



Operating Procedures for Cross-Connection Control Program

2018 Instructions for Authorized Backflow Prevention Assembly Testers

1 Purpose

The purpose of these instructions is to set forth the responsibilities of and requirements for backflow prevention assembly testers in the City and County of San Francisco. The instructions describe the requirements for operating in San Francisco, how to submit testing information, and how to communicate with the various City departments involved in the Cross-Connection Control Program. Information provided by testers is used to maintain the Cross-Connection Control Program database and assists the City in creating new accounts and updating existing accounts. It is important that testers ensure the accuracy of reports and information submitted to the program.

These instructions are organized into the following sections:

- 2 Permit to Operate
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- 9 Recording or Correcting Information in CCAMS
- 10 Submitting Test Information
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2 Permit to Operate

- Testers who operate within the City and County of San Francisco must obtain a permit to operate from the San Francisco Department of Public Health (SFDPH).
- All applicants for a permit to operate must hold a valid “Backflow Prevention Assembly Tester” certification from the American Water Works Association, American Backflow Prevention Association, or Northern California Backflow Prevention Association. In addition, applicants must pass an exam administered by SFDPH, pay an annual license fee, and maintain general liability insurance. It is the tester’s responsibility to keep the permit to operate current.
- Each holder of a permit to operate who is not a City employee must maintain general liability insurance in full force and effect, at his or her expense, for all activities performed under the permit to operate. Such insurance must include coverage for bodily injury, personal injury, including death resulting therefrom, and property damage

insurance, with limits not less than \$1 million each occurrence combined single limit. The City and County of San Francisco, its officers, and employees must be named as additional insureds under the policy, and a cross-liability clause must be attached. The insurance must provide 10-day prior written notice of cancellation, non-renewal, or material change to SFDPH. SFDPH will not issue a permit to operate before receiving a certificate of insurance meeting these requirements.

- Each permit to operate is valid for one year from the date of issuance. The permit to operate may be renewed if the holder maintains a current “Backflow Prevention Assembly Tester” certification from a recognized testing organization, maintains insurance as described above, and pays applicable fees.
- If a tester changes employment and continues to work in San Francisco, the tester must:
 - Inform SFDPH of the end date with the previous employer and start date with the new employer.
 - Provide SFDPH with proof of liability insurance.
 - Contact the San Francisco Tax Collector and provide address of new employer. The Tax Collector is located in San Francisco City Hall, 1 Dr. Carlton B. Goodlett Place #140, San Francisco, CA 94102, phone (415) 554-4400.
- If a tester stops working in San Francisco permanently, the tester must provide a completed “Business Closure Form” to SFDPH. Once the form has been processed, the tester will no longer receive tax bills from the City. The form is available at https://www.sfdph.org/dph/files/EHSdocs/ehsForms/Business_Closure_Form.pdf.
- The General Manager may suspend or revoke a permit to operate at any time for cause.

3 Authorized Tester Responsibilities

- **All** testers must attend the Annual Meeting for Backflow Prevention Assembly Testers, hosted by the San Francisco Public Utilities Commission’s (SFPUC’s) Water Quality Division (WQD) and SFDPH. Alternatively, testers may complete an online training program. SFDPH will inform testers about how to access the program, which must be completed by January 31 of each year.
- Equipment for testing backflow prevention assemblies must be calibrated at least once a year. ***The tester must provide a copy of the certification to SFDPH when the permit to operate is obtained or renewed.***
- Testers must obtain backflow tags and attach them to assemblies that have passed testing. (See Section 4 for how to obtain tags.) Always use tags from the current year: the practice of attaching the prior year’s tag to overdue assemblies has been discontinued. Note that WQD might require an assembly to be tested twice in the same year to get the assembly back on schedule.
- Testers are responsible for entering their own test data into the Cross-Connection Control Program’s *Cross-Connection Assembly Management System (CCAMS)*. (See Section 10 for how to submit test information.) Test results must be entered within five calendar days of the test date, **unless** an assembly fails testing and cannot be repaired the same

day. In that case, test results must be entered into CCAMS **the day of the test** so that WQD is informed of the failure.

- If a tester finds an assembly that has been modified or incorrectly installed, he or she must immediately report the situation to the Cross-Connection Control Program via CCAMS and **not test the assembly**. The tester is also to take a digital photograph of the assembly. If using the CCAMS mobile application, the tester can upload the photograph directly to CCAMS; otherwise, the tester must email the photograph to backflow@sfgwater.org along with a description of the violation. After the violation has been corrected, and therefore the assembly can be tested, the tester must take a photograph of the corrected installation and either upload it to CCAMS using the mobile application or email it to backflow@sfgwater.org.
- All assemblies installed in San Francisco must be on the “Approved Backflow Prevention Assemblies” list developed by the University of Southern California (USC) Foundation for Cross-Connection Control and Hydraulic Research. Any modification of an assembly—such as relocation of valves, bypass arrangements, and jumper connections, whether temporary or permanent—invalidates the foundation’s approval and is not permitted. Likewise, an assembly that has been installed in an orientation for which it was not designed or approved is also not permitted.
- Testers **must submit test results electronically** via CCAMS. (See Section 5 for how to set up a CCAMS account.)

4 Obtaining Backflow Tags

- Backflow tags are sold by the SFPUC Customer Services Bureau, located on the first floor at 525 Golden Gate Avenue, San Francisco. The bureau is open from 8 am to 5 pm, Monday through Friday. Tags may be obtained in person or by mail; payments may be made by cash (in person only), company or cashier’s check, and money order. (No personal checks or credit cards accepted.) Checks should be made out to SF Water Department.
- Tags may be purchased by Authorized Backflow Prevention Assembly Testers or representatives of testing companies.
- To purchase tags in person, the buyer must provide official identification (e.g., driver’s license), name of the company being represented, and payment. Tags obtained in person may be purchased in any amount.
- To purchase tags by mail, go online to sfgwater.org/backflow, scroll down to “Backflow Prevention Assembly Testers and Test Companies,” and click on “Request to Purchase Backflow Tags.” Fill out the PDF form, print it out, and mail it with payment to the following address: Customer Services Bureau, San Francisco Public Utilities Commission, 525 Golden Gate Avenue, 2nd Floor, San Francisco, CA 94102. The bureau will mail the tags by certified mail within five business days of receiving the request. Note that tags obtained by mail may only be purchased in increments of 100.
- The cost of backflow tags is \$12 each.

5 Establishing a CCAMS Account

- To access CCAMS, testers must have current permits to operate and maintain valid insurance on file with SFDPH. CCAMS allows testers to access test forms, submit test results, and see their test history on line at *CCAMS.sfwater.org*.
- To establish an account with CCAMS, a tester must be affiliated with a test company that is registered with SFDPH.
- Each tester must contact SFDPH (by telephone or email) and provide a valid, current email address. The email address will serve as the tester's user name. The tester will be emailed a password to be used with the email address provided.
- If a tester works for more than one company, the tester needs a separate email address and password for each company.
- Once a tester has a username and password, the tester can access CCAMS at *CCAMS.sfwater.org*. A tester can only enter information into CCAMS for tests performed by him or herself.
- Testers will be notified via CCAMS whether or not the information entered is approved or rejected. If rejected, the information must be re-entered.
- It is recommended that testers add noreply@sfwater.org to their email contact lists so that emails from CCAMS are not treated as spam.

6 Backflow Prevention Assembly Information Forms

- Testers must enter into CCAMS all test results for existing, replaced, or repaired assemblies.
- A hard copy of the Backflow Prevention Assembly Information form is sent to customers along with the 30-day notice indicating that testing is due. Testers can use this form as a reference for information pertaining to the backflow prevention assembly to be tested. The notices also include the customer's personal identification code (PIC) and the service point identification (SPID) number associated with the assemblies at a given service address.
- Testers can either download the Backflow Prevention Assembly Information forms from CCAMS or obtain them from the customer, for example, when meeting him or her at the location where the backflow prevention assembly is to be tested. To download the form from CCAMS, testers must obtain the PIC number(s) from the customer.
- If a customer cannot locate the PIC number(s), then the customer may obtain the PIC number(s) or preprinted test forms by calling (650) 652-3199 and asking to speak to a member of the Cross-Connection Control Program. To access his or her account, the customer must have the SPID number or service address (for multiple taps). Only the customer, not the tester, may obtain PIC numbers from the Cross-Connection Control Program if the 30-day notice is sent to a San Francisco address.
- If the 30-day notice is sent to an "accounts receivable" department outside of San Francisco, or a tester has a contract with an out-of-city customer to perform annual

testing, the tester may call the Cross-Connection Control Program in the month that a site is due for testing to obtain PIC numbers to allow downloading of the forms from CCAMS. This exception is made so that testers can proceed with testing for out-of-city customers in a timely manner. Note, however, that Cross-Connection Control Program staff will contact the customer before releasing PIC numbers, and therefore it is unlikely that the tester will receive them on the same day as they are requested.

- If a customer needs to obtain PIC numbers at a time not associated with annual testing, for example, because a leaking assembly needs repair, the customer may call the Cross-Connection Control Program at (650) 652-3199. To access his or her account, the customer must have the SPID number or service address (for multiple taps).

7 New Installations

- New installations must be entered into CCAMS on the “Assembly Management/Add Assembly” tab. Note that this form should only be used in two cases:
 - An assembly is newly installed at a specific location.
 - An existing assembly has not been entered into CCAMS, for example, it does not have a backflow tag. (If an assembly does not have a tag, inform the customer and the Cross-Connection Control Program immediately.)

Note that if an assembly is in violation of installation requirements (modified, not on USC list, wrong orientation, etc.) and cannot be tested, check the “In-Violation” box under “Unable To Test” section.

- Enter the meter number, if known, on the New Installation form in CCAMS. This information is important for associating the correct customer with a particular backflow prevention assembly.
- Under “Exact Assembly Location,” try to be as specific as possible. Example 1: Building B, 2nd Floor, north wall utility closet labeled J2. Example 2: Basement, 25 feet east of the northeast corner, below stairwell.

8 Removal, Replacement or Relocation of Backflow Prevention Assemblies

- Only a licensed plumber may remove, replace or relocate a backflow prevention assembly. A plumbing permit for the work must be obtained from the Department of Building Inspection, Plumbing Inspection Division (DBI/PID). Permits can be obtained either from San Francisco’s Central Permit Bureau, located at 1660 Mission Street, telephone number (415) 558-6070 or on line at <http://www.sfdbi.org/index.aspx?page=228>. Plumbing inspections can be scheduled several ways:
 - By visiting the Inspection Services office (address given above), Monday to Friday between 8:00 am and 5 pm.
 - By calling Inspection Services at (415) 558-6570 between 8 am and 3 pm.
 - By calling DBI/PID’s scheduling number, (415) 575-6955, which allows you to schedule, reschedule or cancel an inspection, as well as obtain results.

The tester or owner can send a copy of the signed permit to the Cross-Connection Control Program, or the tester can enter the plumbing permit number into CCAMS.

- Testers must report the removal or replacement of a backflow prevention assembly in CCAMS. If the assembly being removed or replaced was tested, be sure to record the results of the test in the “Initial Test” area of the form. If a new assembly is installed, mark the check box for replacement assembly and enter the replacement assembly information under the section titled “Replacement Information Below.” Then record the test results for the new assembly in the “Final Test” area of the form.

It is important that the information for both the old and new assemblies be reported on the same form. That way, the customer will have the correct serial number and associated backflow prevention assembly inactivated, and the old and new assemblies will be tied together in CCAMS.

9 Recording or Correcting Information in CCAMS

- If you wish to add a contact to the account, such as a chief engineer or person to call, add it to the “Comments” field of the test report. All comments are automatically forwarded to WQD for review.
- If you believe that information in CCAMS is incorrect, such as the location or make of a backflow prevention assembly, contact the Cross-Connection Control Program to report the error, or enter the correct information into the “Comments” field of the test report. (All comments are automatically forwarded to WQD for review.) Staff will review the program’s database and verify the information.
- If customer information (name or mailing address) needs to be updated, the customer must contact SFPUC Customer Services Bureau at (415) 551-3000 to have the changes made. Information will then be updated in CCAMS by the following Monday morning.
- If a customer wishes to change a testing date to another month or synchronize multiple accounts, he or she can arrange this by contacting the Cross-Connection Control Program.

10 Submitting Test Information

- Test results must be entered into CCAMS within five calendar days of the test date, **unless** an assembly fails testing and cannot be repaired the same day. In that case, test results must be entered into CCAMS **the day of the test** so that the Cross-Connection Control Program is informed of the failure.
- After entering test results into CCAMS, testers have a five-day window for modifying the results. After five days, if modifications need to be made, then the tester must contact WQD to have the test canceled. The tester may then reenter the test information. Note that a “fail” result causes an assembly to be automatically routed to SFDPH for enforcement action. However, entering a subsequent “pass” result returns an assembly to normal status. Once a “pass” result is entered for an assembly, the test’s PIC number can no longer be used to access that assembly in CCAMS.

11 Reporting Problems Observed in the Field

- If a backflow prevention assembly fails a test, the results of the test are to be recorded in the “Initial Test” results area of the test form. The tester should then contact the customer and request authorization to repair the assembly or recommend that it be replaced. If the assembly cannot be repaired or replaced the same day, test results must be entered into CCAMS **the day of the test** so that the Cross-Connection Control Program is informed of the failure.
- If a tester finds a cross-connection hazard that is unprotected, that is, with no backflow prevention assembly or the wrong type of assembly, the tester must inform the customer of the hazard and potential health risk associated with it. The tester must also report the situation to the Cross-Connection Control Program immediately (by telephone if the hazard has no protection at all). An assembly that is the wrong type for the hazard should not be tested.
- If a tester finds a backflow prevention assembly that has been modified or incorrectly installed (e.g., illegal by-pass, relocated shut-off valve, or wrong orientation), the assembly must be reported to the Cross-Connection Control Program immediately via CCAMS and ***must not be tested***. The tester is also to take a digital photograph of the assembly. If using the CCAMS mobile application, the tester can upload the photograph directly to CCAMS; otherwise, the tester must email the photograph to *backflow@sfgwater.org* along with a description of the violation. After the violation has been corrected, and therefore the assembly can be tested, the tester must take a photograph of the corrected installation and either upload it to CCAMS using the mobile application or email it to *backflow@sfgwater.org*.
- If a tester finds an existing backflow prevention assembly that is not tagged, the tester must inform the customer of the need to test the assembly and must report the assembly to the Cross-Connection Control Program immediately (by telephone or email) and provide the assembly’s make, model, serial number, size, location and hazard, if known.

12 Other Information

- Contacting Cross-Connection Control Program staff from the field can save you time and resources; often, questions can be answered or issues rectified on the spot. In addition, vital information that you might not otherwise know to record might be needed from the site.
- If test results for a given month are not entered into CCAMS by the 6th of the following month, the database automatically generates a “Notice of Violation,” and the customer might receive this notice after having paid for testing. If this happens, testers should explain the situation to the customer. Testers and customers can call Cross-Connection Control Program staff at (650) 652-3199 to check on the compliance status of their accounts.

13 Violations and Penalties

To improve compliance with federal, state, and local cross-connection control requirements, SFPUC has instituted a system for tracking violations and applying penalties. Three types of violation have been defined: Administrative, Testing, and Falsification of Test Results.

- **Administrative Violations:** Testers who violate administrative requirements will accumulate points during each calendar year (January 1-December 31). At the end of the year, a tester’s points will be reset to zero. Points for administrative violations are described below, followed by penalties.
 - Late entry (> 5 days after test) of test results 1 point per late test
 - Failure to submit accurate test report (unintentional errors) 2 points per test report
 - Failure to attend annual meeting 2 points
 - Failure to attend annual meeting two out of three consecutive years 3 points
 - Failure to attend annual meeting three consecutive years 4 points

Points	Penalty
1-2	Warning issued to tester and test company
3	Permit to operate may be suspended for up to 5 days. Before reinstatement of the permit, tester must attend SFPDPH training and obtain recertification as an approved tester in San Francisco. Fee for training and recertification will be applied.
4+	Permit to operate may be suspended for up to 30 days. Before reinstatement of the permit, tester must attend SFPDPH training and obtain recertification as an approved tester in San Francisco. Fee for training and recertification will be applied.

- **Testing Violations:** Testers will be cited for testing violations if they fail to follow testing procedures in the University of Southern California’s Foundation for Cross-Connection Control and Hydraulic Research *Manual of Cross-Connection Control*, 10th edition. Failure to follow approved testing procedures includes testing an assembly that has been modified or installed in an incorrect orientation. Penalties for testing violations are listed below; violations accrue over time and do not expire.
 - 1st offense: The tester must attend SFPDPH training and obtain recertification as an authorized tester in San Francisco. A fee for training and recertification will be applied.
 - 2nd offense: Permit to operate may be suspended for up to 30 days. Before reinstatement of the permit, the tester must attend SFPDPH training and obtain recertification as an authorized tester in San Francisco. A fee for training and recertification will be applied.

- 3rd offense: Permit to operate may be suspended for up to 1 year. Before reinstatement of the permit, the tester must attend SFDPH training and obtain recertification as an authorized tester in San Francisco. A fee for training and recertification will be applied. The tester will be reported to certifying agency.
- 4th offense: Permit to operate may be permanently revoked. The tester will be reported to certifying agency.
- Falsification of Test Results: Entering false information into a test form, including intentional errors, such as entering the wrong date so as to appear to be submitting results within five days of testing, will be subject to the following penalties:
 - 1st offense: Permit to operate may be suspended for up to 1 year. Before reinstatement of the permit, the tester must attend SFDPH training and obtain recertification as an authorized tester in San Francisco. A fee for training and recertification will be applied. Tester will be reported to certifying agency.
 - 2nd offense: Permit to operate may be permanently revoked. The tester will be reported to certifying agency.
- SFPUC reviews violations and determines penalties on a monthly basis. The tester and test company supervisor will be sent a notice of violation with the specifics of each violation and associated penalty. Penalties are tracked by SFDPH; a tester may contact the SFDPH Senior Environmental Health Inspector assigned to the Cross-Connection Control Program to obtain the number of points or other penalties he or she has accrued. In the future, penalties will be tracked in CCAMS.
- If a tester anticipates being unable to avoid a violation, the tester may contact the SFDPH Senior Environmental Health Inspector assigned to the Cross-Connection Control Program and request a waiver of a penalty. For example, if a tester falls ill and cannot enter test results within five days of testing, the inspector might waive penalty points. It is up to the inspector to decide whether or not to waive penalties.
- If a tester does not agree with a notice of violation or penalties, the tester may schedule a Voluntary Conference with the SFDPH Senior Inspector assigned to the Cross-Connection Control Program to provide additional information about the case. If, after Voluntary Conference, the tester does not agree with the resolution or penalties proposed in Voluntary Conference, the case will be referred to an Administrative Hearing with the Director of Public Health. Information about the Director's Hearing can be found at www.sfdph.org/dph/EH/dirHrgs.

At the Director's Hearing, the Hearing Officer will accept information from the enforcement agencies as well as the tester. The Hearing Officer will make a determination about whether the violation exists or existed and may uphold, waive, or modify the penalties proposed by the department in accordance with its authority under San Francisco Health Code Article 12A. All decisions regarding a tester's permit to operate made at a Director's Hearing are further appealable by any party to the San Francisco Board of Appeals.

Contact Information

Water Quality Division

San Francisco Water, Power and Sewer
Water Quality Division
Attn: Cross-Connection Control Program
P.O. Box 730
Millbrae, CA 94030-0730
(650) 652-3199
backflow@sfgwater.org

Senior Water Services Clerk
(650) 652-3127

Online

<https://CCAMS.sfgwater.org>
<http://sfgwater.org/backflow> for information about the Cross-Connection Control Program
www.sfgwater.org for water consumer information and Water Quality Reports

Department of Public Health

Environmental Health Branch,
Population Health Division
San Francisco Department of Public Health
1390 Market Street, Suite 210
San Francisco, CA 94102
(415) 252-3892
(415) 252-3842 fax
backflow@sfgwater.org

Online

<https://www.sfdph.org/dph/EH/CrossFlow/>

Department of Building Inspection, Plumbing Inspection Division

Central Permit Bureau
1660 Mission Street
San Francisco, CA 94103
(415) 558-6070
Plumbing Inspection Services (415) 558-6570
Automated Inspection Scheduling (415) 575-6955

Online

<http://www.sfdbi.org/index.aspx?page=228> for online permits