COUNCIL AGENDA: 08-28-07
ITEM: 2.9

CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

Memorandum

TO: HONORABLE MAYOR AND CITY COUNCIL

FROM: John Stufflebean

SUBJECT: **MUNICIPAL WATER SYSTEM'S 2007 PUBLIC HEALTH GOALS REPORT ON WATER QUALITY**

DATE: 08-06-07

Approved Deanna Santana Date 8/11/07

COUNCIL DISTRICT: 2, 7, 8

RECOMMENDATION

Approval of the Municipal Water System's 2007 Public Health Goals Report on Water Quality and consent to file the report with the California Department of Public Health.

OUTCOME

Approval of the recommendation will allow staff to file a report with the California Department of Public Health (formerly the California Department of Health Services), which will complete the regulatory requirements associated with the preparation of this report.

BACKGROUND

Provisions of the California Health and Safety Code require all California water retailers serving more than 10,000 service connections to prepare a report every three years to inform consumers of water quality constituents that exceeded the Public Health Goals (PHGs). PHGs are non-enforceable water quality goals established by the California Office of Environmental Health Hazard Assessment and are based solely on public health risk considerations. Maximum Contaminant Level Goals, established by the U.S. Environmental Protection Agency, are the Federal equivalent to PHGs.

Public water systems are also required to hold a public hearing for the purpose of accepting and responding to public comment on the report, which may be done as part of a regularly scheduled meeting. The report is now being presented to Council to satisfy the public hearing requirements and to obtain Council approval before submittal to the California Department of Public Health.

ANALYSIS

San José Municipal Water System has prepared the Public Health Goals Report in compliance with the July 2007 deadline. The report represents an analysis of water quality data that has been collected over the past three years. The 2007 report covers data collected from 2004 through 2006 in the Evergreen, Edenvale and Coyote Valley areas. Since the North San José/Alviso service area is an individually permitted water system with less than 10,000 service connections, a PHG report was not required for this water system.

The PHG report (copy attached) satisfies the requirements of the Health and Safety Code by presenting the following information:

- Contaminants identified in the local water supply that exceeded the PHG or MCLG during the past three years;
- Numerical public health risk associated with the maximum contaminant level and the PHG for each contaminant identified in exceedance;
- Public health risk categories and definitions of these categories for the contaminants identified in excess of the PHG or MCLG;
- The Best Available Technology (BAT) to remove or reduce the concentration of the identified contaminants;
- An estimate of the cost to incorporate the identified BAT into the local water treatment in order to reduce the contaminant level to or below the PHG;
- Recommended action for reduction of contaminants exceeding PHGs and basis for that decision.

The San José Municipal Water System meets all primary drinking water standards set by the state and federal governments to protect public health. No further action is proposed at this time.

EVALUATION AND FOLLOW-UP

This report is required to be completed every three years. No additional follow up actions with Council are expected at this time.

PUBLIC OUTREACH/INTEREST

Although the following criterion does not apply to this item, this memorandum will be posted on the City's website for the Council Agenda of August 28, 2007. In addition, a public meeting was held on July 24, 2007, at the San José Municipal Water System office to receive public input and comments on the proposed report. A notice of the public meeting was published in the July 14th issue of the Evergreen Times. The notice was also posted on San José Municipal Water System's internet website. There were no customers in attendance at the public meeting, nor were there any comments on the report.

- ☐ **Criteria 1**: Requires Council action on the use of public funds equal to $1 million or greater. **(Required: Website Posting)**
- ☐ **Criteria 2:** Adoption of a new or revised policy that may have implications for public health, safety, quality of life, or financial/economic vitality of the City. **(Required: E-mail and Website Posting)**
- ☐ **Criteria 3:** Consideration of proposed changes to service delivery, programs, staffing that may have impacts to community services and have been identified by staff, Council or a Community group that requires special outreach. **(Required: E-mail, Website Posting, Community Meetings, Notice in appropriate newspapers)**

COORDINATION

This report was coordinated with the City Attorney's Office, the Santa Clara Valley Water District, and the California Department of Health Services.

COST SUMMARY/IMPLICATIONS

None.

CEQA

Not a project.

JOHN STUFFLEBEAN
Director

For questions please contact Robert Wilson, Acting Division Manager, at (408) 277-3288.

Attachment

CITY OF
SAN JOSE
CAPITAL OF SILICON VALLEY

PUBLIC HEALTH GOALS
REPORT ON WATER QUALITY

CITY OF SAN JOSE
MUNICIPAL WATER SYSTEM

JUNE 2007

MUNICIPAL WATER SYSTEM
CITY OF SAN JOSE

City of San Jose
Environmental Services Department

SAN JOSE MUNICIPAL WATER SYSTEM
PUBLIC HEALTH GOALS REPORT ON WATER QUALITY

TABLE OF CONTENTS

SECTION 1: BACKGROUND INFORMATION 1

WHAT ARE PUBLIC HEALTH GOALS (PHGS)? 1
REPORTING REQUIREMENTS 1
WATER QUALITY DATA CONSIDERED 1
GUIDELINES FOLLOWED 2
BEST AVAILABLE TREATMENT TECHNOLOGY AND COST ESTIMATES 2

SECTION 2: CONSTITUENTS DETECTED THAT EXCEED PHGS OR MCLGS 2

LEAD AND COPPER 2

SECTION 3: RECOMMENDATIONS 3

ATTACHMENT 1: EXCERPT FROM CALIFORNIA HEALTH & SAFETY CODE SECTION 116470 4
ATTACHMENT 2: CALIFORNIA MCLS & PHGS AND FEDERAL MCLGS 5

SECTION 1: BACKGROUND INFORMATION

WHAT ARE PUBLIC HEALTH GOALS (PHGS)?

PHGs are water quality goals established by the California Office of Environmental Health Hazard Assessment (OEHHA) and are based solely on public health risk considerations. In setting the PHGs, OEHHA does not take into account any of the practical risk-management factors which are considered by the United States Environmental Protection Agency (USEPA) and the State Department of Public Health (CDPH, formerly the State Department of Health Services) when setting drinking water standards such as Maximum Contaminant Levels (MCLs), including factors such as analytical detection capability, treatment technology available, benefits and costs. PHGs are non-enforceable and are not required to be met by public water systems. Maximum Contaminant Level Goals (MCLGs), established by USEPA, are the federal equivalent to PHGs.

REPORTING REQUIREMENTS:

Provisions of the California Health and Safety Code specify that larger water utilities prepare a special report if their water quality measurements have exceeded any PHGs. Reporting must be done every three years. The law also requires that where OEHHA has not adopted a PHG for a constituent, the water suppliers are to use the MCLGs adopted by USEPA.

The purpose of this report is to inform consumers of constituents in San Jose Municipal Water System's (SJMWS) drinking water that exceeded the PHGs or MCLGs during 2004, 2005, and 2006. Included is the numerical public health risk associated with the Maximum Contaminant Level (MCL) and the PHG or MCLG, the category or type of risk to health that could be associated with each constituent, the best treatment technology available that could be used to reduce the constituent level, and an estimate of the cost to install that treatment if it is appropriate and feasible. For general information about the quality of the water delivered by SJMWS, please refer to our Annual Water Quality Report.

WATER QUALITY DATA CONSIDERED:

The water quality data collected by our water system and by our water suppliers between 2004 and 2006 were considered for the purpose of determining compliance with drinking water standards and PHG reporting requirements. This data was all summarized in our Annual Water Quality Reports, which have previously been mailed to customers.

For each regulated contaminant, CDPH establishes Detection Limits for Purposes of Reporting (DLR). DLRs are the minimum levels at which any analytical result must be reported to CDPH. Analytical results below the DLRs cannot be quantified with any certainty. In some cases, PHGs are set below the DLRs.

GUIDELINES FOLLOWED:

The Association of California Water Agencies (ACWA) formed a workgroup which prepared guidelines for water utilities to use in preparing these PHG reports. ACWA guidelines were used in the preparation of this report.

BEST AVAILABLE TREATMENT TECHNOLOGY AND COST ESTIMATES:

Both USEPA and CDPH adopted Best Available Technologies (BATs), which are the best known methods of reducing contaminant levels to the MCL. However, since many PHGs and MCLGs are set much lower than the MCL, it is not always possible or feasible to determine what treatment is needed to further reduce a constituent to or below the PHG or MCLG. Where the MCLG or PHG is set at zero, there may not be commercially available technology to reach that level. Estimating the costs to reduce a constituent to zero is difficult, if not impossible because it is not possible to verify by analytical means that the level has been lowered to zero. In some cases, installing treatment to try and further reduce very low levels of one constituent may have adverse effects on other aspects of water quality.

SECTION 2: CONSTITUENTS DETECTED THAT EXCEED PHGS OR MCLGS

The following is a discussion of constituents that were detected in one or more of our drinking water sources at levels above the PHG, or if no PHG, above the MCLG.

LEAD AND COPPER:

There is no MCL for lead or copper; instead, the 90th percentile value of all samples from household taps in the distribution system cannot exceed an Action Level of 0.015 mg/l for lead and 1.3 mg/l for copper. The PHG for lead is 0.002 mg/l. The PHG for copper is 0.17 mg/l. In general, optimizing corrosion control during the drinking water treatment process is considered to be the best available technology to deal with corrosion issues and with any lead or copper findings.

The category of health risk for lead is chronic toxicity (neurobehavioral effects in children, hypertension in adults) and carcinogenicity. The category of health risk for copper is gastrointestinal irritation. For lead, the cancer risk at the PHG level is three cancer cases per ten million population, while the cancer risk at the MCL is two cases per million population. Numerical health risk data on copper has not yet been provided by OEHHA, the State agency responsible for providing that information.

Based on representative distribution system monitoring in the Evergreen area for lead and copper in 2004, the 90th percentile value for lead was 0.003 mg/l. In 2006, the 90th percentile value for copper was 0.41 mg/l. Based on the sampling, it was determined according to State regulatory requirements that SJMWS meets the Action Levels for lead and copper. Therefore, the water supply in Evergreen is deemed by CDPH to have "optimized corrosion control," and SJMWS is in full compliance with the Federal and State Lead and Copper Rule.

A major source of lead and copper in drinking water is internal corrosion of customers' plumbing systems. Since the SJMWS water supply meets the "optimized corrosion control" requirements, it is not prudent to initiate additional corrosion control treatment to the water supply as it involves the addition of other chemicals, which could raise additional water quality issues. Therefore, no estimate of cost has been included.

SECTION 3: RECOMMENDATIONS

CDPH and USEPA set primary drinking water standards to protect public health, all of which are met by SJMWS. In order to further reduce the concentrations of the constituents which exceeded the PHG or MCLG, very costly treatment technologies with the addition of chemicals must be added at the source of supply and incorporated into the distribution system. The costs associated with incorporating additional treatment processes may be better utilized to provide greater public health protection benefits if spent in other aspects, such as operation, maintenance, and water quality monitoring programs. Therefore, no further action is proposed at this time.

ATTACHMENT 1

EXERPT FROM CALIFORNIA HEALTH & SAFETY CODE SECTION 116470

(b) On or before July 1, 1998, and every three years thereafter, public water systems serving more than 10,000 service connections that detect one or more contaminants in drinking water that exceed the applicable public health goal, shall prepare a brief written report in plain language that does all of the following:

(1) Identifies each contaminant detected in drinking water that exceeds the applicable public health goal.

(2) Discloses the numerical public health risk, determined by the office, associated with the maximum contaminant level for each contaminant identified in paragraph (1) and the numerical public health risk determined by the office associated with the public health goal for that contaminant.

(3) Identifies the category of risk to public health, including, but not limited to, carcinogenic, mutagenic, teratogenic, and acute toxicity, associated with exposure to the contaminant in drinking water, and includes a brief plainly worded description of these terms.

(4) Describes the best available technology, if any is then available on a commercial basis, to remove the contaminant or reduce the concentration of the contaminant. The public water system may, solely at its own discretion, briefly describe actions that have been taken on its own, or by other entities, to prevent the introduction of the contaminant into drinking water supplies.

(5) Estimates the aggregate cost and the cost per customer of utilizing the technology described in paragraph (4), if any, to reduce the concentration of that contaminant in drinking water to a level at or below the public health goal.

(6) Briefly describes what action, if any, the local water purveyor intends to take to reduce the concentration of the contaminant in public drinking water supplies and the basis for that decision.

...

(f) Pending adoption of a public health goal by the Office of Environmental Health hazard Assessment pursuant to subdivision (c) of Section 116365, and in lieu thereof, public water systems shall use the national maximum contaminant level goal adopted by the United States Environmental Protection Agency for the corresponding contaminant for purposes of complying with the notice and hearing requirements of this section.

ATTACHMENT 2

CALIFORNIA MCLS & PHGS AND FEDERAL MCLGS

PARAMETERS/CONSTITUENTS	Units	State MCL	DLR	PHG or (MCLG)	PHG EXCEEDED?
INORGANICS					
ALUMINUM	mg/L	1	0.05	0.6	NO
ANTIMONY	mg/L	0.006	0.006	0.02	NO
ARSENIC	mg/L	0.05 (a)	0.002	0.000004	NO
ASBESTOS	fibers/L	7 million	0.2 million	(7 million)	NO
BARIUM	mg/L	1	0.1	2	NO
BERYLLIUM	mg/L	0.004	0.001	0.0001	NO
CADMIUM	mg/L	0.005	0.001	0.00004	NO
COPPER (at-the-tap; 90th percentile)	mg/L	AL=1.3	0.05	0.17	YES
CYANIDE	mg/L	0.15	0.1	0.15	NO
FLUORIDE	mg/L	1.4-2.4	0.1	1	NO
LEAD (at-the-tap; 90th percentile)	mg/L	AL=0.015	0.005	0.002	YES
MERCURY	mg/L	0.002	0.001	0.0012	NO
NICKEL	mg/L	0.1	0.01	0.012	NO
NITRATE [as N]	mg/L	10	0.4	10	NO
NITRATE [as N03]	mg/L	45	2	45	NO
NITRITE [as N]	mg/L	1	0.4	1	NO
SELENIUM	mg/L	0.05	0.005	(0.05)	NO
THALLIUM	mg/L	0.002	0.001	0.0001	NO
ORGANICS					
ACRYLAMIDE	TT	TT		(0)	NO
ALACHLOR	mg/L	0.002	0.001	0.004	NO
ATRAZINE	mg/L	0.001	0.001	0.00015	NO
BENTAZON	mg/L	0.018	0.002	0.2	NO
BENZENE	mg/L	0.001	0.0005	0.00015	NO
BENZO (a) PYRENE	mg/L	0.0002	0.0001	0.000004	NO
BROMATE	mg/L	0.01	0.005	(0)	NO
CARBOFURAN	mg/L	0.018	0.005	0.0017	NO
CARBON TETRACHLORIDE	mg/L	0.0005	0.0005	0.0001	NO
CHLORDANE	mg/L	0.0001	0.0001	0.00003	NO
CHLORITE	mg/L	1	0.02	(0.8)	NO
CHLOROETHENE [VINYL CHLORIDE]	mg/L	0.0005	0.0005	0.00005	NO
CIS-1,2-DICHLOROETHYLENE	mg/L	0.006	0.0005	0.1	NO
2,4-DICHLOROPHENOXYACETIC ACID	mg/L	0.07	0.01	0.07	NO
DALAPON	mg/L	0.2	0.01	0.79	NO
DIBROMOCHLOROPROPANE [DBCP]	mg/L	0.0002	0.00001	0.0000017	NO
1,2-DICHLOROBENZENE [ORTHO]	mg/L	0.6	0.0005	0.6	NO
1,4-DICHLOROBENZENE [PARA]	mg/L	0.005	0.0005	0.006	NO
1,1-DICHLOROETHANE [1,1-DCA]	mg/L	0.005	0.0005	0.003	NO
1,2-DICHLOROETHANE [1,2-DCA]	mg/L	0.0005	0.0005	0.0004	NO
1,1-DICHLOROETHENE [1,1-DCE]	mg/L	0.006	0.0005	0.01	NO
DICHLOROMETHANE	mg/L	0.005	0.0005	0.004	NO
1,2-DICHLOROPROPANE	mg/L	0.005	0.0005	0.0005	NO
1,3-DICHLOROPROPENE	mg/L	0.0005	0.0005	0.0002	NO
DI (2-ETHYLHEXYL) ADIPATE	mg/L	0.4	0.005	0.2	NO
DI (2-ETHYLHEXYL) PHTHALATE	mg/L	0.004	0.003	0.012	NO
DINOSEB	mg/L	0.007	0.002	0.014	NO
DIOXIN [2,3,7,8 - TCDD]	mg/L	3x10-8	5x10-9	(0)	NO
DIQUAT	mg/L	0.02	0.004	0.015	NO
ENDOTHALL	mg/L	0.1	0.045	0.58	NO

ENDRIN	mg/L	0.002	0.0001	0.0018	NO
EPICHLOROHYDRIN	TT			(0)	NO
ETHYLBENZENE	mg/L	0.3	0.0005	0.3	NO
ETHYLENE DIBROMIDE [EDB]	mg/L	0.00005	0.00002	0.00001	NO
GLYPHOSATE	mg/L	0.7	0.025	1	NO
HEPTACHLOR	mg/L	0.00001	0.00001	0.000008	NO
HEPTACHLOR EPOXIDE	mg/L	0.00001	0.00001	0.000006	NO
HEXACHLOROBENZENE	mg/L	0.001	0.0005	0.00003	NO
HEXACHLOROCYCLOPENTADIENE	mg/L	0.05	0.001	0.05	NO
LINDANE	mg/L	0.0002	0.0002	0.000032	NO
METHOXYCHLOR	mg/L	0.03	0.01	0.03	NO
METHYL TERTIARY BUTYL ETHER (MTBE)	mg/l	0.013	0.003	0.013	NO
MOLINATE	mg/L	0.02	0.002	none	NO
MONOCHLOROBENZENE	mg/L	0.07	0.0005	0.2	NO
OXAMYL	mg/L	0.05	0.02	0.05	NO
PENTACHLOROPHENOL	mg/L	0.001	0.0002	0.0004	NO
PICLORAM	mg/L	0.5	0.001	0.5	NO
POLYCHLORINATED BIPHENYLS [PCBs]	mg/L	0.0005	0.0005	(0)	NO
SILVEX [2,4,5-TP]	mg/L	0.05	0.001	0.025	NO
SIMAZINE	mg/L	0.004	0.001	0.004	NO
STYRENE	mg/L	0.1	0.0005	(0.1)	NO
1,1,2,2-TETRACHLOROETHANE	mg/L	0.001	0.0005	0.0001	NO
TETRACHLOROETHYLENE [PCE]	mg/L	0.005	0.0005	0.00006	NO
THIOBENCARB	mg/L	0.07	0.001	0.07	NO
TOLUENE	mg/L	0.15	0.0005	0.15	NO
TOXAPHENE	mg/L	0.003	0.001	0.00003	NO
TRANS-1,2-DICHLOROETHYLENE	mg/L	0.01	0.0005	0.06	NO
1,2,4-TRICHLOROBENZENE	mg/L	0.005	0.0005	0.005	NO
1,1,1-TRICHLOROETHANE [1,1,1-TCA]	mg/L	0.2	0.0005	1	NO
1,1,2-TRICHLOROETHANE [1,1,2-TCA]	mg/L	0.005	0.0005	0.0003	NO
TRICHLOROETHYLENE [TCE]	mg/L	0.005	0.0005	0.0008	NO
TRICHLOROFLUOROMETHANE (FREON 11)	mg/L	0.15	0.005	0.7	NO
TRICHLOROTRIFUOROETHANE (FREON 113)	mg/L	1.2	0.01	4	NO
TRIHALOMETHANES, TOTAL [TTHMs]	mg/L	0.1	0.0005	none	NA
XYLENES [SUM OF ISOMERS]	mg/L	1.75	0.0005	1.8	NO

MICROBIOLOGICAL

COLIFORM % POSITIVE SAMPLES	%	5		(zero)	NO
CRYPTOSPORIDIUM		TT		(zero)	NO
GIARDIA LAMBLIA		TT		(zero)	NO
LEGIONELLA		TT		(zero)	NO
VIRUSES		TT		(zero)	NO

RADIOLOGICAL

ALPHA ACTIVITY, GROSS	pCi/L	15	3	(zero)	NO
BETA ACTIVITY, GROSS	pCi/L	4 mrem/yr	4	(zero)	NO
RADIUM 226	pCi/L	5	1	0.05	NO
RADIUM 228	pCi/L	5	1	0.019	NO
STRONTIUM 90	pCi/L	8	2	0.35	NO
TRITIUM	pCi/L	20000	1000	400	NO
URANIUM	pCi/L	20	2	0.43	NO

MCL = Maximum Contaminant Level
MCLG = Maximum Contaminant Level Goal
PHG = Public Health Goal
DLR = Detection Limit for Reporting purposes (set by CDPH)
TT = Treatment Technique
(a) - USEPA adopted an arsenic level of 10 ppb that became effective on Jan. 23, 2006.