CIVIL SERVICE COMMISSION
CITY AND COUNTY OF SAN FRANCISCO

CIVIL SERVICE COMMISSION REPORT TRANSMITTAL (FORM 22)

Refer to Civil Service Commission Procedure for Staff - Submission of Written Reports for Instructions on Completing and Processing this Form

1. Civil Service Commission Register Number: _____ - _____ - _____

2. For Civil Service Commission Meeting of: March 2, 2026

3. Check One:
   - Ratification Agenda _____
   - Consent Agenda X
   - Regular Agenda _____
   - Human Resources Director=s Report _____

4. Subject: Review of Request DHRPSC00004444 - Report Back

5. Recommendation: Adopt the report. Review the Report back memo.

6. Report prepared by: Shawndrea Hale Telephone number: 415-551-4540

7. Notifications: **(Attach a list of the person(s) to be notified in the format described in IV. Commission Report Format -A).**

8. Reviewed and approved for Civil Service Commission Agenda:

   Human Resources Director: _____

   Date: _____

9. Submit the original time-stamped copy of this form and person(s) to be notified (see Item 7 above) along with the required copies of the report to:

   Executive Officer
   Civil Service Commission
   25 Van Ness Avenue, Suite 720
   San Francisco, CA 94102

10. Receipt-stamp this form in the ACSC RECEIPT STAMP≅ box to the right using the time-stamp in the CSC Office.

CSC RECEIPT STAMP

Attachment

CSC-22 (11/97)

San Francisco
Water Power Sewer
Services of the San Francisco Public Utilities Commission

Contract Administration Bureau
525 Golden Gate Avenue, 8th Floor
San Francisco, CA 94102
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A Feasibility Report on using SFPUC-WSTD Electricians to perform Inspection, Testing, and Maintenance of Switchgears and Switchboards

Prepared for:
SF Civil Service Commission
In response to CSC's Conditional Approval of
PSC DHRPSC00004444 on 04/21/2025

Prepared by:
Anthony Yu
SFPUC Water Supply & Treatment Division
Maintenance Engineering
December 2025

Background

The SFPUC Water Supply and Treatment Division (WSTD) is responsible for the treatment and transmission of drinking water to SFPUC's wholesale and retail customers. The Division's facilities include three main water treatment facilities, four major pump stations, two corporation yards, and smaller ancillary facilities spread across San Mateo, Santa Clara, Alameda, and San Joaquin County.

The electrical infrastructure at many of WSTD's facilities are critical to ensure continuous and reliable operation of the SFPUC's water system. Common electrical equipment at these facilities includes circuit breakers, transformers, switches, protective relays, surge arrestors, and switchgear and switchboard assemblies.

The current *Inspection, Testing, and Maintenance of Switchgears and Switchboards* maintenance contract provides contracted services to eighteen (18) WSTD facilities to inspect, test, and maintain a total of 16 switchgear assemblies, 21 switchboard assemblies, 17 transformers, and one electrical substation. The inspection, testing, and maintenance occur at each facility in three-year intervals.

WSTD has contracted out these services since 2019. Prior to 2019, the electrical maintenance of most of the switchgears and switchboards were not performed on a routine and consistent basis.

Assessment of Internal Resources

WSTD's organizational chart for the Electric Shop is comprised of one 7276 Electrician Supervisor II, two 7238 Electrician Supervisor I, and ten (10) 7345 Electricians. Due to WSTD's large geographical area, the group is divided between the West Bay and East Bay regions.

As of September 2025, a total of eight (8) electricians staff the SFPUC WSTD Electric Shop, with five (5) vacancies. A 7276 Electrician Supervisor II oversees the entire shop. A 7238 Electrician Supervisor I and three (3) 7345 Electricians are assigned to support West Bay WSTD field facilities. For the East Bay WSTD field facilities, there are three (3) 7345 Electricians, with one 7345 Electrician acting as the 7238 Electrician Supervisor I.

SFPUC WSTD Electric Shop Org Chart	
West Bay Electricians	
Classification	**Head Count**
7276 Electrician Supervisor II	1
7238 Electrician Supervisor I	1
7345 Electrician	1
7345 Electrician	1
7345 Electrician	1
7345 Electrician	(vacant)
7345 Electrician (temp exempt)	(vacant)
East Bay Electricians	
7238 Electrician Supervisor I	(vacant)

7345 Electrician	1 (acting 7238)
7345 Electrician	1
7345 Electrician	1
7345 Electrician	(vacant)
7345 Electrician (temp exempt)	(vacant)

There are currently five Electrician vacancies including one 7238 Electrician Supervisor I position, and four 7345 Electrician positions, two of which are temporary exempt. WSTD's acting maintenance manager is actively recruiting to hire three new 7345 Electricians. As of January 2026, two new Electricians are being onboarded with DHR. A third position is still in the process of setting up and conducting interviews.

With the current staffing levels, the WSTD Electric Shop remains busy keeping up with corrective maintenance, preventive maintenance, and project work. Key Performance Indicator (KPI) reports are generated on a monthly basis. These reports reveal the work order backlogs between all the different trades. For the month of October 2025, the Electric Shop had the largest work order backlog with the West Bay electricians having a backlog of 382 work orders, and the East Bay electricians having a backlog of 331 work orders. Of the 713 work order backlogs, 302 of those work orders were for preventive maintenance tasks.

The existing 7345 Electrician classification performs "skilled electrical work in connection with the installation, maintenance, repair and alteration of electrical systems under 600 volts". However, 12 of the 18 facilities covered under the current *Inspection, Testing, and Maintenance of Switchgears and Switchboards* maintenance contract have medium voltage transformers and electrical equipment that operate from 4,160V to 60,000V.

Obstacles to performing switchgear maintenance internally

The main obstacles that have prevented WSTD from performing the switchgear maintenance work are qualified training and experience, proper equipment and tools, and lack of personnel.

The current Electrician classifications at WSTD perform skilled electrical work in connection with the installation, maintenance, repair and alteration of electrical systems under 600 volts. As most of the switchgear and switchboard equipment exceeds 600 volts, the existing Electrician classifications would be working outside of their job scope. There are ongoing efforts with IBEW Local 6 and the Department of Human Resources to re-classify WSTD Electricians to include inspection, maintenance, repair, installation, and testing of electrical systems and equipment up to 301,000 Volts de-energized. In anticipation of converting WSTD's existing 7276, 7238, and 7345 classifications to 7289, 7288, and 7385, respectively, WSTD Electricians have completed a series of training courses in Substation Maintenance, NFPA 70B Medium Voltage Equipment Maintenance, and are planning additional training on NFPA 70E Medium Voltage Equipment Safety. The trainings are one of the steps in preparation to performing some of the future switchgear and switchboard maintenance work internally.

A lack of proper specialized tools and testing equipment is another concern and obstacle in effectively performing switchgear maintenance internally. Recently, the Electric Shop has been slowly

acquiring necessary tools and testing equipment such as digital low resistance ohmmeters. However, additional equipment purchases would still be needed, including future investments.

Another obstacle is the lack of sufficient electricians to perform the switchgear and switchboard maintenance in a timely and efficient manner. Some of WSTD's larger facilities, such as the Harry Tracy and Sunol Valley Water Treatment Plants, the Tesla UV Treatment Facility, and Crystal Springs Pump Station and Substation, have historically required a crew of five to six technicians up to five days at each facility to complete the preventive maintenance work.

Staffing Requirements for Inspection, Testing, and Maintenance of WSTD Switchgears and Switchboards			
Facility	Estimated Number of Technicians	Estimated Duration of Maintenance Work	Estimated Labor Hours
Baden Pump Station	4	4 days	112 hours
Pulgas Pump Station	4	1 day	32 hours
Crystal Springs Pump Station	4	4 days	128 hours
San Antonio Pump Station	4	3 days	96 hours
Sunol Valley Water Treatment Plant	4	4 days	144 hours
Harry Tracy Water Treatment Plant	6	4.5 days	160 hours
Millbrae Yard	6	1 day	48 hours
Pulgas Dechloramination Facility	4	2 days	64 hours
Ravenswood Shaft	2	1 day	12 hours
Crystal Springs Substation	5	4 days	140 hours
Newark Valve Lot	3	1 day	24 hours
Calaveras Dam	4	3 days	80 hours
San Antonio Backup Pipeline Discharge	3	1 day	24 hours
Sunol Chloramine Facility	4	1 day	32 hours
Sunol Corporation Yard	4	1 day	32 hours
Town of Sunol Fire Pump System	2	1 day	12 hours
Tesla UV Treatment Facility	5	4 days	160 hours
Thomas Shaft Chlorination Facility	4	1 day	32 hours

Performing maintenance on larger facilities requires a significant commitment of labor hours. If WSTD Electricians perform the switchgear maintenance work, much of the existing staff would be dedicated to this task, leaving few, if any, electricians available to respond to unanticipated emergencies or other high priority corrective maintenance work.

Conclusion

With the current staffing levels and backlog of existing preventive and corrective maintenance work orders, the SFPUC Water Supply and Treatment Division is not able to perform the entirety of the inspection, testing, and maintenance of switchgear and switchboards at this time. In the near term, the Water Supply and Treatment Division is working towards recruitment and backfilling existing Electrician vacancies, updating the Electrician classifications, continuing training courses related to medium voltage substation and equipment maintenance and safety, and the procurement of the necessary tools and testing equipment.

Once these goals have been met, the Division intends to reduce the work scope of future switchgear and switchboard maintenance contracts by having WSTD Electricians perform future maintenance for the smaller facilities, for which the estimated duration to perform the maintenance work is achievable while maintaining the ability to simultaneously respond to emergencies and other Division needs.

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