



BAYWORK  
STRATEGIC UPDATE



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## BAYWORK Strategic Update

### ***BAYWORK Mission***

*Through regional collaboration among Bay Area water and wastewater utilities, BAYWORK supports operational reliability by implementing cost-effective strategies and programs that ensure sufficient numbers of qualified, prepared staff to meet our responsibilities to our customers, our communities, and the environment.*

All Bay Area water and wastewater (W/WW) utilities are welcome to participate in BAYWORK, and many have. For example, 45 water and wastewater utilities participated in a BAYWORK/California Community College System Labor Needs Assessment of key trades classifications, such as water and wastewater treatment operators. However, policy direction for BAYWORK comes from 14 signatory agencies whose CEO or General Manager signed the BAYWORK charter:

- San Francisco Public Utilities Commission
- East Bay Municipal Utility District
- Santa Clara Valley Water District
- Union Sanitary District
- North Coast County Water District
- Alameda County Water District
- City of San Jose
- Contra Costa Water District
- City of Sunnyvale
- Central Contra Costa Sanitary District
- San Jose Water Company
- Zone 7 Water District
- Bay Area Community College Consortium
- Marin Municipal Water District

Ongoing oversight of BAYWORK programs is provided by an Executive Committee composed of representatives from BAYWORK signatory agencies. Current members of the BAYWORK Executive Committee are the following:

- Victoria Baxter, City of San Jose
- Catherine Curtis, San Francisco Public Utilities Commission
- Cheryl Davis, San Francisco Public Utilities Commission
- Jill Duerig, Zone 7 Water
- Jim Fiedler, Santa Clara Valley Water District
- Jim Kelly, Central Contra Costa Sanitary District
- Elaine Lew-Smith, East Bay Municipal Utility District
- Jim McPherson, Union Sanitary District
- Kevin O'Connell, North Coast County Water District
- Stephanie Orosco, San Jose Water
- James Smith, East Bay Municipal Utility District

In late 2010, the Executive Committee began a strategic planning effort by analyzing organizational strengths, weaknesses and opportunities, and proposing four initiatives to further BAYWORK goals. This analysis was used as the basis for creation of a survey to identify W/WW workforce priorities. Priority Identification interviews were conducted with the General Managers/CEOs of the signatory agencies to identify:

- (1) Mission-critical job categories (jobs where operational reliability would be threatened by a lack of qualified candidates, or employees who were insufficiently prepared to perform their work)
- (2) Processes (e.g. selection or technical training) that increased the challenge of hiring qualified candidates or preparing staff
- (3) Opportunities for regional collaboration
- (4) Prioritization of the proposed BAYWORK initiatives.

## CURRENT BUSINESS NEEDS

BAYWORK signatories defined the following job categories as mission-critical:

### BAYWORK Mission-Critical Job Categories

Job Category	# of Utilities Listing the Job Category
Engineer	8
Mechanic / Machinist	8
Water Treatment Operator	8*
Electronic Maintenance Technician / Instrument Technician	7
Electrician / Electrical Worker	6
Water Distribution Operator	5*
Wastewater Treatment Operator	5*

*\* Note that of the 12 utilities that responded to the survey, 9 provide water service and 5 provide wastewater services. Therefore, the number of utilities listing service-specific job categories does not exceed 9 and 5 for water and wastewater, respectively.*

### Mission-Critical Job Category – Engineer Breakdown by Type

Classification	# of Utilities Listing Classification	% of Utilities Listing Classification
Process/Water Quality/Sanitary Engineer	4	33%
Control System/SCADA Engineer	3	25%
Electrical Engineer	3	25%
Mechanical Engineer	2	17%
Civil Engineer	2	17%
Structural Engineer	1	8%

Organizational processes which put workforce reliability at risk included but were not limited to candidate recruitment and outreach, as indicated by the table on page 3.

Respondents were asked to identify processes which created a high or medium level of risk for operational reliability.

### Ranking of Most Relevant Risk Factors for Workforce Reliability by High/Medium Votes across All Job Categories

Rank	Risk Factor	H/M Votes
1	Availability of Qualified Candidates	105
2	Organizational Recruitment Process	102
3	Documentation	97
4	Knowledge Management	87
5	Technical Training	86
6	Competency Analysis	69
7	Staff Development	57
8	Innovations to Optimize Staff Utilization	38

The specific processes which were noted as high or medium risk in relation to the job categories identified as mission-critical are shown below:

### Mission-Critical Job Categories and Risk Factors

Mission Critical Classifications	Availability of Qualified Candidates	Organizational Recruitment Process	Competency Analysis	Staff Development	Technical Training	Documentation	Knowledge Management	Innovations to Optimize Staff Utilization
	<b>Total # of High and Medium Risk Votes (1)</b>							
Engineer	<b>13</b>	<b>11</b>	3	4	4	6	7	5
Mechanic/Machinist	<b>7</b>	5	2	4	<b>6</b>	<b>7</b>	<b>7</b>	2
Water Treatment Operator	<b>5</b>	<b>3</b>	2	<b>3</b>	1	<b>3</b>	<b>3</b>	2
Electronic Maintenance Technician/Instrument Technician	<b>8</b>	5	4	2	<b>7</b>	<b>8</b>	<b>8</b>	3
Electrician	<b>3</b>	<b>3</b>	1	2	<b>5</b>	<b>5</b>	<b>5</b>	2
Water Distribution Operator	<b>7</b>	5	2	2	4	<b>6</b>	<b>6</b>	1
Wastewater Treatment Operator	<b>3</b>	<b>3</b>	1	<b>3</b>	<b>2</b>	<b>3</b>	<b>3</b>	<b>2</b>

Notes:

(1) Total number of high and medium risk votes are counted for each job included in the given Mission-Critical Job Category listed by each surveyed utility.

(2) Yellow highlight indicates highest Risk Factor for each Mission-Critical Job Category. Bolded red indicates 2<sup>nd</sup> highest Risk Factor.

Signatories were also asked to evaluate the potential usefulness of the four initiatives proposed by the BAYWORK Steering Committee:

1. BAYWORK Website
2. Using Technology for Collaborative and Effective Training
3. Utility Support for Candidate Development Processes
4. Third West Coast Water Utilities Workshop

These four initiatives are described below.

### **1. BAYWORK Website**

The BAYWORK website will have two distinct components: an externally-oriented component that addresses candidate development and outreach, and a component designed to support information-sharing among water and wastewater utilities in relation to workforce development. The target audience for the externally-oriented component will include students, job-seekers, educators, career counselors, workforce investment boards, and the public. Examples of information available from the site will include the following:

- A Job Opportunity Map that provides information on all water/wastewater utilities in San Francisco, San Mateo, Santa Clara, Alameda, Marin, and Contra Costa county (including links to websites where available)
- A Training Opportunity Map that provides information on Bay Area educational and apprenticeship program providing training for mission-critical job categories
- Brochures, posters, and videos related to mission-critical job categories
- Links to related sites
- Profiles of water professionals

The portion of the site geared to collaboration among water and wastewater utilities will include the following:

- BAYWORK-developed research reports (e.g., the 2009 report on Water and Wastewater Occupations in the Bay Area , BAYWORK White Paper on workforce Innovations)
- BAYWORK-developed resource materials (e.g., brochures and posters, sample video standard operating procedure; and report on pilot test of video-conferencing for interagency training)
- Presentations by utilities with best-in-class programs (powerpoints, case studies, and videos), originally provided at BAYWORK-sponsored workshops
- Useful materials developed by others
- Links to other relevant websites

### **2. Using Technology for Collaborative and Effective Training**

BAYWORK will continue its work in relation to use of video technology by providing a half-day training seminar for the information technology and operations staff of Bay Area water and wastewater utilities on how to create videos that can be used to create video

standard operating procedures or enhance on-line training materials. Expanded testing will be done of videoconferencing to support interagency training. Webinars, web dialogues, and development of shared on-line training tools will also be explored.

### ***3. Utility Support for Candidate Development Processes***

BAYWORK will provide W/WW utility information to Bay area community colleges about resources available to support the college's efforts to make their training more relevant to W/WW careers. Utility resources will include: facility tours, equipment donations, guest speakers, and curriculum review.

BAYWORK will also participate in a multi-industry partnership with the Bay Area Community College Consortium (BACCC) to develop core curriculum for Industrial Maintenance Machinist/Mechanic training programs. This curriculum will provide a standard for knowledge and skills required for Machine and Mechanic jobs in the W/WW, Energy, Refinery, Beverage and other industries. BACCC will also work with industry employers to identify various "hands-on" components (e.g. internships, apprenticeships) that employers can provide to strengthen the college classroom instruction.

BAYWORK will also support college training programs by developing W/WW career outreach materials with references to local college training programs..

### ***4. Third West Coast Water Utilities Workshop (Theme: Use of Information Technology to Support Workforce Development Efforts)***

The Priority Identification Interviews conducted with BAYWORK signatories reflected a widespread interest in making more effective use of technology to improve work processes, knowledge management, and staff training. Therefore, BAYWORK's Third West Coast Water Utilities Workshop on Workforce Development will focus on use of technology in four areas of shared concern: GPS/GIS; SCADA; use of IT to support training; and Use of Mobile Devices.

The relationship of the four proposed initiatives to BAYWORK's Roadmap Strategies is summarized below on page 6.

<b>Proposed Initiative</b>	<b>Candidate Development/ Outreach</b>	<b>Giving Staff the Information They Need to do Quality Work</b>	<b>Maximizing Utilization of Staffing Available</b>	<b>Cost- Effectiveness Through Collaboration</b>
BAYWORK Website	X	X	X	X
Using Technology for Collaborative and Cost-Effective Training		X		X
Utility Support for Candidate Development Processes	X			X
Third West Coast Water Utilities Workshop		X		X

Signatory rankings of these proposed initiatives are summarized below:

		<b>Very Valuable</b>	<b>Valuable</b>	<b>Not Valuable</b>
1	BAYWORK Website	10	2	0
2	Using Technology for Collaborative and Cost-Effective Training	7	5	0
3	Support for Community College Candidate Development Programs	9	3	0
4	Third West Coast Water Utilities Workshop	6	4	2

Detailed information on survey findings and more detailed descriptions of the initiatives are available on request from Cheryl Davis, BAYWORK Chair.

### **BAYWORK CHARTER SIGNATORY ACTION**

BAYWORK signatories met on June 29<sup>th</sup>, 2011, to discuss these findings. This meeting resulted in endorsement of the four proposed initiatives.