East Bay Municipal Utility District

A Strong Community Outreach Program Will Facilitate the Implementation of Complex Seismic Upgrade Programs

Taiwan

October 2009

Talk to Ratepayers First

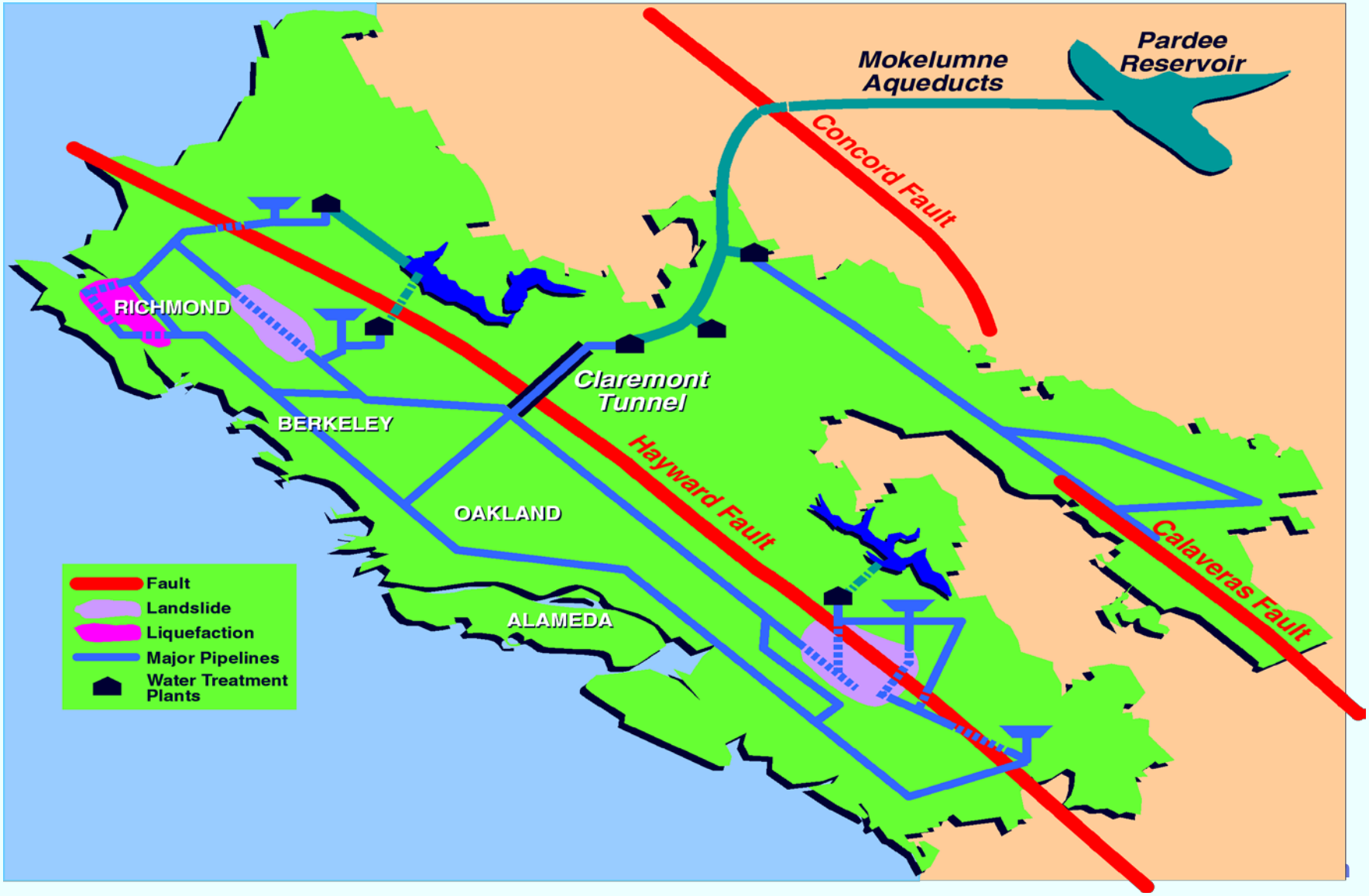
Northern California

EBMUD Water

- EBMUD Serves 20 cities and 15 communities in two counties
- 1.3 million customers
- Average daily demand 220 mgd

Pardee Dam and Reservoir

Seismic Hazards in Service



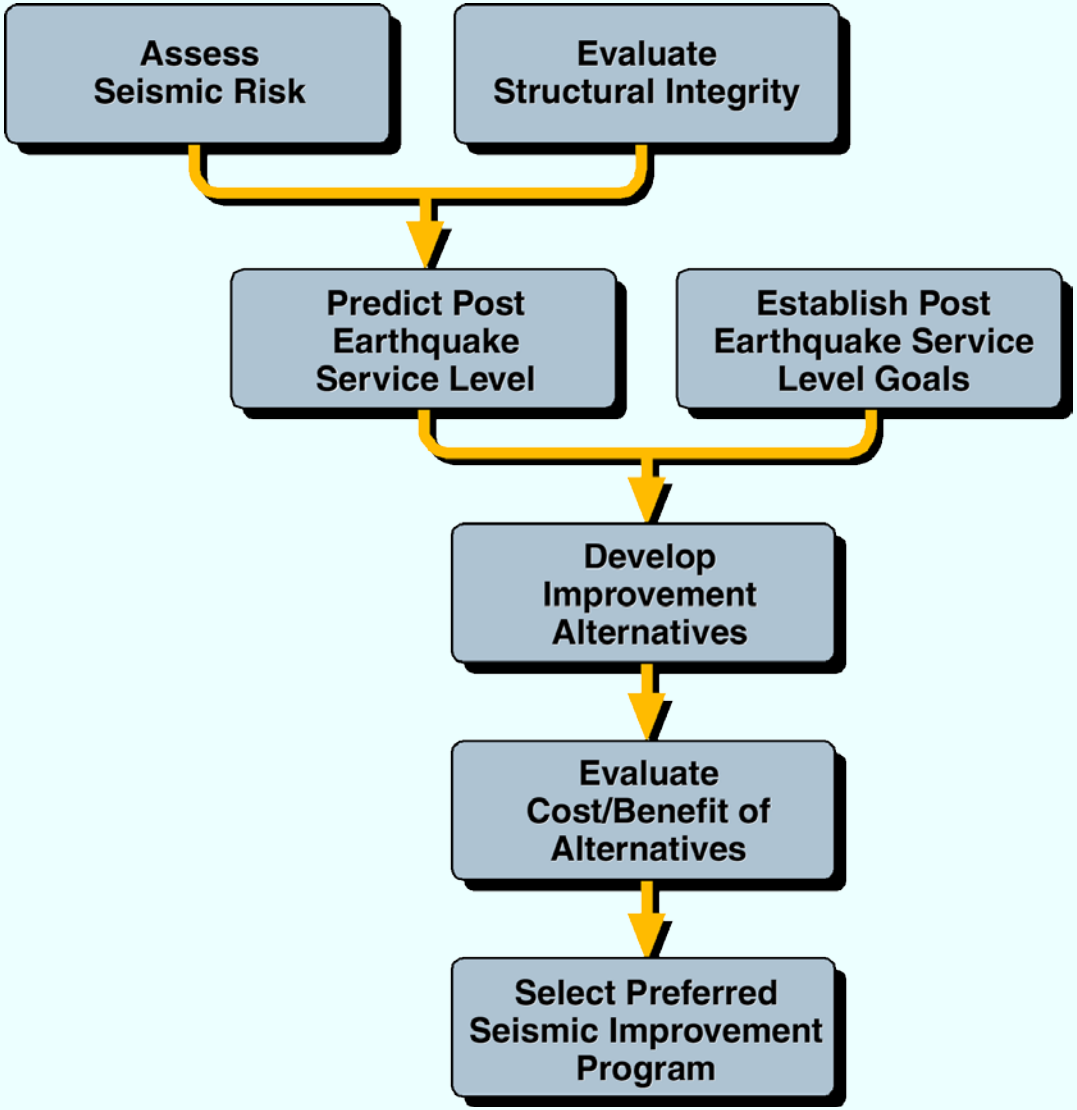
Community Information Program

- Educate the public
- Gain public support
- Solicit feedback

Educate the Public

- Current system vulnerability
- Program Costs
- Rate Impacts

EBMUD's Approach



Gain Public Support

- Describe goals
  - Protect life safety
  - Protect water quality
  - Ensure post-earthquake fire flow
  - Ensure service to critical facilities
  - Restore domestic water service

Solicit Feedback

- Program Scope
- Duration
- Willingness to pay

Methodology

- Target audience
- Communication tools
- Results

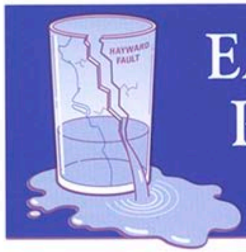
Target Audiences

- General public
- Internal employees
- Technical community
- Emergency planning coordinators

Communication Tools

- Speaking engagements
- Fact sheets
- Bill inserts
- Newsletters
- Letters to opinion leaders
- Press conferences
- Public meetings
- Annual Report

Fact Sheets



EARTHQUAKE PROTECTION

EBMUD EAST BAY MUNICIPAL UTILITY DISTRICT

Taking a Proactive Approach to an Impending Concern

Our ability to recover quickly from an earthquake, to ensure individual health and safety, and maintain an intact business economy, is dependent upon the proactive steps we take today.

As residents of California, we enjoy exceptional living conditions—outstanding weather, a diverse landscape, and a wide variety of cultural experiences, to name a few. The unpredictable natural disasters that strike other states, such as hurricanes and tornadoes, pass us by. But mention what is usually referred to simply as "the big one," and you'll get a nod of recognition from just about every Californian. Consider it our state's one flaw. We do, indeed, expect earthquakes, even "the big one." While we can't pinpoint the exact date, seismologists are becoming more sophisticated in their ability to predict approximately when and how big the next one will be.

There is a huge advantage in knowing this. Instead of waiting as "willing victims," we can take a proactive approach to this impending concern. Our ability to recover quickly from an earthquake, to ensure individual health and safety, and maintain an intact business economy, is dependent upon the proactive steps we take today.

Seismologists say there is a 28 percent chance that people served by EBMUD will face a major quake on the Hayward fault by the year 2020.

That's good to know because when it hits, Californians can be prepared. EBMUD has already begun preparing.

In 1991, we began a study to predict how quakes might damage water facilities and what can be done to protect the water system. The study found that quakes with a six to seven point magnitude on the Richter scale along the Hayward, Concord, or Calaveras faults could cause major disruption to water service in the East Bay. The most damaging to our service area would be a seven-point quake on the Hayward fault. What could we likely expect? Try to imagine the following:

- Water cut off instantly for 63 percent of EBMUD's customers including hospitals and disasters centers;
- An increased fire risk. Water flow would halt from almost one-third of local reservoirs and over two-thirds of plants that pump water uphill;
- Breakage of 5,500 pipes serving homes and businesses throughout the District;
- Contaminated drinking water because four of six treatment plants —both east and west of the hills— would be disrupted;

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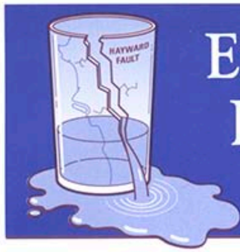


EARTHQUAKE PROTECTION

EBMUD EAST BAY MUNICIPAL UTILITY DISTRICT

Preparing for East Bay Earthquakes

How Vulnerable Are We?

In an M-7 earthquake along the Hayward fault, we could likely expect:

- Water cut off instantly for 63 percent of EBMUD's customers, including hospitals and disasters centers;
- An increased fire risk. Water flow would stop from almost one-third of local reservoirs and over two-thirds of plants that pump water uphill;
- Breakage of 5,500 pipes serving homes and businesses throughout the District;
- Untreated drinking water because four of six treatment plants - both east and west of the hills - would be disrupted;
- Two-thirds of EBMUD customers could be without water service after a quake, some for up to six months;
- Major water tunnel failures, cutting off water supply west of the hills. Seventy percent of EBMUD customers are served through the Claremont Tunnel.
- Loss of 65 distribution tank reservoirs and use of 87 pumping plants;
- As much as $2 billion in business and property losses due to lack of water and possible fire damage.

Earthquakes — they shake us, but don't destroy us. We're learning more about how to predict them and how to protect ourselves. Major quakes such as the Loma Prieta in October 1989 and Northridge in January 1994 have given us markers by which to gauge damage caused by future quakes of their size.

Seismologist predict a 28 percent chance that people will face a major earthquake on the Hayward fault by the year 2020. There is a huge advantage in knowing this. Instead of waiting as "willing victims," we can take the initiative to protect ourselves and our communities. Our ability to recover quickly from an earthquake, to ensure individual health and safety, and to maintain an intact business economy, is dependent upon the proactive steps we take today. EBMUD has already begun.

In 1991, we began a study to predict how quakes might damage water facilities and what can be done to protect the water system. The study found that quakes with a six to seven point magnitude (M-6, M-7) on the Richter scale along the Hayward, Concord, or Calaveras faults could cause major disruption to water service in the East Bay. The most damaging to our service area would be an M-7 quake on the Hayward fault.

Fact Sheets

SEISMIC IMPROVEMENT PROGRAM FACTS

Summer 1996

Following the 6.9 Loma Prieta earthquake that shook the Bay Area in 1989, EBMUD began an evaluation of its facilties to determine how it would perform during a large eqrthquake closer to home. The evaluation concluded that 63 percent of the District's customers would be without water, and its facilities would sustain major damage.

After 50 community meetings, two public meetings, one public hearing, 1,400 written survey responses, and a public hotline, community opinion was tallied. The result was positive; of the customers surveryed, 91 percent were willing to support a program to upgrade the water distribution system.

In November 1994, the Board approved the Seismic Improvement Program (SIP), a $189 million program to strenghen the water system against major quakes on the Hayward, Calaveras and Concord faults. The SIP will reinforce the water system in seven major ways:

Many of the older reservoirs are either not anchored, inadequately anchored to their foundations or need structural upgrades. These will be reinforced. Many reservoir valve pits, which hold critical valves and instruments serving the reservoirs, have covers which could slide into the pits. These will be anchored to prevent damage.

Several of the oldest pumping plants could suffer severe damage. Pumping plant upgrades will strengthen or replace these vulnerable facilties.

now brings water through the East Bay hills to 70 percent of the Distric's customer. A major upgrade will reinforce this tunnel or provide an alternate way to bring water to these customers.

a new large pipeline, will allow EBMUD to shuttle water between east and west in the southern part of the District's service area.

Pipelines crossing the Hatyward and Calaveras faults will have the ability to withstand the expected three to five feet of Hayward Fault displacement and two to three feet of displacement in the Calaveras Fault. This is critical since most reservoirs which store our water are located east of the Hayward Fault, and a large number of our customers live west of this fault.

Critical equipment and storage shelves at District office, maintenance, and warehouse buildings will be anchored.

use complex systems that are vulnerable to damage. Seismic upgrades will keep plants functioning after a quake.

Bill Inserts

CUSTOMER NOTICE

Insurance for Our Future

The Loma Prieta earthquake caused loss of life, serious injuries and severe structural damage from Santa Cruz to San Francisco. Geologists now say there is a 28 per cent chance of a 7.0 magnitude quake on the Hayward Fault before the year 2020.

Following a two-year Seismic Evaluation Study, the Board adopted a $189 million, 10-year-long Seismic Improvement Program to strengthen the water system. The program will protect 1.2 million people from going for months with little or no water service. It includes improvements to filter plants, pumping plants and pipelines. It provides an alternative means of delivering water west of the Berkeley-Oakland hills, bypassing the Claremont Tunnel, which supplies water to Oakland, Berkeley and surroundings.

How Will We Pay for All This?

Among the funding alternatives chosen to support the "hardening" of the water system is a Seismic Improvement Program Surcharge on our customers' water bills.

What Will the Charge Be Based On?

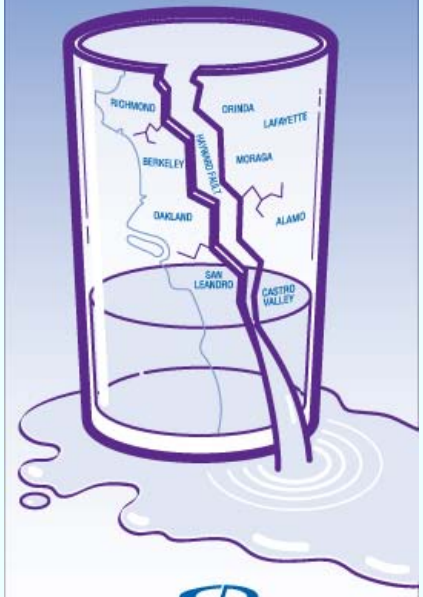
There will be a small surcharge applied to the water service charge, the water flow charge and the elevation charge. The total will be shown as a single item on your bill under "Water Charges" listed as "Seismic Improvement Program Surcharge." It will appeare on some bills in April and most bills starting in May.

Because some seismic improvements will help roperty owners fight earthquake-related fires, about half the typical annual $30-per-ratepayer cost will be recovered through local property tax bills starting in December 1995. The 30-year financing for the program will end in 2025.

The Board of Directors, with the benefit of an additional public hearing set for February 14, 1995 also will consider two more changes on the bill.

EBMUD

After the Big Quake, You'll Lose More Than Just a Few Broken Glasses



EBMUD

Quake-Protecting Your Water System

ebmud.com

Newsletters (External)

SEISMIC IMPROVEMENT PROGRAM NEWS

Summer 1999

Sharing Seismic Technology

EBMUD engineer, Tim Fuette, explains seismic upgrades at Baseline Reservoir to Japanese delegates.

Earthquakes continue to shake our world, and the damage can be tragic. When earthquakes strike, engineers learn first-hand how different solutions to seismic problems perform in each situation. Our technologies get tested with each new earthquake, whether in Northridge, California, Kobe, Japan, or Colombia.

Of the areas around the world that are susceptible to earthquake damage, the EBMUD service area has the most in common with Kobe, Japan, with its urban population, similar topography and comparable water distribution system. In 1994, the earthquake that hit Kobe resulted in 6,300 deaths and 42,000 injured.

In addition to participating in international conferences, in June 1999, EBMUD hosted the second delegation of Japanese experts from the Japan Water Works Association (JWWA) to share seismic methodologies and learn from each other.

EBMUD has been proactive in working with domestic and international experts on sharing technology on lifeline engineering since 1997. These lifeline engineers develop technology to improve infrastructures for critical utilities such as water systems.

The EBMUD Seismic Improvement Program (SIP) team is working quickly to minimize the potential damage to our water system from earthquakes here in the Bay Area. Although other water agencies are implementing some seismic measures, there is no consistent water-industry-wide approach to seismic mitigation.

During the June 1999 visit of the Japanese delegation, EBMUD engineers learned about Japanese seismic technology. Their use of seismic joints (ductile iron pipe) allows the pipe to move with the soil. This is a new technology not yet readily available in the U.S. Some Japanese water agencies use dual tanks to upgrade reservoirs, which allows one tank to be isolated from pipe breaks so that it can provide water for drinking and fire-fighting.

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In this issue:

SEISMIC IMPROVEMENT PROGRAM NEWS

Winter/Spring 2000

USGS Announces New Earthquake Probabilities for the Bay Area

The latest earthquake probabilities report was released in October 1999 by the U.S. Geological Survey (USGS) Working Group on California Earthquake Probabilities (WG-99). This group of earthquake scientists includes members from the USGS, the California Division of Mines and Geology, industry, universities and private consulting firms. WG-99 scientists determined that there is a 70% chance of at least one magnitude 6.7 or greater earthquake striking the San Francisco Bay region between 2000 and 2030.

The Working Group also discovered a new fault, the Mt. Diablo Thrust Fault. EBMUD is currently evaluating the need to review the potential impact of this fault on District facilities.

Two fact sheets were released at the Association of Bay Area Governments (ABAG) conference which give details about these new findings:

- ***"Major Quake Likely to Strike"***
- ***"Progress Toward a Safer Future"***

These are available on the USGS web site: ***http://quake.usgs.gov***.

Large earthquakes result in great loss to life and property. The probabilities determined by the USGS point to the regional likelihood

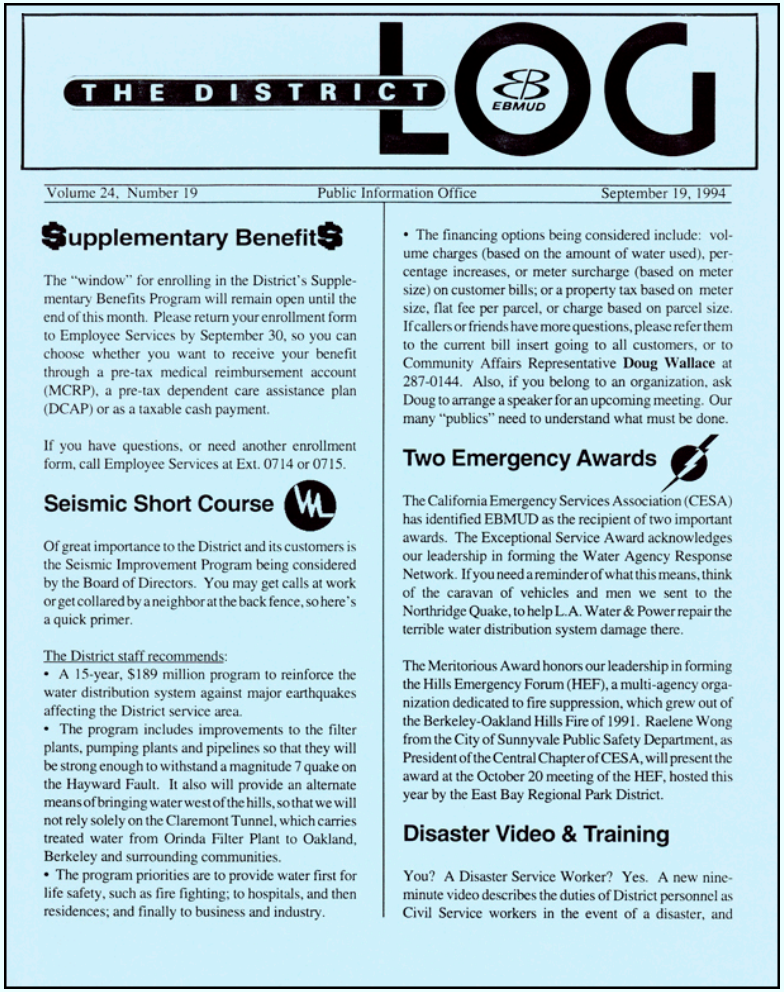
(continued on page 2)

The rate of large earthquakes in the Bay Area abruptly dropped after the Great 1906 Earthquake. The San Andreas Fault slipped so much over such a great length that strain was reduced on most faults throughout the region. Though strain has been slowly building up again, the level of seismic activity has not yet reached that of the late

In this issue:

com

Newsletters (Internal)



THE DISTRICT LOG

EBMUD

Volume 24, Number 19 | Public Information Office | September 19, 1994

$upplementary Benefit$

The "window" for enrolling in the District's Supplementary Benefits Program will remain open until the end of this month. Please return your enrollment form to Employee Services by September 30, so you can choose whether you want to receive your benefit through a pre-tax medical reimbursement account (MCRP), a pre-tax dependent care assistance plan (DCAP) or as a taxable cash payment.

If you have questions, or need another enrollment form, call Employee Services at Ext. 0714 or 0715.

Seismic Short Course

Of great importance to the District and its customers is the Seismic Improvement Program being considered by the Board of Directors. You may get calls at work or get collared by a neighbor at the back fence, so here's a quick primer.

The District staff recommends:

- A 15-year, $189 million program to reinforce the water distribution system against major earthquakes affecting the District service area.
- The program includes improvements to the filter plants, pumping plants and pipelines so that they will be strong enough to withstand a magnitude 7 quake on the Hayward Fault. It also will provide an alternate means of bringing water west of the hills, so that we will not rely solely on the Claremont Tunnel, which carries treated water from Orinda Filter Plant to Oakland, Berkeley and surrounding communities.
- The program priorities are to provide water first for life safety, such as fire fighting; to hospitals, and then residences; and finally to business and industry.
- The financing options being considered include: volume charges (based on the amount of water used), percentage increases, or meter surcharge (based on meter size) on customer bills; or a property tax based on meter size, flat fee per parcel, or charge based on parcel size. If callers or friends have more questions, please refer them to the current bill insert going to all customers, or to Community Affairs Representative **Doug Wallace** at 287-0144. Also, if you belong to an organization, ask Doug to arrange a speaker for an upcoming meeting. Our many "publics" need to understand what must be done.

Two Emergency Awards

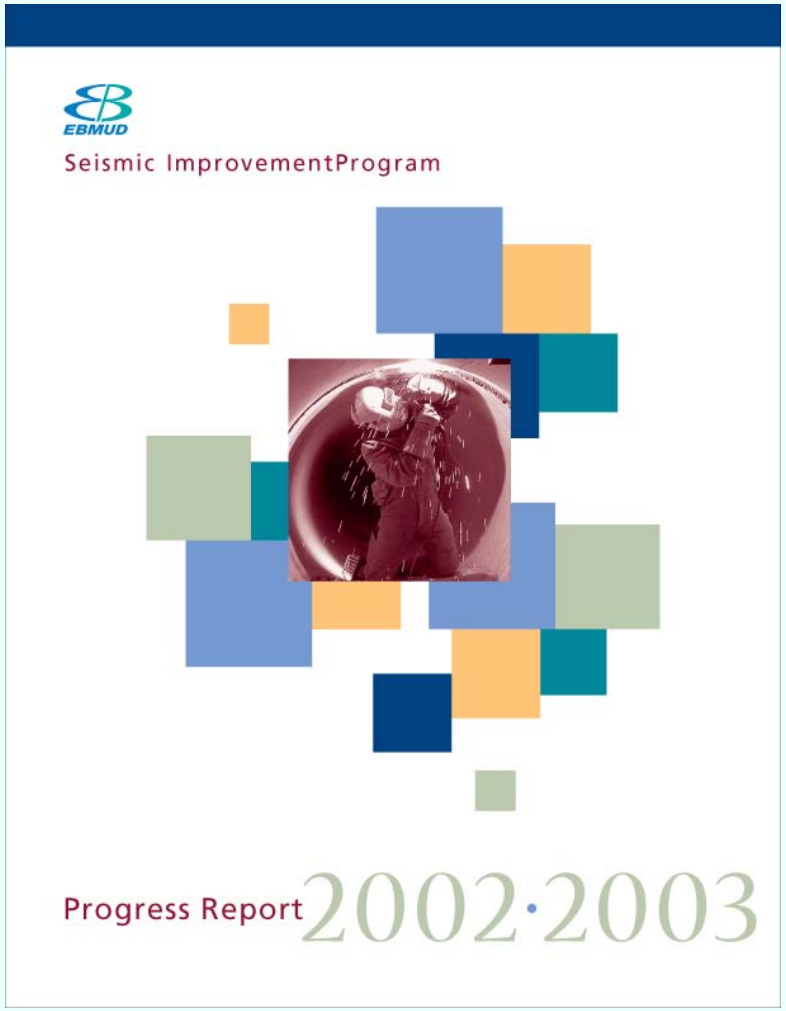
The California Emergency Services Association (CESA) has identified EBMUD as the recipient of two important awards. The Exceptional Service Award acknowledges our leadership in forming the Water Agency Response Network. If you need a reminder of what this means, think of the caravan of vehicles and men we sent to the Northridge Quake, to help L.A. Water & Power repair the terrible water distribution system damage there.

The Meritorious Award honors our leadership in forming the Hills Emergency Forum (HEF), a multi-agency organization dedicated to fire suppression, which grew out of the Berkeley-Oakland Hills Fire of 1991. Raelene Wong from the City of Sunnyvale Public Safety Department, as President of the Central Chapter of CESA, will present the award at the October 20 meeting of the HEF, hosted this year by the East Bay Regional Park District.

Disaster Video & Training

You? A Disaster Service Worker? Yes. A new nine-minute video describes the duties of District personnel as Civil Service workers in the event of a disaster, and

Annual Report



ebmud.com

Communication Tools – Solicit Feedback

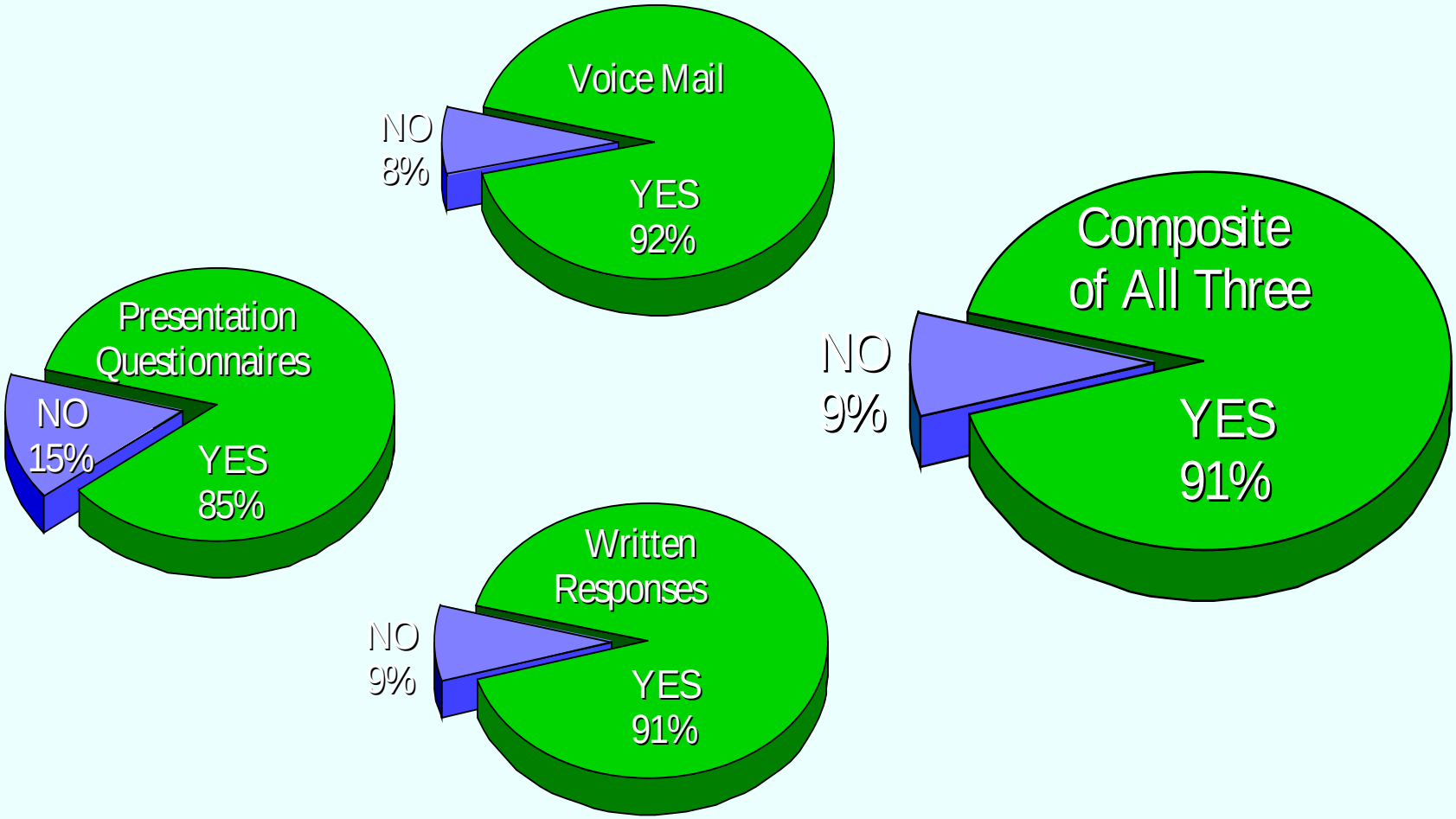
- Questionnaires
- Response cards
- Workshops
- Voice mail responses
- Public meetings

Results

- 90%+ approved
- Numerous compliments
- Few complaints on process
- Support, not resistance

Public Outreach Results

Do you support the proposed program?



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Questions?