



INTER-OFFICE MEMORANDUM

October 17, 2017

TO: Ike Kwon, President

FROM: Harlan L. Kelly, Jr., General Manager *HK*

SUBJECT: Declaration of Emergency – CS-1091(E) Tesla Treatment Facility Flywheel UPS

In accordance with Chapter 21, Section 21.15(c) of the Administrative Code of the City and County of San Francisco, I am declaring an emergency on behalf of the San Francisco Public Utilities Commission (“SFPUC”).

Starting in mid-2017, the Tesla Treatment Facility (TTF) Flywheel Uninterruptible Power Supply (UPS) Unit 8130 (one of three Flywheel UPS units) failed. The main function of the UPS units is to provide continuous power to the ultraviolet (UV) reactors during a utility power outage. The UVs disinfect the Hetch Hetchy water passing through the TTF and ensure compliance with the SFPUC’s drinking water permit requirements.

Following the Unit 8130 failure, SFPUC staff called on a manufacturer’s representative to provide an assessment. The representative informed SFPUC staff that Unit 8130 was unsafe to run, and that leaving the other two still-functioning UPS units online could potentially cause a worker safety issue. Therefore, SFPUC removed the remaining two UPS units from service until maintenance and repairs could be performed. Without all three UPS units functioning, the UV reactors’ automatic control system is vulnerable during a utility power outage. Moreover, extended periods out of service increase the risk of further damage to the UPS units.

The TTF is a critical asset, providing continuous delivery of clean water to SFPUC water customers. The inability to disinfect Hetch Hetchy water in the event of a utility power outage poses a risk to public health and safety due to the risk of being unable to deliver water from the Hetch Hetchy system in compliance with the SFPUC’s drinking water permit.

Edwin M. Lee
 Mayor

Ike Kwon
 President

Vince Courtney
 Vice President

Ann Moller Caen
 Commissioner

Francesca Viator
 Commissioner

Anson Moran
 Commissioner

Harlan L. Kelly, Jr.
 General Manager

Services of the San Francisco Public Utilities Commission

OUR MISSION: To provide our customers with high-quality, efficient and reliable water, power and sewer services in a manner that values environmental and community interests and sustains the resources entrusted to our care.



In addition, SFPUC subsequently has become aware of another unanticipated ramification from the breakdown of the Flywheel UPS units. The UPS units provide additional power conditioning that protects sensitive data and communication systems at the TTF. Accordingly, SFPUC Information and Technology staff advise that restoration of the UPS units should be expedited to avoid long-term damage to these data and communication systems.

Thus, immediate action is necessary to address these concerns. The SFPUC intends to enter into an emergency contract to minimize the UPS outage duration and thereby minimize the risks of: 1) interrupting the delivery of water in violation of drinking water permits; 2) damage to sensitive data and communications systems; and 3) additional deterioration or breakdown of the other two UPS units.

The Flywheel UPS units, installed as part of the TTF Water System Improvement Program in 2011, are one-of-a-kind in the Regional Water System. The skillset to service them does not reside within SFPUC staff and requires specialized vendors, who have not been under contract since May of 2016.

The emergency service work includes replacing a number of components including costly bearings and capacitors. The service will return the UPS units to a high state of readiness and allow the SFPUC time to get an ongoing service contract in place to avoid a repeat incident. Because it is necessary to immediately procure these repair services to safeguard the property of the City and to maintain public health or welfare as a result of this breakdown, an "actual emergency" exists within the meaning of Section 21.15(a) of the Administrative Code.

This request for an emergency declaration is for resources to perform work beyond the capabilities of City forces as soon as possible. The estimated total cost is not anticipated to exceed \$500,000.

I am therefore declaring the existence of an emergency. I trust that this meets with your concurrence and approval.

CONCUR AND APPROVE:



Ike Kwon – President,
San Francisco Public Utilities Commission

cc: SFPUC Commissioners
Steven R. Ritchie, Asst. General Manager, Water