Expansion to Delta View Golf Course

WATER SUPPLY RELIABILITY / DROUGHT MANAGEMENT (WD)		
PROJECT NUMBER	SPONSORING AGENCY	PROJECT TITLE
WD-1	Alameda County Water District	ACWD Brackish Groundwater Desalination Facility, Phase 2
WD-2	Contra Costa Water District, East Bay Municipal Utility District, San Francisco Public Utilities Commission, and the Santa Clara Valley Water District	Bay Area Regional Desalination Project-Feasibility Study
WD-3	East Bay Municipal Utility District and Alameda County Water District	South East Bay Plain (SEBP) and Niles Cone Groundwater Basin (NCGWB) Salinity Monitoring and Transport Modeling
WD-4	San Francisco Public Utilities Commission	South San Francisco Bay / SCV Brackish Groundwater Desalination Project
WD-5	Santa Clara Valley Water District	Brackish Groundwater Reuse
WD-6	Santa Clara Valley Water District	Stream flow Augmentation with Recycled Water
WD-7	Marin Municipal Water District	Desalination Pilot Plant Project
WD-8	Marin Municipal Water District	5 to 15 MGD Desalination Plant
WD-9	Delta Diablo Sanitation District	Northern Contra Costa County Desalination Demonstration Project

COALITION OVERVIEW

The Northern California Salinity Coalition (Coalition) consists of the following ten member agencies and their respective General Managers or Chief Executive Officers:

- *The Alameda County Water District*
- *The Contra Costa Water District*
- *The Delta Diablo Sanitation District*
- *The East Bay Municipal Utility District*
- *The Marin Municipal Water District*
- *The San Francisco Public Utilities Commission*
- *The Santa Clara Valley Water District*
- *The Solano County Water Agency*
- *The Sonoma County Water Agency, and*
- *Zone 7 of Alameda County Flood Control and Water Conservation District (Zone 7 Water Agency)*

The Coalition was formed in 2003 because of the critical need to address regional salinity issues in northern California. By forming this Coalition, the agencies committed to working together to define priorities and action plans, identify funding opportunities, and establish a framework for regional cooperation in addressing desalination and salinity issues. The Coalition was also formed by its member agencies because they recognized that salinity in northern California will affect future uses and because of the challenges, issues, and responsibilities unique to our region. To that end, the Coalition subsequently adopted the following mission statement:

Northern California Salinity Coalition Mission Statement

To advance the interests of the member agencies in the development of local and regional projects and programs that will use desalination and salinity management technologies, practices, and approaches to improve water supply reliability for Coalition members and reduce salinity-related problems affecting the water supplies of members. Areas to be addressed include: seawater desalination, brackish groundwater desalination, salinity increases in groundwater basins and the impact on water supplies, seawater intrusion, control of salinity in wastewater to improve recycling options for irrigation or industrial use, and other related issues.

The Coalition subsequently began its effort to identify potential collaborative local and regional projects that could be used to apply for research, State and Federal Funding by March and September 2004 and that would be consistent with its final mission statement and strategic objectives. To achieve this goal, the Coalition authorized the formation of a Coalition Working Group consisting of senior agency staff managers, engineers, and planners to develop this first set of projects. Once these projects were developed and reviewed by the Coalition Working Group, it was agreed that these projects would be brought to the Coalition General Managers and Chief Executive Officers for their consideration and endorsement.

INTRODUCTION

The Northern California Salinity Coalition (Coalition) consists of the following eight member agencies and their respective General Managers or Chief Executive Officers:

- *The Alameda County Water District*
- *The Contra Costa Water District*
- *The East Bay Municipal Utility District*
- *The San Francisco Public Utilities Commission*
- *The Santa Clara Valley Water District*
- *The Solano County Water Agency*
- *The Sonoma County Water Agency, and*
- *Zone 7 of Alameda County Flood Control and Water Conservation District (Zone 7 Water Agency)*

The Coalition was formed in 2003 because of the critical need to address regional salinity issues in northern California. By forming this Coalition, the agencies committed to working together to define priorities and action plans, identify funding opportunities, and establish a framework for regional cooperation in addressing desalination and salinity issues. The Coalition was also formed by its member agencies because they recognized that salinity in northern California will affect future uses and because of the challenges, issues, and responsibilities unique to our region. To that end, the Coalition subsequently adopted the following mission statement:

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The Coalition subsequently began its effort to identify potential collaborative local and regional projects that could be used to apply for research, State and Federal Funding by March 2004 and that would be consistent with its final mission statement and strategic objectives. To achieve this goal, the Coalition authorized the formation of a Coalition Working Group consisting of senior agency staff managers, engineers, and planners to develop this first set of projects. Once these projects were developed and reviewed by the Coalition Working Group, it was agreed that these projects would be brought to the Coalition General Managers and Chief Executive Officers for their consideration and endorsement.

COALITION ENDORSEMENT

The Coalition unanimously agreed to define Coalition Endorsement as follows:

A unanimous affirmation by the Coalition member agencies that the project, program, or activity meets the spirit of the Coalition mission, that related Coalition partnership opportunities have been evaluated to the extent possible, and that they unanimously support the implementation efforts of the Coalition sponsoring agency or agencies. A sponsoring agency would be responsible for project development, management, funding, schedule, implementation decisions, and related tasks. It was also agreed that Coalition endorsement of projects, programs, or activities would be of equal value and priority.

This first Coalition Working Group Report dated March 2004 includes twenty-seven projects that have been developed, discussed, evaluated, and peer reviewed by all of the Working Group members and that were recommended for Coalition endorsement.

On March 29, 2004, the Coalition reviewed the projects described in this Report in the context of the Coalition's approved Mission Statement and strategic objectives. After due consideration, the Coalition unanimously endorsed these projects as attested below.



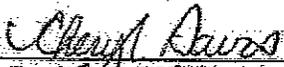
Mr. Paul Piraino
General Manager
Alameda County Water District
and Coalition Chair



Mr. Walter J. Bishop
General Manager
Contra Costa Water District



Mr. Dennis M. Diemer
General Manager
East Bay Municipal Utility District

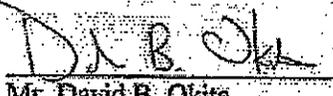


Acting

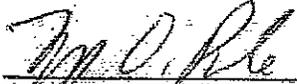
Ms. Patricia E. Martel
General Manager
San Francisco Public Utilities Commission



Mr. Stanley Williams
Chief Executive Officer
Santa Clara Valley Water District



Mr. David B. Okita
General Manager
Solano County Water Agency



Mr. Randy Poole
General Manager
Sonoma County Water Agency



Mr. Dale Myers
General Manager
Zone 7 Water Agency

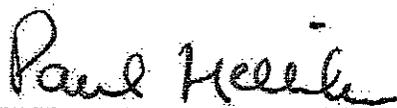
COALITION ENDORSEMENT

The Coalition unanimously agreed to define Coalition Endorsement as follows:

A unanimous affirmation by the Coalition member agencies that the project, program, or activity meets the spirit of the Coalition mission, that related Coalition partnership opportunities have been evaluated to the extent possible, and that they unanimously support the implementation efforts of the Coalition sponsoring agency or agencies. A sponsoring agency would be responsible for project development, management, funding, schedule, implementation decisions, and related tasks. It was also agreed that Coalition endorsement of projects, programs, or activities would be of equal value and priority.

This first Coalition Working Group Report dated March 2004 includes twenty-seven projects that have been developed, discussed, evaluated, and peer reviewed by all of the Working Group members and that were recommended for Coalition endorsement. Subsequently, on November 2004, the Coalition Working Group developed four additional projects that were recommended for Coalition endorsement.

On March 29, 2004 and November 22, 2004, the Coalition reviewed the projects described in this Report in the context of the Coalition's approved Mission Statement and strategic objectives. After due consideration, the Coalition unanimously endorsed these projects as attested below.



Mr. Paul E. Helliker
General Manager
Marin Municipal Water District



Mr. Gary W. Darling
General Manager
Delta Diablo Sanitation District

Attachment 2

Partner Letters

January 12, 2005

Fawzi Karajeh, Ph.D.
Chief, Water Recycling and Desalination Branch
Office of Water Use Efficiency
CA Department of Water Resources
901 P Street, Sacramento, CA 95814

SUBJECT: Equal Partnership between CCWD, EBMUD, SCVWD and SFPUC for the San Francisco Bay Regional Desalination Project

Dear Dr. Karajeh:

The four largest water management agencies in Northern California, i.e. the East Bay Municipal Utility District (EBMUD), Santa Clara Valley Water District (SCVWD), San Francisco Public Utilities Commission (SFPUC) and Contra Costa Water District (CCWD), have come together as equal partners to conduct a collaborative desalination project as well as seek a Proposition 50 Chapter 6 (a) grant for their Regional Desalination Project. However, since criteria for the said grant requires a single agency to be the lead agency, these four agencies have mutually agreed that this lead agency be designated as East Bay Municipal Utility District. These four agencies also mutually agreed that Hossein Ashktorab, Ph.D. from Santa Clara Valley Water District will be the designated Project Manager for the proposed grant project.

This desalination project is of vital importance to the San Francisco Bay Region's 5.4 million residents served by these four agencies and we urge your consideration when making funding decisions.

Sincerely,



Alexander R. Coate
Manager of Water Supply Improvements

cc: Pamela John, SCVWD – Regional Desalination Project Partner
Hasan Abdullah, EBMUD – Regional Desalination Project Partner
Marie Valmores, CCWD – Regional Desalination Project Partner
Suresh Patel, SFPUC – Regional Desalination Project Partner



**CONTRA COSTA
WATER DISTRICT**

1331 Concord Avenue
P.O. Box H20
Concord, CA 94524
(925) 688-6000 FAX (925) 688-8122

January 12, 2005

Directors

Joseph L. Campbell
President

Elizabeth R. Arellio
Vice President

Bette Boatman
John A. Burgh
Karl L. Wandry

Walter J. Bishop
General Manager

Fawzi Karajeh, Ph.D.
Chief, Water Recycling and Desalination Branch
Office of Water Use Efficiency
California Department of Water Resources
901 P Street
Sacramento, CA 95814

**SUBJECT: Equal Partnership between CCWD, EBMUD, SCVWD and SFPUC for
the San Francisco Bay Regional Desalination Project**

Dear Dr. Karajeh: *Fawzi*

The four largest water management agencies in Northern California, i.e. the East Bay Municipal Utility District (EBMUD), Santa Clara Valley Water District (SCVWD), San Francisco Public Utilities Commission (SFPUC) and Contra Costa Water District (CCWD), have come together as equal partners to conduct a collaborative desalination project as well as seek a Proposition 50, Chapter 6 (a) grant for their Regional Desalination Project. However, since criteria for the said grant requires a single agency to be the lead agency, these four agencies have mutually agreed that this lead agency be designated as East Bay Municipal Utility District. These four agencies also mutually agreed that Hossein Ashktorab, Ph.D. from Santa Clara Valley Water District will be the designated Project Manager for the proposed grant project.

This desalination project is of vital importance to the San Francisco Bay Region's 5.4 million residents served by these four agencies and we urge your consideration when making funding decisions.

Sincerely,



Jerry Brown
Director of Planning

cc: Pamela John, SCVWD –Regional Desalination Project Partner
Hasan Abdullah, EBMUD – Regional Desalination Project Partner
Suresh Patel, SFPUC – Regional Desalination Project Partner

January 12, 2005

Fawzi Karajeh, Ph.D.
Chief, Water Recycling and Desalination Branch
Office of Water Use Efficiency
CA Department of Water Resources
901 P Street, Sacramento, CA 95814

SUBJECT: Equal Partnership between CCWD, EBMUD, SCVWD and SFPUC for the San Francisco Bay Regional Desalination Project

Dear Dr. Karajeh:

The four largest water management agencies in Northern California, i.e. the East Bay Municipal Utility District (EBMUD), Santa Clara Valley Water District (SCVWD), San Francisco Public Utilities Commission (SFPUC) and Contra Costa Water District (CCWD), have come together as equal partners to conduct a collaborative desalination project as well as seek a Proposition 50 Chapter 6 (a) grant for their Regional Desalination Project. However, since criteria for the said grant requires a single agency to be the lead agency, these four agencies have mutually agreed that this lead agency be designated as East Bay Municipal Utility District. These four agencies also mutually agreed that Hossein Ashktorab, Ph.D. from Santa Clara Valley Water District will be the designated Project Manager for the proposed grant project.

This desalination project is of vital importance to the San Francisco Bay Region's 5.4. Million residents served by these four agencies and we urge your consideration when making funding decisions.

Sincerely,



Keith Whitman
Deputy Operating Officer
Water Supply Management Division

cc: Pamela John, SCVWD –Regional Desalination Project Partner
Hasan Abdullah, EBMUD – Regional Desalination Project Partner
Marie Valmores, CCWD – Regional Desalination Project Partner
Suresh Patel, SFPUC – Regional Desalination Project Partner



WATER
HETCH HETCHY
WATER & POWER
CLEAN WATER

SAN FRANCISCO PUBLIC UTILITIES COMMISSION

PLANNING BUREAU, 1145 Market St., Suite 401, San Francisco, CA 94103 • Tel. (415) 934-5700 • Fax (415) 934-5750



January 12, 2005

Fawzi Karajeh, Ph.D.
Chief, Water Recycling and Desalination Branch
Office of Water Use Efficiency
CA Department of Water Resources
901 P Street, Sacramento, CA 95814

GAVIN NEWSOM
MAYOR

E. DENNIS NORMANDY
PRESIDENT

RICHARD SKLAR
VICE PRESIDENT

ANN MOLLER CAEN
ADAM WERBACH
RYAN L. BROOKS

SUSAN LEAL
GENERAL MANAGER

**SUBJECT: Equal Partnership between CCWD, EBMUD, SCVWD and SFPUC
for the San Francisco Bay Regional Desalination Project**

Dear Dr. Karajeh:

The four largest water management agencies in Northern California, i.e. the East Bay Municipal Utility District (EBMUD), Santa Clara Valley Water District (SCVWD), San Francisco Public Utilities Commission (SFPUC) and Contra Costa Water District (CCWD), have come together as equal partners to conduct a collaborative desalination project as well as seek a Proposition 50 Chapter 6 (a) grant for their Regional Desalination Project. However, since criteria for the said grant requires a single agency to be the lead agency, these four agencies have mutually agreed that this lead agency be designated as East Bay Municipal Utility District. These four agencies also mutually agreed that Hossein Ashktorab, Ph.D. from Santa Clara Valley Water District will be the designated Project Manager for the proposed grant project.

This desalination project is of vital importance to the San Francisco Bay Region's 5.4 million residents served by these four agencies and we urge your consideration when making funding decisions.

Sincerely,

Michael P. Carlin
Planning Bureau Manager

cc: Pamela John, SCVWD - Regional Desalination Project Partner
Hasan Abdullah, EBMUD - Regional Desalination Project Partner
Marie Valmores, CCWD - Regional Desalination Project Partner
Suresh Patel, SFPUC - Regional Desalination Project Partner

Attachment 3

Phase 1 Pre-Feasibility Study