



Services of the San Francisco Public Utilities Commission

Grant Rules and Process for Brewery Process Water Treatment Systems

Breweries must use the following four strategies to ensure protection of public health for brewery process water treatment systems:

1. Source characterization to understand the nature of the source water;
2. Source control to prevent contaminants from entering the source water to the maximum extent possible;
3. Treatment to remove contaminants; and
4. Ongoing monitoring to verify the functioning of the treatment barriers and the quality of the treated water on an ongoing basis.

Step 1 – Grant Application

- The Applicant must calculate the estimated amount of SFPUC water (in gallons per year) that will be offset by the project.
- The Applicant must submit a complete grant application package, including the SFPUC's grant application, water budget application, and water savings calculations.
- If the Applicant's project is selected for grant funding, the SFPUC will issue a Reservation Letter confirming the amount of grant funds reserved for the project. A Reservation Letter is a provisional reservation and subject to availability of funds and completion of the following documentation and steps.

Step 2 – Grant Agreement

- The Grantee must execute a Grant Agreement with the SFPUC, submit a W-9 tax form, provide a valid copy of insurance documentation, and become an approved Bidder and Supplier with the City and County of San Francisco.

Step 3 – Engineering Report

- The Grantee shall submit an Engineering Report to SFPUC for review and approval. The Engineering Report must demonstrate the ability of the system to comply with the requirements for source characterization, source control, treatment, and ongoing monitoring as described below.

- The Engineering Report shall be prepared by a qualified engineer licensed in California and experienced in the field of wastewater treatment, and shall use the Engineering Report template provided by SFPUC.

Source Characterization and Source Control Requirements

- Grantee must ensure that there are no cross connections between the sanitary wastewater collection system and the process water collection system.
- Grantee must consider and document all potential routes for contamination of the process water with microbial pathogens.
- Grantee must conduct a survey of all the chemicals used on site to determine which ones have the potential to be present in the brewery process water.
- Grantee must implement standard operating procedures (SOPs) to mitigate contamination from chemical and microbial contamination.
- Source characterization assessment must be repeated on an annual basis or after significant changes have been made to the process water collection system or inputs.

Treatment and Ongoing Monitoring Requirements

Table 1. Chemical and physical quality requirements for brewery process water treatment systems.

Parameter	Requirement	Monitoring Frequency
Total Organic Carbon (TOC)	The concentration in treated effluent shall not exceed 1 mg/L at any time.	Daily (during startup) ¹ Weekly (ongoing)
Turbidity	Turbidity of treated effluent shall not exceed 0.3 NTU at any time.	Daily (during startup) ¹ Weekly (ongoing)
Chlorine Residual	The chlorine residual in the distribution system shall be maintained at or above 0.5 mg/L.	Daily
pH	At all times, the treated effluent pH shall be between 6 and 9.	Weekly
Odor	The system shall not emit offensive odors.	n/a
Regulated Chemicals	Monitoring of the full suite of regulated chemical contaminants ² (i.e., all constituents with maximum contaminant levels) in the treated effluent.	Once at startup Once per batch of beer brewed with treated process water
Targeted chemicals	Monitoring must be conducted in the treated effluent for compounds known to be present at the brewery, e.g., cleaning products, as well as any regulated compounds that approach or exceed the maximum contaminant levels.	Quarterly Once per batch of beer brewed with treated process water

¹ At least 30 days.

² See Appendix A.

Table 2. Microbiological requirements for brewery process water treatment systems.

Parameter	Requirement	Monitoring Frequency
Virus	Treatment must achieve 5-log reduction in enteric virus using a combination of filtration and disinfection	Continuously (via surrogate parameter(s))
E. coli	<i>E. coli</i> always < 1 MPN / 100 mL in the treated effluent	Daily (during startup) ¹ Weekly (ongoing)

Total coliform	Total coliform always < 1 MPN / 100 mL in treated effluent	Daily (during startup) ¹ Weekly (ongoing)
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¹ At least 30 days.

Step 4 – DBI and DPW Permit(s)

- The Grantee must submit evidence of Department of Building Inspection (DBI) and Department of Public Works (DPW) permit(s), as needed.

Step 5 – System Construction

- The Grantee must submit a system construction verification letter provided to SFPUC on company letterhead, signed and stamped by qualified engineer licensed in California stating that the brewery process water treatment system was constructed in accordance with the approved Engineering Report, professionally certified plans, specifications and applicable sections of state and local code.

Step 6 – Additional Project Documents

- If the brewery process water treatment system differs in any way from the approved Engineering Report, the Grantee must submit an updated Engineering Report to SFPUC. Any modifications to the system are subject to review and approval by SFPUC.
- The Grantee must submit an Operations and Maintenance Manual to SFPUC for review and approval using the template provided by SFPUC.
- The Grantee must submit an affidavit signed by the designated Treatment System Manager that verifies knowledge, skills, abilities and training to operate the system.
- The Grantee must submit evidence of a contract with a certified laboratory to perform water quality analysis.
- The Grantee must submit evidence of satisfactory performance upon cross-connection wet-test overseen by certified personnel from the SFPUC Water Quality Division or other certified personnel as determined by the SFPUC.

Step 7 – Project Conditional Startup

- Grantee must notify SFPUC of conditional startup date. SFPUC will provide Grantee with written notification of end date for conditional startup.
- Grantee must initially operate system in conditional startup mode during which treated process water must be diverted to the sewer. The standard duration of the conditional startup period is 30 days, unless special circumstances warrant a shorter or longer duration, as determined by the SFPUC. If a brewery process water treatment system does not meet the water quality and treatment requirements from Tables 1 and 2 above at any point during the conditional startup period, the duration of conditional startup will be extended by at least 30 days from the date of the violation.
- If the system fails at any point to meet the water quality and treatment requirements from Tables 1 and 2 above, Grantee must notify the SFPUC within 2 hours (phone: 415-551-4734, email: nonpotable@sfgwater.org). Notification must include a description of the violation and the initiated or proposed corrective action. SFPUC will provide Grantee with written notification of a new end date for conditional startup.
- Upon completion of conditional startup (i.e. once system has reached end date specified by SFPUC **AND** been operated without water quality violations for at least 30 consecutive days), Grantee must submit a Conditional Startup Report to SFPUC for review and approval documenting all water quality and treatment performance monitoring results, as well as project water savings. Grantee must use the template provided by the SFPUC.

- Grantee will not begin using treated process water for end uses specified in the Engineering Report until receiving SFPUC written approval to do so.

Step 8 – Ongoing Operation

- Grantee must begin to offset SFPUC water use within six months after the conclusion of the conditional startup period.
- For six months after conditional startup, Grantee must submit a monthly report to SFPUC documenting all water quality and treatment performance monitoring results, as well as project water savings. Grantee must use the template provided by the SFPUC.
- After the first six months of operation, Grantee must submit an annual report to SFPUC unless special circumstances such as failure to meet the water quality standards warrant more frequent reporting, as determined by the SFPUC. The annual report must document all water quality and treatment performance monitoring results and project water savings. Grantee must use the template provided by the SFPUC.
- Grantee must keep reports of the water quality monitoring results onsite at all times and shall make the results available to the SFPUC upon request.
- If the system fails at any point to meet the water quality and treatment requirements from Tables 1 and 2 above, the treated water must be diverted to sewer. In the event of a diversion to sewer, Grantee must notify the SFPUC within 2 hours (phone: 415-551-4734, email: nonpotable@sfgwater.org). Notification must include a description of the violation. Corrective actions must be taken to eliminate the issue and prevent reoccurrence before treated water can be used again. Grantee must also notify the SFPUC of the initiated or proposed corrective action and the schedule for coming into compliance with the water quality and treatment requirements from Tables 1 and 2 above.
- Grantee must notify the SFPUC prior to any facility expansion, production increase, or process modification that is expected to result in a change in the character of the treated water.

Step 9 (Optional) – Pilot Batch of Beer

- Grantee producing pilot batches of beer using treated process water must ensure that treated process water used as a source water for beer complies with all water quality requirements in Tables 1 and 2 above.
- Grantee must submit Pilot Beer Report to the SFPUC prior to serving beer produced from treated process water using the template provided by the SFPUC.
- Grantee must provide appropriate notification and signage to consumers about any beer produced from treated process water.

Signage Requirements for Brewery Process Water Treatment Systems

- Project must comply with all signage requirements included in the California Plumbing Code.
- The Grantee must reference the SFPUC’s funding and support in all public outreach materials and signage related to the project. The SFPUC will work with Grantee to procure signage if needed.

Additional Eligibility Criteria for Brewery Process Water Treatment Systems

- Project must comply with cross-connection control and backflow protection in accordance with Article 12A of the San Francisco Health Code and the California Plumbing Code.

Recordkeeping Requirements

Grantee must maintain system records on premises and available for inspection by the SFPUC, including but not limited to current Operations and Maintenance Manual; water quality monitoring results delivered by the Certified Laboratory and evidence of chain of custody; log of all calibrations, maintenance, and major changes in operation; and a log of all system auto-generated alarms, causes and corrective actions. Records shall be maintained for at least two years.

Grant Disbursement

- Grant funds will be provided to the Grantee in three disbursements:
 - Disbursement of 40% of the total grant will be made upon approval of the project's Engineering Report. **An approval letter from the SFPUC is required.**
 - Disbursement of 50% of the total grant will be made upon completion of system construction. **A System Construction Verification Letter is required.**
 - Disbursement of the final 10% of grant funds will be made upon approval of the project's Conditional Startup Report, in which the Grantee demonstrates that the project is on track to meet the water savings estimated in their grant application. **Documentation of anticipated water savings is required.**

Return of Grant Funds

The purpose of the Onsite Water Reuse Grant Program is to provide grant funding to encourage and support retail water users to reduce SFPUC water supply usage by maximizing onsite alternate water sources to meet water demands. Therefore, in the event that the Grantee fails to meet the Grant Rules for Brewery Process Water Treatment Systems, the SFPUC may demand the immediate return of any previously disbursed grant funds that have been claimed or expended by the Grantee.