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July 27, 2012

Mr. John Arntz
Director
Department of Elections
1 Dr. Carlton B. Goodlett Place, Room 48
San Francisco, CA 94102

RE: Request for Analysis of Ballot Initiative Entitled "Water and Environment Plan" for November 6, 2012 Election

Dear Mr. Arntz,

I am writing in response to your letter dated July 9, 2012, regarding the proposed initiative measure titled "Water and Environment Plan" for the November 6, 2012 election ballot. If this initiative measure is ratified by the voters, and fully implemented by the City and County of San Francisco, it could have serious negative impacts on the Hetch Hetchy Water and Power System, and the 2.6 million residents and businesses served across four counties in the San Francisco Bay Area.

The proposed ballot measure would require the City and County of San Francisco to prepare a two-phase plan that would: 1) identify alternative local water and renewable energy sources; and 2) develop a plan to remove Hetch Hetchy Reservoir. The proposed ballot measure states that the planning effort should be completed by 2015, so that a charter amendment could be placed on the 2016 ballot calling for the removal of Hetch Hetchy Reservoir, which stores 85% of the water delivered to San Francisco.

Our analysis of the proposed ballot measure finds that:

1. **Numerous completed studies illustrate that removing Hetch Hetchy Reservoir would have significant negative impacts on the effective, efficient, affordable, and environmentally sustainable operation of San Francisco's water and power system. These impacts include:**

    - Significant increases in water rates;
    - Reduced water reliability and greater vulnerability during droughts;
    - Energy intensive and expensive filtering and pumping of our water supply;
    - A 42% reduction in the generation of clean hydropower that fuels city services; and
    - At least $41 million in additional annual costs to the city due to loss in hydropower sales and increased energy expenditures.

2. **The proposed ballot measure calls for the City and County of San Francisco to undertake planning on issues that have already been studied in-depth. In many cases, implementation projects are well underway.**

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Commissioner

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General Manager

3. **The $8 million dollars in proposed funding would be insufficient to undertake the proposed planning activities.**

4. **The ballot measure includes a number of findings about the Hetch Hetchy Water and Power System that are misleading or factually inaccurate**. *Attachment A provides information to correct the inaccuracies.*

The remainder of this document provides additional detail about these conclusions, as do the accompanying attachments.

Numerous completed studies illustrate that removing Hetch Hetchy Reservoir would have significant negative impacts on the effective, efficient, affordable, and environmentally sustainable operation of San Francisco's water and power system.

The end goal of the "Water and Environment Plan" is the draining of Hetch Hetchy Reservoir, where 85% of water delivered to the SFPUC's service area is stored.

Specifically, the ballot measure calls for a planning process and the development of cost estimates to "consolidate the nine reservoirs on which San Francisco relies for water storage into eight and return the Hetch Hetchy Valley in Yosemite National Park to the National Park Service so it may be restored."

A number of completed studies have already illustrated that removing Hetch Hetchy Reservoir will result in reduced water reliability and water quality; increased vulnerability during drought; a significant reduction in clean energy generation; and increased costs to San Francisco taxpayers and ratepayers for new water infrastructure, new system operations and maintenance requirements, and replacement power for municipal services. *(Attachments G and H provide two of these studies, including the California Department of Water Resources analysis, as well as one conducted by the City and County of San Francisco.)*

Significant Increases in Water Rates

In 2005, an independent study by the California Department of Water Resources estimated that the costs to build new infrastructure and restore Hetch Hetchy Valley would be approximately **$3 to 10 billion** (in 2005 dollars).

The impact of these costs could dramatically impact ratepayers and affordability. The average customer **would pay $709 to $2,777 more each year**. Over a 30-year period of bond repayment, the average San Francisco customer would end up paying **$21,300 to $83,300 in higher water bills**.

Reduced Water Reliability and Greater Vulnerability During Droughts

Hetch Hetchy Reservoir stores more water than all other SFPUC drinking water reservoirs combined.[1]

This water storage is invaluable in its ability to capture snowmelt and store the water for reliable water delivery throughout the year and across multiple years.
In most months, the SFPUC needs to take water from the Hetch Hetchy Reservoir because there is not enough rain or snowmelt to meet our needs.

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[1] There are 9 principal water reservoirs in the regional water system, only 6 of which provide drinking water (Hetch Hetchy, Calaveras, San Antonio, Crystal Springs, San Andreas, and Pilarcitos).

Storage at Hetch Hetchy is even more important in times of drought. San Francisco's last major drought was between 1987-1992, and residents in San Francisco endured rationing of over 30%. Without Hetch Hetchy, in such a drought, rationing would increase an additional 20%, with billions of dollars in negative economic impact on the regional economy. (*Please see Attachment C for reports that show the economic effects of droughts.)*

Energy Intensive and Expensive Filtering and Pumping Of Our Water Supply
Hetch Hetchy Reservoir collects and stores pristine snowmelt in a granite basin within the protected Yosemite National Park wilderness area. Any new water supply would mostly likely be of lower water quality and require costly filtration.

Given these unique characteristics, San Francisco's water consistently meets and exceeds federal and state standards for safe drinking water. The SFPUC is one of only five large water utilities in the United States not required to filter water due to the pristine Hetch Hetchy watershed.

Additionally, given the high elevation of Hetch Hetchy Reservoir and the existing water delivery system, the SFPUC is able to move water from its source, across the state, and to its customers using little more than gravity. Without the gravity-driven system, water would have to be pumped across the state, which would use large amounts of energy and cost millions of dollars.

42% Reduction in the Generation of Clean Hydropower That Fuels City Services
Removing the Hetch Hetchy Reservoir would reduce the system's clean hydropower generation capacity by 42%, which equates to a loss of 726 million kilowatt hours annually. This is enough energy to power 178,000 San Francisco homes for a year. *(Please see Attachment E for more information about how this loss in generation capacity was calculated.)*

On average, the Hetch Hetchy project generates 1.7 billion kilowatt hours of clean, cost-effective hydroelectricity each year. This 100% greenhouse gas-free energy meets all of San Francisco's municipal power requirements, as well as energy to the Modesto and Turlock Irrigation Districts. This power is provided in accordance with the Federal Raker Act of 1913. Examples of San Francisco municipal customers that use Hetch Hetchy power to provide critical City functions include:

- San Francisco International Airport;
- San Francisco General Hospital and Laguna Honda Hospital;
- Port of San Francisco;
- San Francisco Unified School District and City College of San Francisco;
- San Francisco Municipal Transportation Agency (SFMTA) ;
- Police and fire facilities; and
- More than 40,000 streetlights and traffic signals.

At least $41 million in Additional Annual Costs to the City Due to Loss In Hydropower Sales and Increased Energy Expenditures
The 42% loss in hydropower generation would result in lost revenues for the San Francisco Public Utilities Commission. Additionally, the SFPUC would need to purchase power on the open market in order to meet the power needs of its customers. The additional expenditures for energy combined with the loss of revenue **will cost the City approximately $41 million.**

City General Fund customers such as the School District, and the Fire and Police Departments, would see their electricity rates increase by almost 200%. (*Please see Attachment F for more information about how this was calculated*.)

It should be noted that the $41 million cost figure corresponds to purchasing enough power to satisfy the City's minimum obligations. It does not replace the loss of clean, hydroelectric energy provided to the City's wholesale customers and the resulting environmental benefits and cost savings for California more broadly. The lost supplies will need to be replaced with either fossil-fired generation, increasing GHG emissions statewide, or will be replaced with renewable or other low-GHG supplies at significantly higher costs.

The proposed ballot measure calls for the City and County of San Francisco to undertake planning on issues that have already been studied in-depth. In many cases, implementation projects are well underway.

It is unclear what additional, new information would result from the planning activities outlined in the proposed ballot measure.

Over the past two decades, the City and County of San Francisco has undertaken in-depth planning studies to improve seismic and water supply reliability, ensure high water quality, and diversify its local water supplies. These planning efforts culminated in the 2008 adoption of the $4.6 billion Water System Improvement Program (WSIP).[1] The City and County of San Francisco also undertakes ongoing capital improvement programs and water supply planning efforts to ensure we maintain reliable, sustainable water supplies.

The City also has a strong track record of planning and implementing projects to develop alternative renewable energy sources. In 2002, the SFPUC and the San Francisco Department of the Environment developed, and the Board of Supervisors adopted, the Electricity Resource Plan—a roadmap for reducing greenhouse gas emissions in San Francisco and developing more renewable energy sources to meet the City's energy needs. The Electricity Resource Plan was updated in 2011 and outlines a city-wide strategy to meet San Francisco's zero-GHG goal by 2030. The SFPUC has already implemented 15 megawatts of in-city solar projects in San Francisco, including the 5 megawatt project on Sunset Reservoir, one of the largest municipal projects in California. *(Please see Attachment B for a list of existing plans that have already been conducted around water and power issues.)*

The $8 million dollars in proposed funding would be insufficient to undertake the proposed planning activities.

The ballot measure could result in a scenario where voters would consider a charter amendment in 2016 that would remove Hetch Hetchy Reservoir and jeopardize the City's water and municipal power supply based on an inadequately funded and incomplete planning process.

The proposed ballot measure states that up to 0.5% of funds previously authorized by voters for the Water System Improvement Program—which equates to $8 million—can be utilized for the planning effort. A budget of $8 million would be insufficient to

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[1] Scheduled for completion in 2016, the WSIP consists of over 80 active and completed construction projects throughout the regional water system that includes water conservation, recycled water and groundwater projects.

undertake the in-depth planning—to the point of being prepared for environmental review—on the large number of issues laid out in the Water and Environment Plan.[2] **The California Department of Water Resources independent study in 2005 estimated that such a plan would cost approximately $65 million.[3]**

The proposed ballot measure is silent on what would happen if additional resources were required for planning.

Attachments

The following attachments offer additional information on the analysis presented in this letter. Specifically:

- Attachment A: Factual Information Related to Select Findings and Declarations
- Attachment B: Select List of Existing Water and Power Plans
- Attachment C: Impact on Water Rates
- Attachment D: Impacts of Droughts and Water Supply Reductions
- Attachment E: Loss of Clean Hydropower Generation
- Attachment F: Additional Annual Costs to San Francisco Due to Loss In Hydropower Generation
- Attachment G: California Resources Agency, Department of Water Resources and Department of Parks and Recreation. *Hetch Hetchy Restoration Study*. 2006.
- Attachment H: City and County of San Francisco. *Protecting the Hetch Hetchy Water System: Reliable High Quality Water for the San Francisco Bay Area.* July 2005.

Please let me know if we can provide you with any additional information. A representative from the San Francisco Public Utilities Commission will attend the Ballot Simplification Committee to answer any questions the Committee may have.

Sincerely,

Ed Harrington
General Manager
San Francisco Public Utilities Commission

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[2] The ballot measure states that each phase of the planning "shall provide sufficient detail to initiate programmatic and project review under the California Environmental Quality Act and the National Environmental Protection Act."

[3] California Resources Agency, Department of Water Resources and Department of Parks and Recreation. *Hetch Hetchy Restoration Study*. 2006.