



SIERRA CLUB • LOMA PRIETA CHAPTER  
San Mateo • Santa Clara • San Benito Counties



December 26, 2000

Julie Labonte, P.E.  
Program Manager II  
SAN FRANCISCO PUBLIC UTILITIES COMMISSION  
Water Quality Bureau  
1657 Rollins Road  
Burlingame CA 94010

Re: *Comment Letter on SFPUC Fluoridation Feasibility Study*

Dear Ms. Labonte:

Enclosed please find the Loma Prieta Chapter's comments on the SFPUC Fluoridation Feasibility Study.

The reference to a study completed by the Sierra Club on fluoridation remains elusive but the search will continue.

Once again, thank you for the opportunity to comment.  
Should you have any questions or require any further information please do not hesitate to contact our office.

Regards,

Mandy Rose  
Water Committee

John Gregg, P.E.



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San Francisco Public Utilities Commission  
Water Quality Bureau  
1657 Rollins Road  
Burlingame, CA 94010

Subject: SFPUC Fluoridation Feasibility Study

Dear Commission Members:

The Loma Prieta Chapter of the Sierra Club has participated in the SFPUC stakeholder process for the Fluoridation Feasibility Study and has certain comments and suggestions for your consideration.

The Hetch Hetchy Water System, the SFPUC and the City and County of San Francisco have a long history of leadership on water issues, clean water and the protection of the Bay and Ocean. We hope the Commission will continue that leadership as it considers the issue of fluoridation and its potential impacts on the Bay and Ocean.

Recognizing that fluoride and certain chemicals (arsenic, lead, chromium, mercury, and cadmium) present as impurities in commercial fluoride products, are environmentally hazardous substances, the Commission has both the opportunity and the responsibility to be fully informed regarding the current body of knowledge on the public health and environmental impacts of fluoride, the chemical impurities present in commercial fluoride and the chemicals added to balance the water chemistry after fluoride addition.

To be fully informed the Commission and the potentially impacted public must have factual, objective information on the chemicals involved, the amounts of these chemicals and the distribution and fate of those chemicals in the water system, the human body and the air, land and waters of the Bay Area and the Bay-Delta Region.

We appreciate this opportunity for input to the SFPUC decision-making process. Our detailed comments are attached.



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Comments on

## SFPUC FLUORIDATION STUDY

### Project Description

The project description must provide complete details on the quantities of chemicals required for the project including but not limited to their transportation, storage, handling, public and employee safety requirements, emergency response plans and designations as hazardous materials. The quantities should be expressed in annual amounts and should include anticipated toxic metal impurities such as lead, arsenic, chromium, mercury and cadmium.

Based on data from the Cominco phosphate plant a 23.9% solution of hydrofluosilicic acid has the following concentrations of heavy metals.

Arsenic	57 mg/l
Lead	3 mg/l
Chromium	0.1 mg/l
Mercury	0.01 mg/l

In addition to fluoride, sodium and impurities added for fluoridation the quantities of sodium carbonate or sodium hydroxide added for pH adjustment should also be provided and expressed in annual quantities.

The project description must identify the fluoride levels required for regulatory compliance by each of the water systems proposed to be served recognizing the diverse and unique water supplies and water system operations of each of those systems. For example listing the systems with groundwater, Hetch Hetchy water, local surface water and/or imported surface water and variations of those supplies on a seasonal or annual basis.

### Existing Conditions

The identification and description of existing conditions should include a full description of the areas to be served and the fate of water supplied by the SFPUC. What quantity of the water fluoridated by the SFPUC will be applied to the land surface for irrigation, what quantity will be delivered as commercial or industrial process or cooling water, what quantity will be delivered for domestic use and what quantity will be discharged or spilled to the streets and streams as flushing water and/or operational spills?



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The quantities of fluoride, sodium and heavy metals historically used by and discharged to the environment from the City of San Francisco and the other areas to be served must be provided as a baseline for assessing impacts.

The existing conditions must identify the wastewater systems within the area to be served and the waste discharge permits, locations and amounts of wastewater to be discharged to the streams and bay and the quantities to be used as recycled water.

The basin plan water quality objectives for groundwater and surface water within the areas to be served must be identified

Habitat Conservation Plans and programs for stream, wetlands and aquatic species restoration must be identified.

### **Compliance With Regulatory Requirements**

This evaluation must consider not only compliance with fluoridation regulations but also compliance with other water, wastewater, recycled water, and storm water discharge permits and regulations. The 1998 SFPUC Water Quality Annual Report presents data showing the lead levels in San Francisco tap water ranging from <1 to 35ppb. The Public Health Goal for lead is 2 ppb and the Maximum Contaminant Level Goal is 0 ppb.

The evaluation must consider not only the specific numeric limits but also the limitations for toxic and other deleterious substances, which Generally state:

"None shall be present in concentrations or quantities which may cause deleterious effects on aquatic biota, wildlife or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentrations".

Specific attention must be given to the potential for violation of the Endangered Species Act through the discharge of fluoride and/ or heavy metas into the area streams and into the San Francisco Bay.

### **Operational Impacts**

The impacts on the operation of the water systems to be served must be described in detail with specifics as to how each system with assure that fluoride levels are met and maintained with their unique physical system and unique water supply mix (groundwater, local surface water, and/or imported surface water). Similarly, specifics as to how each system will be operated to meet heavy metal standards must be provided. Any additional operational requirements for the water systems to meet discharge requirements for flushing and operation spills must be identified.

The impacts on wastewater and recycled water systems operations must be identified to and including any operational chances necessary to handle the increase sodium and heavy metals.

### **Environmental and Public Safety Impacts**

The Project is proposed to assure compliance with fluoride levels requirement and will result in significant increases in the transportation, storage, use and discharge of hazardous materials including fluoride and heavy metals. In recent years it appears that the SFPUC System has not provided the levels of fluoride required for regulatory compliance, as such this project will result in increased fluoride levels in and discharged from areas currently listed as fluoridated. The 1998 SFPUC Water Quality Annual Report states, "For nine months during 1998 the SFPUC system was under-fluoridated due to fluoride facilities upgrades, system maintenance, and equipment problems...". The baseline for determining the increase in chemical use and discharge must be carefully selected so as to represent not only the actual historic quantities used and discharged but also the concentrations of fluoride, sodium and heavy metals present in the water supply and in the wastewater discharges.

Recent studies suggest that concentrations of fluoride above 0.2 mg/l have lethal effects on and inhibit the migration of "endangered salmon species". The potential impacts of the increased fluoride concentrations in surface water runoff and in wastewater discharges on salmon survival and migration in the area streams and in the Bay system must be documented and assessed.

Heavy metals are a documented environmental problem in the Bay system and the significant increase in heavy metals discharged to the Bay as a result of this project must be documented and assessed.

### **BAWUA and public input.**

The SFPUC is to be acknowledged for its outreach and stakeholder efforts.

Ease of implementation This evaluation must consider the full and cumulative impact of the project on the water, wastewater and storm water operations of the area to be served. A narrow focus on the advantages of centralized fluoridation will be inadequate.

### **Cost**

This evaluation must consider the full and cumulative impact of the project on the water, wastewater and storm water operations of the area to be served.

### **Availability of grant funding**

No comment