

**San Francisco Bay Regional Water Quality Control Board**

**ORDER No. R2-2016-0009  
NPDES PERMIT No. CAG382001**

**GENERAL WASTE DISCHARGE REQUIREMENTS  
for  
Discharges of Filter Backwash from Drinking Water Filter Facilities**

**Table 1. Administrative Information**

This Order was adopted by the California Regional Water Quality Control Board, San Francisco Bay Region (Regional Water Board), on:	March 9, 2016
This Order shall become effective on:	April 1, 2016
This Order shall expire on:	March 31, 2021
File number	CW-817137
CIWQS Regulatory Measure Number	402318
The U.S. Environmental Protection Agency (U.S. EPA) and the Regional Water Board have classified the discharges under this general National Pollutant Discharge Elimination System (NPDES) permit (General Permit) as minor discharges based on the discharges' impact to receiving waters.	
To obtain coverage under this General Permit, prospective dischargers must submit a Notice of Intent (NOI) form in Attachment B and a filing fee equivalent to the first year's annual fee. Discharge is not authorized until the Regional Water Board Executive Officer issues an Authorization to Discharge.	
Authorized Dischargers that intend to continue discharging after the Order expiration date shall file a new NOI form no later than July 1, 2020.	

I, Bruce H. Wolfe, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of the Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on the date indicated above.

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Bruce H. Wolfe, Executive Officer

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## I. SCOPE OF GENERAL PERMIT

These Waste Discharge Requirements (WDRs) shall serve as an NPDES General Permit for discharges of planned treated filter backwash from drinking water treatment facilities to inland surface waters.

This Order does not cover discharges that can be covered under the State Water Resources Control Board's (State Water Board) General NPDES Permit for Drinking Water System Discharges (Order WQ 2014-0194-DWQ, NPDES No. CAG140001), hereinafter referred to as the Statewide General Permit.

Fact Sheet (Attachment F) sections I and II provide additional information describing treated filter backwash discharges.

## II. FINDINGS

The Regional Water Board finds the following:

- A. Legal Authorities.** This Order serves as WDRs pursuant to California Water Code article 4, chapter 4, division 7 (commencing with § 13260). This Order is also issued pursuant to federal Clean Water Act (CWA) section 402 and implementing regulations adopted by U.S. EPA and Water Code chapter 5.5, division 7 (commencing with § 13370).
- B. Background and Rationale for Requirements.** The Regional Water Board developed the requirements in this Order based on information obtained through monitoring and reporting programs and other available information. The Fact Sheet contains background information and rationale for the requirements in this Order and is hereby incorporated into and constitutes findings for this Order. Attachments A through F are also incorporated into this Order.
- C. Provisions and Requirements Implementing State Law.** No provisions or requirements in this Order are included to implement State law only.
- D. Notification of Interested Parties.** The Regional Water Board notified prospective enrollees and interested agencies and persons of its intent to prescribe these WDRs and provided an opportunity to submit written comments and recommendations. The Fact Sheet provides details regarding the notification.
- E. Consideration of Public Comment.** The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. The Fact Sheet provides details regarding the public hearing.

**THEREFORE, IT IS HEREBY ORDERED** that Order No. R2-2009-0033 (previous order) is rescinded upon the effective date of this Order, except for enforcement purposes, and in order to meet the provisions of Water Code division 7 (commencing with § 13000) and regulations adopted thereunder, and the provisions of the CWA and regulations and guidelines adopted thereunder, Dischargers authorized to discharge pursuant to this Order shall comply with the requirements in this Order. This action in no way prevents the Regional Water Board from taking enforcement action for past violations of the previous order.

**III. DISCHARGE PROHIBITIONS**

- A. Discharge of waste at a location or in a manner different than that described in the NOI and the Authorization to Discharge is prohibited.
- B. Bypassing settling basins or clarifiers, as identified in the NOI, is prohibited except as provided for in Attachment D section I.G.

**IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS**

**A. Effluent Limitations for Discharges**

Discharge from each outfall, as defined in the NOI and Authorization to Discharge, shall comply with the following effluent limitations:

**Table 2. Filter Backwash Discharge Effluent Limitations**

Pollutant	Units	Daily Maximum	Weekly Average	Monthly Average	Instantaneous Maximum
Total Suspended Solids (TSS)	mg/L	---	45	30	---
Settleable Matter	mL/L-hr	0.2	---	0.1	---
Total Chlorine Residual <sup>[1]</sup>	mg/L	---	---	---	0.0
Copper <sup>[2],[3],[4]</sup>	µg/L	8.7		4.3	
Whole Effluent Acute Toxicity	% Survival	[5]			

Abbreviations:

mg/L = milligrams per liter

µg/L = microgram per liter

Footnotes for Table 2:

- [1] A field monitoring result with a total residual chlorine concentration greater than or equal to 0.1 mg/L shall be considered out of compliance with the chlorine effluent limitation.
- [2] Copper limits are applicable unless representative data of the discharge provided in the NOI for coverage under this Order demonstrates the discharge copper concentration is less than 6 µg/L. If the Executive Officer concurs, then the Executive Officer will indicate that copper limits are not applicable in the authorization to discharge or an amended authorization.
- [3] If the Discharger demonstrates that it qualifies for intake water credits, then the Discharger shall comply with the Intake Water-Based Limitations for copper in Provision VI.D rather than the water quality-based limitations in Table 2. The Executive Officer will determine if the Discharger qualifies in the authorization to discharge or an amended authorization, based on the Discharger’s documentation in its NOI, or a supplemental to the NOI, that it meets all the conditions in Provision VI.D.1.
- [4] If the Discharger demonstrates that it qualifies for dilution credits, then the Discharger shall comply with the Dilution-Based Limitations for copper in Provision VI.E rather than the water quality-based limitations in Table 2. The Executive Officer will determine if the Discharger qualifies in the authorization to discharge or an amended authorization, based on the Discharger’s documentation in its NOI, or a supplemental to the NOI, that it meets all the conditions in Provision VI.E.1.
- [5] Compliance with the acute toxicity limit shall be achieved in accordance with Provision IV of the attached MRP (Attachment E). Representative samples of the effluent shall meet the following limits for acute toxicity.
  - a. The survival of bioassay test organisms in 96-hour static renewal bioassays of undiluted effluent shall be:
    - i. a 3-sample median value of not less than 90 percent survival; and
    - ii. a single-sample maximum of not less than 70 percent survival.
  - b. These acute toxicity limits are further defined as follows:
    - i. 3-sample median limit: 3-sample median is defined as follows: if one of the past two or fewer samples shows less than 90 percent survival, then survival of less than 90 percent on the next sample represents a violation of the effluent limitation.
    - ii. Single-sample maximum: Any bioassay test showing survival of 70 percent or greater is not a violation of this limit. A bioassay test showing survival of less than 70 percent represents a violation of this effluent limit.

**V. RECEIVING WATER LIMITATIONS**

A. Discharge shall not cause the following conditions to exist in receiving waters:

1. Erosion of the stream bank and streambed;
2. Floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses;
3. Alteration of suspended sediment in such a manner as to cause nuisance, or to adversely affect beneficial uses, or to cause detrimental increase in the concentrations of toxic pollutants in sediments or aquatic life;
4. Suspended material in concentrations that cause nuisance or adversely affect beneficial uses;
5. Bottom deposits or aquatic growths to the extent that such deposits or growths cause nuisance or adversely affect beneficial uses;
6. Alteration of temperature beyond present natural background levels;
7. Coloration that causes nuisance or adversely affects beneficial uses;
8. Visible, floating, suspended, or deposited oil or other products of petroleum origin; or
9. Toxic or other deleterious substances in concentrations or quantities that cause deleterious effects on wildlife, waterfowl, or other aquatic biota, or render any of these unfit for human consumption, either at levels created in the receiving waters or as a result of biological concentration.

B. Discharge shall not cause the following limits to be exceeded in receiving waters:

1. **pH.** The discharge shall not cause changes greater than 0.5 pH units in normal ambient pH levels, or the pH shall not be depressed below 6.5 nor raised above 8.5.
2. **Turbidity.** The discharge shall not increase turbidity above background levels by more than the following:

Receiving Water Background	Incremental Increase
<50 units (NTU)	5 units, maximum
50-100 units	10 units, maximum
>100 units	10% of background, maximum

**VI. PROVISIONS**

**A. Standard Provisions**

The Discharger shall comply with the Standard Provisions in Attachment D.

**B. Monitoring and Reporting Provisions**

The Discharger shall comply with the Monitoring and Reporting Program (MRP) in Attachment E, and future revisions thereto, and applicable sampling and reporting requirements in Attachment D. The Executive Officer may specify additional monitoring requirements in individual Authorizations to Discharge.

## C. Special Provisions

### 1. Reopener Provisions

The Regional Water Board may modify or reopen this Order prior to its expiration date in any of the following circumstances as allowed by law:

- a. If present or future investigations demonstrate that the discharges governed by this Order have or will have, or will cease to have, a reasonable potential to cause or contribute to adverse impacts on water quality or beneficial uses of the receiving waters.
- b. If new or revised water quality standards or total maximum daily loads (TMDLs) come into effect for San Francisco Bay or contiguous waters (whether statewide, regional, or site-specific). In such cases, effluent limitations in this Order may be modified as necessary to reflect the updated water quality standards or TMDL wasteload allocations. Adoption of the effluent limitations in this Order is not intended to restrict in any way future modifications based on legally-adopted water quality standards or TMDLs or as otherwise permitted under federal regulations governing NPDES permit modifications.
- c. If translator, dilution, or other water quality studies provide a basis for determining that a permit condition should be modified.
- d. If State Water Board-precedential decisions, new policies, new laws, or new regulations are adopted.
- e. If an administrative or judicial decision on a separate NPDES permit or WDR addresses requirements similar to those applicable to these discharges.
- f. Or as otherwise authorized by law.

A Discharger may request a permit modification based on any of the circumstances above. With any such request, the Discharger shall include antidegradation and anti-backsliding analyses.

### 2. Application for General Permit Coverage and Authorization to Discharge

- a. **Notice of Intent (NOI).** A prospective discharger seeking an Authorization to Discharge pursuant to this Order shall complete and submit the NOI form in Attachment B. A prospective discharger seeking coverage for similar discharges at multiple sites may complete one NOI that describes all proposed discharges; however, it shall submit separate fees for each site. If a discharger seeks intake water credit- or dilution-based limitations, it must include with the NOI a demonstration that the discharger meets the condition described in Provision VI.D.1 or VI.E1, respectively. The Executive Officer may modify the NOI form in Attachment B or require additional information prior to authorizing any discharge.
- b. **Facility Modifications.** At least 30 days prior to any significant facility modification (e.g., changing an outfall location), the Discharger proposing the modifications shall submit a modified NOI form (e.g., a mark-up of the original NOI form showing all changes and including a new signature and date). The Discharger shall include a letter describing the changes, their purpose, when they are to go into effect, and any new or additional measures taken or planned to prevent potential non-compliance with this

Order's requirements.

- c. Authorization to Discharge.** If the Executive Officer concludes that a proposed discharge is eligible for coverage under this Order, the Executive Officer will issue an Authorization to Discharge. Upon the effective date of the Authorization of Discharge, the Discharger shall comply with the requirements of this Order and its attachments. Any non-compliance with this Order's requirements shall constitute a violation of the CWA and Water Code and may be grounds for enforcement; termination, revocation and reissuance, or modification of the Authorization to Discharge; issuance of an individual permit; or denial of an application for reissuance.
- d. Application to Extend Coverage.** A Discharger that intends to continue discharging after the expiration date on Table 1, first page, of this Order shall file a new NOI form no later than nine months before the expiration date specified on Table 1.
- e. Discharge Termination.** A Discharger may terminate its coverage under this Order by submitting a letter rescinding its NOI and stating the reason for termination. The Executive Officer may also terminate or revoke coverage under this Order for any of the causes specified for an individual permit as set forth in 40 C.F.R. section 122.28(b)(3). After providing notice and opportunity for a hearing, coverage under this Order may be terminated or modified for cause, including, but not limited to, the following:

  - i.** Violation of any term or condition of this Order;
  - ii.** Misrepresentation or failure to disclose all relevant facts in obtaining coverage under this Order; or
  - iii.** Change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.
- f. Need for Individual NPDES Permit.** The Executive Officer may require any Discharger authorized to discharge pursuant to this Order to subsequently apply for and obtain an individual NPDES permit in the following circumstances:

  - i.** The Discharger is not in compliance with the requirements of this Order,
  - ii.** A change has occurred in the availability of demonstrated technology or practices for the control or abatement of pollutants from the facility,
  - iii.** Effluent limitation guidelines are promulgated for the discharges covered by this Order,
  - iv.** A new or revised water quality control plan containing requirements applicable to the discharge is approved,
  - v.** The requirements of 40 C.F.R. section 122.28(a) (the circumstances under which the Regional Water Board is authorized to issue a general permit) are not met, or
  - vi.** Any other condition specified in 40 C.F.R. section 122.28(b)(3) is met.

### **3. Operations and Maintenance Manual Review and Status Reports**

- a.** The Discharger shall maintain Operations and Maintenance Manuals for its filter backwash treatment facilities in usable condition and make them available for reference and use by appropriate personnel, including those working onsite.

- b. The Discharger shall regularly review, and revise or update as necessary, its Operations and Maintenance Manuals so that they remain useful and relevant to current equipment and operational practices. The Discharger shall review Operations and Maintenance Manuals at least annually. In the event of any significant changes in filter facility equipment or operational practices, the Discharger shall complete revisions within 90 days of completing such changes.
- c. The Discharger shall provide the Executive Officer, upon request, a report describing the current status of its Operations and Maintenance Manuals, including any recommended or planned actions and a time schedule for these actions.
- d. The Discharger shall describe its review and evaluation procedures, and applicable changes to its Operations and Maintenance Manuals, in each annual self-monitoring report.

#### **4. Best Management Practices (BMP) Plan**

- a. The Discharger shall develop and keep on site a BMPs Plan, as relates to its filter backwash treatment facilities, including the management of the solids removed from filter backwash, and make it available to the Executive Officer upon request.
- b. The BMPs Plan shall describe specific means of controlling pollutant discharges identified in the NOI.
- c. The most updated, site-specific BMPs Plan shall be maintained and available for review at the facility during the term of this Order.
- d. The Discharger shall implement its BMPs Plan upon receipt of Authorization to Discharge. The Executive Officer may require additional pollutant control and treatment measures if existing measures are found to be inadequate to control pollutant discharges.
- e. All field personnel, onsite supervisors, and operators shall receive training in the site-specific BMPs Plan, as relates to filter backwash facilities, at least annually.
- f. The Discharger shall review and update the effectiveness and adequacy of its BMPs as often as necessary and at least annually. The Discharger shall summarize its review of, and any updates made, to the BMPs plan annually with annual self-monitoring reports.

### **D. Intake Water Credit-Based Limitations**

#### **1. Conditions to Qualify**

- a. The maximum observed intake water concentration for copper exceeds 6.0 µg/L.
- b. The intake water shall be from the same water body as the receiving water body. To qualify for intake water credit based limitations, the Discharger shall demonstrate that it meets this condition in an attachment to its NOI by showing all of the following:
  - i. The ambient background concentration of the pollutant in the receiving water, excluding any amount of the pollutant in the facility's discharge, is similar to that of the intake water.
  - ii. There is a direct hydrological connection between the intake and discharge points.
  - iii. The water quality characteristics are similar in the intake and receiving water.



- iv. The intake water pollutant would have reached the vicinity of the discharge point in the receiving water within a reasonable period of time and with the same effect had it not been taken by the Discharger.
- c. The facility does not alter the copper in the intake water chemically or physically in a manner that adversely affects water quality and beneficial uses of the receiving water.
- d. The timing and location of discharge(s) does not cause adverse effects on water quality and beneficial uses that would not occur if the intake water copper had been left in the receiving water body.

## 2. Copper Limitations Based on Intake Water Credit

- a. If the Authorization to Discharge specifies that intake water credit-based limitations are applicable, then the Discharger shall comply with the following limitation:
  - i. The copper in the discharge must be less than or equal to the mass and concentration in the intake water.
- b. Compliance with the intake water credit-based limitations shall be determined as follows:
  - i. Monitor intake water for copper as required in the Monitoring and Reporting Program, Attachment E.
  - ii. Compare on an annual average basis, the concentrations of the discharge to the intake water; the discharge concentration must be less than or equal to the intake concentration for each calendar quarter. The annual average concentration shall be calculated by averaging all concentration values collected within a calendar year.
  - iii. Compare on an annual average basis the mass load in the discharge to the mass load from the intake water; the mass load in the discharge must be less than or equal to the mass load from the intake water. The annual average mass load shall be calculated by averaging all mass load values from a calendar year, and each calculated mass load shall be reported in the annual self-monitoring report. Each mass load value shall be calculated as follows:

$$\text{Mass Load in kg/day} = C \times Q \times 0.00378541$$

where,

C = Copper concentration in  $\mu\text{g/L}$

Q = Daily flow rate on the day, or that corresponds to the period, when monitoring for copper occurred, in million gallons per day (MGD)

0.00378541 = Conversion factor to convert ( $\mu\text{g/L}$ )  $\times$  (MGD) into kg/day

## E. Dilution-Based Limitations

### 1. Conditions to Qualify

- a. The maximum observed copper ambient background concentration is less than 6  $\mu\text{g/L}$ .
- b. The NOI application shall in detail describe the method by which the Discharger's proposed mixing zone was derived, the dilution credit calculated, and the point(s) in the receiving water where the applicable criteria/objectives will be met. The NOI application shall include, to the extent feasible, a mixing zone study.

- c. The mixing zone justification shall demonstrate that the proposed mixing zone is as small as practicable and meets all of the following:
- i. Does not compromise the integrity of the entire water body.
  - ii. Does not cause acutely toxic conditions to aquatic life passing through the mixing zone.
  - iii. Does not restrict the passage of aquatic life.
  - iv. Does not adversely impact biologically sensitive or critical habitats, including, but not limited to, habitat of species listed under federal or State endangered species laws.
  - v. Does not produce undesirable or nuisance aquatic life.
  - vi. Does not produce objectionable color, odor, taste, or turbidity.
  - vii. Does not cause objectionable bottom deposits.
  - viii. Does not dominate the receiving water body or overlap a mixing zone from different outfalls.
  - ix. Does not exceed the applicable public health goal for copper in drinking water (currently 1,300 µg/L).

## 2. Copper Limitations Based on Dilution Credit

If the Discharger demonstrates, to the satisfaction of the Executive Officer, that its discharge meets all the conditions in subsection E.1, above, and justifies one of the dilution credits listed below, then the Authorization to Discharge will specify the copper effluent limitations that apply from one of the following:

<b>Copper Limitations based on Dilution Credit</b>	<b>Units</b>	<b>Daily Maximum</b>	<b>Monthly Average</b>
Demonstrated dilution $\geq 2$	µg/L	12.0	24.1
Demonstrated dilution $\geq 5$	µg/L	23.5	47.1
Demonstrated dilution $\geq 9$	µg/L	38.8	77.9
Demonstrated dilution $\geq 15$	µg/L	61.8	124

## ATTACHMENT A – DEFINITIONS

### **Arithmetic Mean ( $\mu$ )**

Also called the average, the sum of measured values divided by the number of samples. For ambient water concentrations, the arithmetic mean is calculated as follows:

$$\text{Arithmetic mean} = \mu = \Sigma x / n \quad \text{where: } \Sigma x \text{ is the sum of the measured ambient water concentrations, and } n \text{ is the number of samples.}$$

### **Average Monthly Effluent Limitation (AMEL)**

The highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

### **Average Weekly Effluent Limitation (AWEL)**

The highest allowable average of daily discharges over a calendar week (Sunday through Saturday), calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

### **Bioaccumulative**

Taken up by an organism from its surrounding medium through gill membranes, epithelial tissue, or from food and subsequently concentrated and retained in the body of the organism.

### **Carcinogenic**

Known to cause cancer in living organisms.

### **Coefficient of Variation (CV)**

Measure of data variability calculated as the estimated standard deviation divided by the arithmetic mean of the observed values.

### **Daily Discharge**

Either: (1) the total mass of the constituent discharged over the calendar day (12:00 am through 11:59 pm) or any 24-hour period that reasonably represents a calendar day for purposes of sampling (as specified in the permit) for a constituent with limitations expressed in units of mass; or (2) the unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (e.g., concentration). The daily discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day or other 24-hour period defined as a day) or by the arithmetic mean of analytical results from one or more grab samples taken over the course of the day. For composite sampling, if 1 day is defined as a 24-hour period other than a calendar day, the analytical result for the 24-hour period is considered the result for the calendar day in which the 24-hour period ends.

### **Detected, but Not Quantified (DNQ)**

Sample result less than the RL, but greater than or equal to the laboratory's MDL. Sample results reported as DNQ are estimated concentrations.

### **Dilution Credit**

Amount of dilution granted to a discharge in the calculation of a water quality-based effluent limitation, based on the allowance of a specified mixing zone. It is calculated from the dilution ratio or determined by conducting a mixing zone study or modeling the discharge and receiving water.

**Effluent Concentration Allowance (ECA)**

Value derived from the water quality criterion/objective, dilution credit, and ambient background concentration that is used, in conjunction with the CV for the effluent monitoring data, to calculate a long-term average (LTA) discharge concentration. The ECA has the same meaning as waste load allocation (WLA) as used in U.S. EPA guidance (*Technical Support Document For Water Quality-based Toxics Control*, March 1991, second printing, EPA/505/2-90-001).

**Enclosed Bay**

Indentation along the coast that encloses an area of oceanic water within a distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between the headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. Enclosed bays include, but are not limited to, Humboldt Bay, Bodega Harbor, Tomales Bay, Drake's Estero, San Francisco Bay, Morro Bay, Los Angeles-Long Beach Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay. Enclosed bays do not include inland surface waters or ocean waters.

**Estimated Chemical Concentration**

Concentration that results from the confirmed detection of the substance below the ML value by the analytical method.

**Estuaries**

Waters, including coastal lagoons, located at the mouths of streams that serve as areas of mixing for fresh and ocean waters. Coastal lagoons and mouths of streams that are temporarily separated from the ocean by sandbars are considered estuaries. Estuarine waters are considered to extend from a bay or the open ocean to a point upstream where there is no significant mixing of fresh water and seawater. Estuarine waters include, but are not limited to, the Sacramento-San Joaquin Delta, as defined in Water Code section 12220, Suisun Bay, Carquinez Strait downstream to the Carquinez Bridge, and appropriate areas of the Smith, Mad, Eel, Noyo, Russian, Klamath, San Diego, and Otay rivers. Estuaries do not include inland surface waters or ocean waters.

**Inland Surface Waters**

All surface waters of the state that do not include the ocean, enclosed bays, or estuaries.

**Instantaneous Maximum Effluent Limitation**

Highest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous maximum limitation).

**Instantaneous Minimum Effluent Limitation**

Lowest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous minimum limitation).

**Maximum Daily Effluent Limitation (MDEL)**

Highest allowable daily discharge of a pollutant, over a calendar day (or 24-hour period). For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the arithmetic mean measurement of the pollutant over the day.

**Median**

Middle measurement in a set of data. The median of a set of data is found by first arranging the measurements in order of magnitude (either increasing or decreasing order). If the number of measurements ( $n$ ) is odd, then the median =  $X_{(n+1)/2}$ . If  $n$  is even, then the median =  $(X_{n/2} + X_{(n/2)+1})/2$  (i.e., the midpoint between  $n/2$  and  $n/2+1$ ).

**Method Detection Limit (MDL)**

Minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in 40 C.F.R. part 136, Attachment B, revised as of July 3, 1999.

**Minimum Level (ML)**

Concentration at which the entire analytical system gives a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.

**Mixing Zone**

Limited volume of receiving water allocated for mixing with a wastewater discharge where water quality criteria can be exceeded without causing adverse effects to the overall water body.

**Not Detected (ND)**

Sample results less than the laboratory's MDL.

**Persistent Pollutants**

Substances for which degradation or decomposition in the environment is nonexistent or very slow.

**Pollutant Minimization Program**

Program of waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the Pollutant Minimization Program is to reduce all potential sources of a priority pollutant through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. Cost effectiveness may be considered when establishing the requirements of a Pollutant Minimization Program. The completion and implementation of a Pollution Prevention Plan, if required pursuant to Water Code section 13263.3(d), is considered to fulfill Pollutant Minimization Program requirements.

**Pollution Prevention**

Any action that causes a net reduction in the use or generation of a hazardous substance or other pollutant that is discharged into water and includes, but is not limited to, input change, operational improvement, production process change, and product reformulation (as defined in Water Code section 13263.3). Pollution prevention does not include actions that merely shift a pollutant in wastewater from one environmental medium to another environmental medium, unless clear environmental benefits of such an approach are identified to the satisfaction of the State Water Board or Regional Water Board.

**Reporting Level (RL)**

ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the MLs included in this Order, including an additional factor if applicable as

discussed herein. The MLs included in this Order correspond to approved analytical methods for reporting a sample result that are selected by the Regional Water Board either from SIP Appendix 4 in accordance with SIP section 2.4.2 or established in accordance with SIP section 2.4.3. The ML is based on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the ML depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are matrix-effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied to the ML in the computation of the RL.

### **Source of Drinking Water**

Any water designated as having a municipal or domestic supply (MUN) beneficial use.

### **Standard Deviation ( $\sigma$ )**

Measure of variability calculated as follows:

$$\sigma = (\sum[(x - \mu)^2]/(n - 1))^{0.5}$$

where:

- x is the observed value;
- $\mu$  is the arithmetic mean of the observed values; and
- n is the number of samples.

### **Toxicity Reduction Evaluation (TRE)**

Study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A Toxicity Identification Evaluation (TIE) may be required as part of the TRE, if appropriate. A TIE is a set of procedures to identify the specific chemicals responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.

**ATTACHMENT B – NOTICE OF INTENT (NOI) FORM**

**NOTICE OF INTENT** to comply with NPDES Permit No. CAG382001, authorizing discharges of filter backwash wastewater from drinking water filter facilities to inland surface waters.

**DISCHARGER TO PROVIDE THE FOLLOWING INFORMATION**

**I. FACILITY OWNER AND OPERATOR INFORMATION**

<b>Owner Name</b>		Land Owner Type (Check One) <input type="checkbox"/> Public <input type="checkbox"/> Private <input type="checkbox"/> Other, specify the type:	
Street Address			
City	State	Zip Code	Phone No.
Contact Person's Name and Title			
Contact Person's Email		Contact Person's Phone No.	

Check here if information for additional owners is attached to this form.

<b>Operator Name</b>		Facility Owner Type (Check One) <input type="checkbox"/> Public <input type="checkbox"/> Private <input type="checkbox"/> Other, specify the type:	
Street Address			
City	State	Zip Code	Phone No.
Contact Person's Name and Title			
Contact Person's Email		Contact Person's Phone No.	

Check here if information for additional operators is attached to this form.

**II. BILLING INFORMATION**

<b>Name of person who will be responsible for paying fees</b>			
Street Address			
City	State	Zip Code	Phone No.
Contact Person's Name			
Contact Person's Email		Contact Person's Phone No.	

**III. DISCHARGE POINTS AND RECEIVING WATERS<sup>[1]</sup>**

Discharge Points	Latitude	Longitude	Receiving Water Name
1			
2			
3			
4			

<sup>[1]</sup> If discharging to a storm drain system, attach documentation indicating approval to discharge from the agency responsible for the system.

Check here if information for additional outfalls is attached to this form.

**IV. DISCHARGE AND RECEIVING WATER QUALITY**

Summarize discharge and receiving water monitoring data collected during the past five years. New dischargers may estimate future concentrations. Provide separate data summary table for each discharge point (outfall) and receiving water. A discharger who was covered under the previous order and had submitted an NOI for continued coverage under a to be reissued permit are not required to submit the following data with its new NOI for coverage under this Order; however, the Discharger shall submit the following data with the NOI due in 2020 if it plans to seek coverage under a future reissued permit.

**A. EFFLUENT DISCHARGE DATA**

Discharge Point No.<sup>[1]</sup>: \_\_\_\_\_

Parameter	Units	Highest Value	Range	Number of Samples	Test Method	Method Detection Limit
Total Suspended Solids	mg/L					
Turbidity	NTU					
Settleable Matter	mL/L-hr					
pH	s.u.				N/A	
Total Chlorine Residual	mg/L					
Acute Toxicity	% survival					
Copper	µg/L					
Zinc	µg/L					
Mercury	µg/L					
Selenium	µg/L					
Arsenic	µg/L					
Cadmium	µg/L					
Chromium	µg/L					
Lead	µg/L					
Nickel	µg/L					
Silver	µg/L					
Chloroform	µg/L					
Bromoform	µg/L					
Dichlorobromomethane	µg/L					
Chlorodibromomethane	µg/L					
Other Pollutants (see Fact Sheet Table F-3)						

<sup>[1]</sup> Attach additional sheets for each discharge point.



**B. RECEIVING WATER DATA**

**Receiving Water Name:**

Parameter	Units	Highest Value	Range	Number of Samples	Test Method	Method Detection Limit
Stream Flow Rate	GPD					
Dissolved Oxygen	mg/L and % saturation					
Turbidity	NTU					
pH	s.u.					
Total Suspended Solids	mg/L					
Temperature	°C					
Hardness	mg/L as CaCO <sub>3</sub>					
Copper	µg/L					
Zinc	µg/L					
Arsenic	µg/L					
Cadmium	µg/L					
Chromium	µg/L					
Lead	µg/L					
Mercury	µg/L					
Nickel	µg/L					
Selenium	µg/L					
Silver	µg/L					
Chloroform	µg/L					
Dichlorobromomethane	µg/L					
Chlorodibromomethane	µg/L					
Bromoform	µg/L					
Other Pollutants (see Fact Sheet Table F-3).						

**V. LOCATION MAP**

Attach topographic map(s) of the area that clearly show the following:

1. The legal boundaries of the facility.
2. Locations of all water and wastewater treatment units, such as settling basins.
3. The location and identification number of each of the facility's existing and/or proposed intake and discharge point.
4. The receiving water(s) (water of the U.S.) and receiving storm water drainage system(s), if applicable, identified and labeled.

**VI. FLOW CHART**

Attach a flow chart, line drawing, or diagrams showing the filter backwash wastewater flow from treatment system to discharge.

**VII. SITE-SPECIFIC BEST MANAGEMENT PRACTICES (BMPs) PLAN**

Develop and keep on site a site-specific BMPs plan that addresses all specific means of controlling pollutant discharges from the filter backwash wastewater treatment system (see Provision VI.C.4.a of this Order).

**VIII. DULY AUTHORIZED REPRESENTATIVE**

The following individual (or any individual occupying the position listed below) may act as the facility’s duly authorized representative, and may sign and certify submittals in accordance with Attachment D section V.B.3, as a Duly Authorized Representative of the Responsible Official in IX, below. This individual shall be responsible for the overall operation of the facility or for facility environmental matters.

<b>Duly Authorized Representative</b>		
Title		
Company / Organization		
Street Address		
City	State	Zip Code
Email		Phone No.

**IX. CERTIFICATION**

This certification shall be signed by a Responsible Official as defined in Attachment D section V.B.2. By signing, the Responsible Official hereby agrees to comply with all the conditions specified in NPDES Permit No. CAG382001.

I certify under penalty of law that this document and all attachments were prepared under my direct supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those directly responsible for gathering the information, the information submitted is, true, accurate, and complete to the best of my knowledge and belief. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. In addition, I certify that the provisions of the permit, including but not limited to the criteria for eligibility, will be complied with.	
Signature	Date:
Printed Name	
Title	
Company / Organization	
Email	Phone No.

**X. APPLICATION FEE AND MAILING INSTRUCTIONS**

Submit a check payable to the “State Water Resources Control Board” with the appropriate fee to the following address:

San Francisco Bay Regional Water Quality Control Board  
Attn: NPDES Wastewater Division  
1515 Clay Street, Suite 1400  
Oakland, CA 94612

Submit this form (with signature and attachments) electronically to [Farhad.Azimizadeh@waterboards.ca.gov](mailto:Farhad.Azimizadeh@waterboards.ca.gov), or as otherwise indicated at [www.waterboards.ca.gov/sanfranciscobay/water\\_issues/programs/general\\_permits.shtml](http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/general_permits.shtml). If the form cannot be submitted electronically, submit a hard copy to the address above.

For Dischargers authorized under the previous order and who wish to continue discharge under this Order, a check for permit application fee is not required with the NOI for continued coverage. Instead, these authorized Dischargers must continue to pay annual fee invoices.

## **ATTACHMENT C – INSTRUCTIONS FOR NOTICE OF INTENT (NOI) FORM**

These instructions explain how to complete the Notice of Intent (NOI) form in Attachment B. Submittal of an NOI indicates a Discharger's commitment to comply with the terms of this Order, which authorizes discharges of filter backwash wastewater from drinking water filter facilities to inland surface waters.

### **I. FACILITY OWNER/OPERATOR INFORMATION**

The owner is the organization or person who owns or leases the facility or land where the drinking water filter facility is located. For a facility that is one of several owned by a corporation, indicate the corporation name and the name by which the facility is known to the employees (i.e., ABC Inc. - DEF Facility). Provide the street address or a description of the facility location (i.e., 1234 15th Drive or northwest corner of 1st Street and X Avenue). Note that each facility must obtain separate coverage under this Order.

### **II. BILLING INFORMATION**

Indicate to whom the annual permit fee should be billed.

### **III. DISCHARGE POINTS AND RECEIVING WATERS**

List all discharge points for which permit coverage under this Order is sought. This Order will not cover discharges that are not listed here.

The discharge point is generally the point of first contact with State waters. Provide the coordinates of each discharge point. A U.S. Geographical Survey (USGS) or any other appropriate map may be used to interpolate the coordinates.

If the discharge enters a separate storm drainage system prior to contact with a State water, provide the name of the State watercourse or water body to which the storm drainage system discharges. Please contact the owner of the storm drainage system about your proposed discharge.

Attach a separate sheet for additional discharge points. Properly label the discharge points with numbers that correspond to the discharge point label(s) on the location map(s) and flow chart(s) submitted.

### **IV. DISCHARGE AND RECEIVING WATER QUALITY**

For existing facilities, all of the parameters must be tested by a State-certified laboratory and reported in this table. If discharge data have not already been provided to the Regional Water Board, provide a copy of the laboratory data sheets and chain of custody documents, as applicable. For a new or proposed facility, enter estimated values to this table. Where there is more than one outfall, submit a separate sheet for each outfall. Test results shall be obtained from a sample or samples representative of the discharge.

Other pollutants in the last row for the effluent and receiving water monitoring data include the following: chlordane, coliform bacteria, DDT (dichlorodiphenyltrichloroethane), diazinon, dieldrin, heptachlor epoxide, low dissolved oxygen, mercury, nickel, nutrient/eutrophication biological indicators, nutrients, organic enrichment/low dissolved oxygen, pathogens, PCBs (polychlorinated biphenyls), pH, pyrethroids, sediment toxicity, sedimentation/siltation, selenium, temperature, toxaphene, toxicity, and trash.

## V. LOCATION MAP

Provide a location map on an 8.5 by 11-inch sheet or folded to 8.5 by 11-inch. Show at least one mile beyond the property boundaries of the facility on the map.

Indicate the discharge point(s) on the location map and include all of the required information. The discharge point(s) may include where the discharge exits the facility and enters the roadway right-of-way and then flows into a separate storm drainage system and/or where the discharge directly enters the State waters.

## VI. FLOW CHART

The flow chart shall indicate all portions of the filter backwash wastewater treatment system including discharge of treated filter backwash wastewater to the receiving water, and the approximate amounts of flow through each process or discharge. Flow quantities may be estimated if no data are available.

## VII. SITE-SPECIFIC BEST MANAGEMENT PRACTICES (BMPs) PLAN

### A. Site-specific BMPs Plan for Discharges from Drinking Water Filter Facilities

Applicants shall state in the NOI that it has developed a site-specific BMPs Plan that is ready for implementation, and that the site-specific BMPs Plan includes, at minimum, the following information:

1. **Facility Operation** - Describe the operation of the facility.
  - a. Describe the filter backwash treatment processes, and include a flow diagram.
  - b. Provide the filter backwashing frequency and flow rate.
  - c. Describe chemical usage for filter backwash treatment, if any, and include a section estimating the residual concentration in the discharge as compared to the no adverse effect level concentration as documented in the ecological section of the applicable Material Safety Data Sheet (MSDS) for each chemical used. A copy of the MSDS for each chemical used for filter backwash treatment is required to be included in the BMP.
  - d. Describe filter backwash treatment method(s) (e.g., settling basin).
2. **Potential Pollutants** - Describe pollutants that may potentially be generated by the facility. These pollutants may include, but are not be limited to:
  - a. Chemicals used in water treatment;
  - b. Pollutants associated with operation and maintenance of equipment, such as oil and grease and hydraulic fluid leakage and spills;

- c. Any solids or sediments generated by the operation (e.g., in filter backwash wastewater);
- d. Stormwater runoff from exposed oil, fuel, or any hazardous material storage locations and containment structures;
- e. Evaluation of stream bank conditions (i.e., potential for erosion) at locations where large volumes of discharged water may enter the stream.

**3. Pollution Control and Effluent Treatment Methods** – Describe in detail the control and treatment measures for each of the potential pollutants identified under item VII.2 above:

- a. Prevention measures to be implemented to prevent the pollutants from entering the effluent and receiving water;
- b. Measures to reduce or eliminate the use of copper compound to the maximum extent practical;
- c. Effluent treatment methods to be implemented onsite to remove the pollutants in the effluent (indicate the treatment system locations on the location map);
- d. Maintenance procedures and maintenance schedules to maintain the effluent treatment system; and
- e. Methods to prevent stream bank erosion resulting from the discharge (e.g., bank stabilization, control of discharge rate).

**4. Chlorine and/or Ammonia Management**

- a. Storage and transportation. The BMPs Plan shall describe the form of disinfection chemicals (e.g., chlorine gas, sodium hypochlorite, and ammonia) used at the facility. The BMPs Plan shall also include storage methods, storage tank size and location, secondary containment, and any exposed pipes used for transport.
- b. Chlorine and/or ammonia spill and leakage prevention. The BMPs Plan shall specify how chlorine and/or ammonia are handled to prevent spills, and the emergency response and cleanup plan in the event of a spill or leakage. The BMPs Plan shall also include the schedule for routine inspection of chlorine and/or ammonia storage sites and transport piping to prevent leaks.
- c. Chlorinated and/or chloraminated water spill. The Discharge shall install an alarm system to provide warning of chlorinated and/or chloraminated water overflows or spills. The BMPs Plan shall describe procedures for dechlorination of spill or overflow water.
- d. Water release. The BMPs Plan shall include a set of standard procedures for total chlorine residual monitoring and dechlorination of chlorinated and/or chloraminated water to be released or discharged to State waters.
- e. Responsibility and training. The BMPs Plan shall identify the names and positions of persons responsible for the tasks identified in the BMPs Plan. The BMPs Plan shall also include the schedule(s) for BMPs training.

### **VIII. DULY AUTHORIZED REPRESENTATIVE**

The person described in Attachment D section V.B.2 and signing the certification in section XII of the NOI form may designate a duly authorized representative to sign permit-related submittals in accordance with Attachment D section V.B.3. Alternatively, a duly authorized representative may be designated through separate correspondence, particularly if the NOI form language does not sufficiently limit the delegated authority.

### **IX. CERTIFICATION**

The person certifying the NOI form must meet the requirements described in Attachment D section V.B.2. *Review these requirements carefully.* Specific requirements apply to corporations, partnerships, sole proprietorships, and public agencies.

### **X. APPLICATION FEE AND MAILING INSTRUCTIONS**

The NOI is incomplete without the full permit fee, unless the NOI is for a Discharger authorized under the previous order who is also in good standing regarding payment of annual fees. A separate fee is required for each facility. As of 2015, the application fee is **\$7,177**. The State Water Resources Control Board may modify the fee at any time. For the current fee, see [http://www.waterboards.ca.gov/resources/fees/water\\_quality/#npdes](http://www.waterboards.ca.gov/resources/fees/water_quality/#npdes).

**ATTACHMENT D –STANDARD PROVISIONS****I. STANDARD PROVISIONS – PERMIT COMPLIANCE****A. Duty to Comply**

1. The Discharger must comply with all of the terms, requirements, and conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action; permit termination, revocation and reissuance, or modification; denial of a permit renewal application; or a combination thereof. (40 C.F.R. § 122.41(a); Wat. Code §§ 13261, 13263, 13265, 13268, 13000, 13001, 13304, 13350, 13385.)
2. The Discharger shall comply with effluent standards or prohibitions established under CWA section 307(a) for toxic pollutants and with standards for sewage sludge use or disposal established under CWA section 405(d) within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 C.F.R. § 122.41(a)(1).)

**B. Need to Halt or Reduce Activity Not a Defense**

It shall not be a defense for a Discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order. (40 C.F.R. § 122.41(c).)

**C. Duty to Mitigate**

The Discharger shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment. (40 C.F.R. § 122.41(d).)

**D. Proper Operation and Maintenance**

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a Discharger only when necessary to achieve compliance with the conditions of this Order. (40 C.F.R. § 122.41(e).)

**E. Property Rights**

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 C.F.R. § 122.41(g).)
2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations. (40 C.F.R. § 122.5(c).)



## F. Inspection and Entry

The Discharger shall allow the Regional Water Board, State Water Board, U.S. EPA, and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (33 U.S.C. § 1318(a)(4)(B); 40 C.F.R. § 122.41(i); Wat. Code, §§ 13267, 13383):

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (33 U.S.C. § 1318(a)(4)(B)(i); 40 C.F.R. § 122.41(i)(1); Wat. Code, §§ 13267, 13383);
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (33 U.S.C. § 1318(a)(4)(B)(ii); 40 C.F.R. § 122.41(i)(2); Wat. Code, §§ 13267, 13383);
3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (33 U.S.C. § 1318(a)(4)(B)(ii); 40 C.F.R. § 122.41(i)(3); Wat. Code, §§ 13267, 13383); and
4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (33 U.S.C. § 1318(a)(4)(B); 40 C.F.R. § 122.41(i)(4); Wat. Code, §§ 13267, 13383.)

## G. Bypass

### 1. Definitions

- a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. (40 C.F.R. § 122.41(m)(1)(i).)
- b. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 C.F.R. § 122.41(m)(1)(ii).)

2. **Bypass not exceeding limitations.** The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 C.F.R. § 122.41(m)(2).)

3. **Prohibition of bypass.** Bypass is prohibited, and the Regional Water Board may take enforcement action against a Discharger for bypass, unless (40 C.F.R. § 122.41(m)(4)(i)):

- a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 C.F.R. § 122.41(m)(4)(i)(A));
- b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment

- should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 C.F.R. § 122.41(m)(4)(i)(B)); and
- c. The Discharger submitted notice to the Regional Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 C.F.R. § 122.41(m)(4)(i)(C).)
- 4. Approval.** The Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Water Board determines that it will meet the three conditions listed in Standard Provisions—Permit Compliance I.G.3 above. (40 C.F.R. § 122.41(m)(4)(ii).)
- 5. Notice**
- a. **Anticipated bypass.** If the Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass. (40 C.F.R. § 122.41(m)(3)(i).)
  - b. **Unanticipated bypass.** The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). (40 C.F.R. § 122.41(m)(3)(ii).)

## H. Upset

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the Discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. (40 C.F.R. § 122.41(n)(1).)

- 1. Effect of an upset.** An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 C.F.R. § 122.41(n)(2).)
- 2. Conditions necessary for a demonstration of upset.** A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that (40 C.F.R. § 122.41(n)(3)):
  - a. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 C.F.R. § 122.41(n)(3)(i));
  - b. The permitted facility was, at the time, being properly operated (40 C.F.R. § 122.41(n)(3)(ii));
  - c. The Discharger submitted notice of the upset as required in Standard Provisions—Reporting V.E.2.b below (24-hour notice) (40 C.F.R. § 122.41(n)(3)(iii)); and

d. The Discharger complied with any remedial measures required under Standard Provisions—Permit Compliance I.C above. (40 C.F.R. § 122.41(n)(3)(iv).)

3. **Burden of proof.** In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof. (40 C.F.R. § 122.41(n)(4).)

## II. STANDARD PROVISIONS—PERMIT ACTION

### A. General

This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Order condition. (40 C.F.R. § 122.41(f).)

### B. Duty to Reapply

If the Discharger wishes to continue an activity regulated by this Order after the expiration date of this Order, the Discharger must apply for and obtain a new permit. (40 C.F.R. § 122.41(b).)

### C. Transfers

This Order is not transferable to any person except after notice to the Regional Water Board. The Regional Water Board may require modification or revocation and reissuance of the Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWA and the Water Code. (40 C.F.R. §§ 122.41(l)(3), 122.61.)

## III. STANDARD PROVISIONS – MONITORING

A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 C.F.R. § 122.41(j)(1).)

B. Monitoring results must be conducted according to test procedures approved under 40 C.F.R. part 136 for the analyses of pollutants unless another method is required under 40 C.F.R. subchapters N or O. In the case of pollutants for which there are no approved methods under 40 C.F.R. part 136 or otherwise required under 40 C.F.R. subchapters N or O, monitoring must be conducted according to a test procedure specified in this Order for such pollutants. (40 C.F.R. §§ 122.41(j)(4), 122.44(i)(1)(iv).)

## IV. STANDARD PROVISIONS—RECORDS

A. Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 C.F.R. part 503), the Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Regional Water Board Executive Officer at any time. (40 C.F.R. § 122.41(j)(2).)

**B. Records of monitoring information shall include the following:**

1. The date, exact place, and time of sampling or measurements (40 C.F.R. § 122.41(j)(3)(i));
2. The individual(s) who performed the sampling or measurements (40 C.F.R. § 122.41(j)(3)(ii));
3. The date(s) the analyses were performed (40 C.F.R. § 122.41(j)(3)(iii));
4. The individual(s) who performed the analyses (40 C.F.R. § 122.41(j)(3)(iv));
5. The analytical techniques or methods used (40 C.F.R. § 122.41(j)(3)(v)); and
6. The results of such analyses. (40 C.F.R. § 122.41(j)(3)(vi).)

**C. Claims of confidentiality for the following information will be denied (40 C.F.R. § 122.7(b)):**

1. The name and address of any permit applicant or Discharger (40 C.F.R. § 122.7(b)(1)); and
2. Permit applications and attachments, permits, and effluent data. (40 C.F.R. § 122.7(b)(2).)

**V. STANDARD PROVISIONS—REPORTING****A. Duty to Provide Information**

The Discharger shall furnish to the Regional Water Board, State Water Board, or U.S. EPA within a reasonable time, any information which the Regional Water Board, State Water Board, or U.S. EPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Discharger shall also furnish to the Regional Water Board, State Water Board, or U.S. EPA copies of records required to be kept by this Order. (40 C.F.R. § 122.41(h); Wat. Code, §§ 13267, 13383.)

**B. Signatory and Certification Requirements**

1. All applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or U.S. EPA shall be signed and certified in accordance with Standard Provisions—Reporting V.B.2, V.B.3, V.B.4, and V.B.5 below. (40 C.F.R. § 122.41(k).)
2. For a corporation, all permit applications shall be signed by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. (40 C.F.R. § 122.22(a)(1).)

For a partnership or sole proprietorship, all permit applications shall be signed by a general partner or the proprietor, respectively. (40 C.F.R. § 122.22(a)(2).)

For a municipality, state, federal, or other public agency, all permit applications shall be signed by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of U.S. EPA). (40 C.F.R. § 122.22(a)(3).)

- 3.** All reports required by this Order and other information requested by the Regional Water Board, State Water Board, or U.S. EPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
  - a.** The authorization is made in writing by a person described in Standard Provisions—Reporting V.B.2 above (40 C.F.R. § 122.22(b)(1));
  - b.** The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 C.F.R. § 122.22(b)(2)); and
  - c.** The written authorization is submitted to the Regional Water Board and State Water Board. (40 C.F.R. § 122.22(b)(3).)
- 4.** If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions—Reporting V.B.3 above must be submitted to the Regional Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 C.F.R. § 122.22(c).)
- 5.** Any person signing a document under Standard Provisions—Reporting V.B.2 or V.B.3 above shall make the following certification:

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.” (40 C.F.R. § 122.22(d).)

### **C. Monitoring Reports**

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program in this Order. (40 C.F.R. § 122.22(l)(4).)
2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices. (40 C.F.R. § 122.41(l)(4)(i).)
3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under 40 C.F.R. part 136, or another method required for an industry-specific waste stream under 40 C.F.R. subchapters N or O, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Regional Water Board. (40 C.F.R. § 122.41(l)(4)(ii).)
4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 C.F.R. § 122.41(l)(4)(iii).)

### **D. Compliance Schedules**

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order, shall be submitted no later than 14 days following each schedule date. (40 C.F.R. § 122.41(l)(5).)

### **E. Twenty-Four Hour Reporting**

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. (40 C.F.R. § 122.41(l)(6)(i).)
2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 C.F.R. § 122.41(l)(6)(ii)):
  - a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(A).)
  - b. Any upset that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(B).)
3. The Regional Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours. (40 C.F.R. § 122.41(l)(6)(iii).)

## **F. Planned Changes**

The Discharger shall give notice to the Regional Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when (40 C.F.R. § 122.41(l)(1)):

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 C.F.R. section 122.29(b) (40 C.F.R. § 122.41(l)(1)(i)); or
2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this Order. (Alternatively, for an existing manufacturing, commercial, mining, or silvicultural discharge as referenced in 40 C.F.R. section 122.42(a), this notification applies to pollutants that are subject neither to effluent limitations in this Order nor to notification requirements under 40 C.F.R. section 122.42(a)(1) (see Additional Provisions—Notification Levels VII.A.1).) (40 C.F.R. § 122.41(l)(1)(ii).)
3. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. (40 C.F.R. § 122.41(l)(1)(iii).)

## **G. Anticipated Noncompliance**

The Discharger shall give advance notice to the Regional Water Board or State Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with this Order's requirements. (40 C.F.R. § 122.41(l)(2).)

## **H. Other Noncompliance**

The Discharger shall report all instances of noncompliance not reported under Standard Provisions—Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision—Reporting V.E above. (40 C.F.R. § 122.41(l)(7).)

## **I. Other Information**

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Regional Water Board, State Water Board, or U.S. EPA, the Discharger shall promptly submit such facts or information. (40 C.F.R. § 122.41(l)(8).)

## **VI. STANDARD PROVISIONS – ENFORCEMENT**

- A. The Regional Water Board is authorized to enforce the terms of this Order under several provisions of the Water Code, including, but not limited to, sections 13268, 13385, 13386, and 13387.

## VII. ADDITIONAL PROVISIONS—NOTIFICATION LEVELS

### A. Non-Municipal Facilities

Existing manufacturing, commercial, mining, and silvicultural Dischargers shall notify the Regional Water Board as soon as they know or have reason to believe (40 C.F.R. § 122.42(a)):

1. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following “notification levels” (40 C.F.R. § 122.42(a)(1)):
  - a. 100 micrograms per liter ( $\mu\text{g/L}$ ) (40 C.F.R. § 122.42(a)(1)(i));
  - b. 200  $\mu\text{g/L}$  for acrolein and acrylonitrile; 500  $\mu\text{g/L}$  for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol; and 1 milligram per liter ( $\text{mg/L}$ ) for antimony (40 C.F.R. § 122.42(a)(1)(ii));
  - c. Five (5) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 C.F.R. § 122.42(a)(1)(iii)); or
  - d. The level established by the Regional Water Board in accordance with section 122.44(f). (40 C.F.R. § 122.42(a)(1)(iv).)
2. That any activity has occurred or will occur that would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following “notification levels” (40 C.F.R. § 122.42(a)(2)):
  - a. 500 micrograms per liter ( $\mu\text{g/L}$ ) (40 C.F.R. § 122.42(a)(2)(i));
  - b. 1 milligram per liter ( $\text{mg/L}$ ) for antimony (40 C.F.R. § 122.42(a)(2)(ii));
  - c. Ten (10) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 C.F.R. § 122.42(a)(2)(iii)); or
  - d. The level established by the Regional Water Board in accordance with section 122.44(f). (40 C.F.R. § 122.42(a)(2)(iv).)

### B. Publicly-Owned Treatment Works (POTWs)

All POTWs shall provide adequate notice to the Regional Water Board of the following (40 C.F.R. § 122.42(b)):

1. Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to CWA sections 301 or 306 if it were directly discharging those pollutants (40 C.F.R. § 122.42(b)(1)); and
2. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of adoption of this Order. (40 C.F.R. § 122.42(b)(2).)
3. Adequate notice shall include information on the quality and quantity of effluent introduced into the POTW as well as any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW. (40 C.F.R. § 122.42(b)(3).)



# ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

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**ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)**

Clean Water Act section 308 and 40 C.F.R. sections 122.41(h), 122.41(j)-(l), 122.44(i), and 122.48 require that all NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 also authorize the Regional Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. This MRP establishes monitoring, reporting, and recordkeeping requirements that implement federal and State laws and regulations.

**I. GENERAL MONITORING PROVISIONS**

- A. The Discharger shall comply with this MRP. The Executive Officer may amend this MRP pursuant to 40 C.F.R. sections 122.62, 122.63, and 124.5.
- B. The Discharger shall conduct all monitoring in accordance with Attachment D, section III. Equivalent test methods must be more sensitive than those specified in 40 C.F.R. part 136 and must be specified in this Order or the Discharger’s Authorization to Discharge. Water and waste analyses shall be performed by a laboratory certified for these analyses in accordance with Water Code section 13176.
- C. All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements.

**II. MONITORING LOCATIONS**

The Discharger shall establish monitoring locations as set forth below to demonstrate compliance with this Order:

**Table E-1. Monitoring Locations**

Monitoring Location Type	Monitoring Location Name	Monitoring Location Description
Intake Water <sup>[1]</sup>	INF-001 through INF-“n”	Any point in the intake between the point of extraction from the water source and prior to any treatment or other modification of the intake water.
Effluent	EFF-001 through EFF-“n”	Any point in the outfall between the point of discharge to the receiving water and the point at which all waste tributary to the outfall is present.
Receiving Water	RSW-001	A point in the receiving water where discharge effects would not be expected (e.g., upstream of the outfall).

Footnotes:

[1] Intake water monitoring is required only for Dischargers who must comply with intake water credit-based limitations.

**III. EFFLUENT SAMPLING, ANALYSES, AND OBSERVATIONS**

- A. When discharging, the Discharger shall monitor the discharge at Monitoring Locations EFF-001 through EFF-“n” in accordance with Table E-2 below.
- B. Effluent monitoring for treated filter backwash is only required when discharging to the receiving waters.
- C. When a sampling result is above an effluent limitation or outside of the effluent limitation range, the sampling frequency for the exceeded parameter shall be immediately increased to daily until at least two consecutive daily samples demonstrate compliance with the limitation. The Discharger must monitor as frequently as practical, but not less than weekly, and the Discharger must justify in the monitoring reports, subject to Executive Officer approval, the reason(s) why daily monitoring is impracticable.

**D.** Grab samples shall be collected on random days and, to the greatest extent possible, during periods of daytime maximum flow (if flow varies significantly during the day).

**E. Intake Water Monitoring.** If required to comply with intake water credit-based effluent limitations, then the Discharger shall monitor the intake water at INF-001 through INF-“n” as follows:

1. The Discharger shall monitor the intake-credited pollutant once per quarter concurrently with monitoring for that pollutant in the effluent discharge.
2. If a result indicates that the effluent pollutant concentration or mass load is greater than the intake water pollutant concentration or mass load, then the Discharger shall accelerate sampling frequency to weekly until the calculated annual averages after at least two consecutive samples demonstrate compliance with the Intake Water Credit-Based Limitation in Provision VI.D of the Order.

**Table E-2. Treated Filter Backwash Monitoring**

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow Rate and Volume <sup>[1]</sup>	MGD/MG	Continuous or daily	1/Day
Total Suspended Solids (TSS) <sup>[2]</sup>	mg/L	Grab	2/Year
Settleable Matter <sup>[2]</sup>	mL/L-hr	Grab	2/Year
Total Chlorine Residual <sup>[3]</sup>	mg/L	Grab	1/4 Hours
Turbidity	NTU	Grab	2/Year
pH	standard units	Grab	2/Year
Copper, Total Recoverable <sup>[4]</sup>	µg/L	Grab	1/Quarter
Zinc, Total Recoverable <sup>[4]</sup>	µg/L	Grab	Once
Mercury, Total Recoverable <sup>[4, 5]</sup>	µg/L	Grab	Once
Selenium, Total Recoverable <sup>[4]</sup>	µg/L	Grab	Once
Arsenic, Cadmium, Chromium (VI), Lead, Nickel, Silver <sup>[4]</sup>	µg/L	Grab	Once
Chloroform	µg/L	Grab	Once
Dichlorobromomethane	µg/L	Grab	Once
Chlorodibromomethane	µg/L	Grab	Once
Bromoform	µg/L	Grab	Once
Acute Toxicity <sup>[6]</sup>	% survival	Grab	2/Year <sup>[6]</sup>
Other Pollutants (see Fact Sheet Table F-3)	µg/L or other units as applicable	Grab	Once

Abbreviations:

MGD = million gallons per day

MG = million gallons

NTU = nephelometric turbidity units

ml/L/hr = milliliters per liter per hour

% survival = percent survival

mg/L = milligrams per liter

µg/L = micrograms per liter

2/Year = twice per year

1/4 Hours = once every four hours. If more frequent monitoring is conducted, all exceedances must be reported.

- 1/Quarter = once per quarter  
 Once = once during the term of this Order and completed within 12 months of the due date for, and submitted with, the new NOI required on the first page of the Order.

Sample Type:

- Continuous = measured continuously, and recorded and reported daily  
 Grab = Grab samples of effluent shall be collected during periods of maximum peak flows. Samples shall be taken on random days.

Footnotes:

- [1] Flows shall be monitored at each outfall by flow meter or estimated if no flow meter is in place. The following shall be reported in self-monitoring reports:
- Daily total flow volume (MG)
  - Daily discharge duration (hours)
  - Daily average flow (MGD) (if not measured directly, calculated based on daily flow volume and discharge duration)
  - Monthly total flow volume (MG)
  - Discharge days per month
  - Monthly average and daily maximum and minimum flows (MGD) on discharge days (averages should not include days without flows).
- The Executive Officer may waive some flow monitoring if such monitoring would not provide useful information. The Executive Officer may also require the Discharger to install flow meters.
- [2] The Discharger shall accelerate monitoring in accordance with III.C above for a parameter anytime it becomes aware that a monitoring result indicates exceedance. For intermittent discharges for the purpose of mandatory minimum penalties required by Water Code section 13385(i), compliance with a monthly average limit shall be based on at least two monitoring results collected within a calendar month. In other words, if a second sample cannot be collected within a calendar month because there is no discharge, then the one sample that was collected shall be used for compliance with only the daily maximum or weekly average limits.
- [3] The Discharger shall calibrate and maintain total residual chlorine analyzers to reliably quantify values of 0.1 mg/L and greater. This 0.1 mg/L shall be the minimum level (ML) and reporting limit (RL) for total residual chlorine. If the Discharger monitors chlorine residual continuously, then the Discharger shall describe any and all excursions of the chlorine limit and corrective measures applied to address excursions in the transmittal letter of self-monitoring reports. However, for the purpose of mandatory minimum penalties required by Water Code section 13385(i), compliance shall be based only on discrete readings from the continuous data every 4 hours on the hour or at the beginning of discharge and then every 4 hours during discharge. The Regional Water Board reserves the right to use all continuous monitoring data for discretionary enforcement. The Discharger may elect to use a continuous on-line monitoring system for measuring or determining that residual dechlorinating agent is present. This monitoring system may be used to prove that anomalous residual chlorine exceedances measured by on-line chlorine analyzers are false positives because it is chemically improbable to have chlorine present in the presence of sodium bisulfite. If Regional Water Board staff finds convincing evidence that chlorine residual exceedances are false positives, the exceedances are not violations of this Order's total chlorine residual limit.
- [4] All metals shall be reported as total recoverable. If total chromium concentration exceeds 11 ug/L, then analysis for chromium VI shall also be conducted. If three consecutive samples, collected during the term of this Order or the previous order, show no detections, monitoring can be reduced to once.
- [5] For mercury monitoring, the Discharger has the option to use U.S. EPA Method 245.1 or 245.7. However, if the Method 245.1 or 245.7 result shows mercury at or greater than the lowest applicable objective (see Table F-3), then the Discharge must re-monitor at least once using ultra-clean sampling methods (U.S. EPA Method 1669) to the maximum extent practicable and ultra-clean analytical methods (U.S. EPA Method 1631).
- [6] Acute toxicity monitoring shall be performed according to MRP section IV. If there has been no toxicity for the past three consecutive years (i.e., discharge has been in compliance with the acute toxicity limitations), then the Discharger may reduce the toxicity testing frequency to once per year as long as it continues to maintain no toxicity. For a facility that does not use polymer in its filter backwash treatment and does not use chloramines for disinfection, if there has been no toxicity for the past three consecutive years (i.e., discharge has been in compliance with the acute toxicity limitations), then the Discharger may reduce the toxicity testing frequency to once every two years as long as it continues to maintain no toxicity.

**IV. WHOLE EFFLUENT ACUTE TOXICITY TESTING**

- Compliance with the acute toxicity effluent limitations shall be evaluated at Monitoring Locations EFF-001 through EFF-"n" by measuring survival of test organisms exposed to 96-hour static renewal bioassays. Samples shall be collected on days coincident with effluent sampling.
- Test species shall be rainbow trout or a species the Executive Officer approves. The Executive Officer may specify a more sensitive species or, if testing a particular species proves unworkable, the most sensitive species available.

- C. All bioassays shall be performed according to 40 C.F.R. part 136, currently *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, 5<sup>th</sup> Edition (EAP-821-R-02-012), with exceptions granted in writing by the Executive Officer and the Environmental Laboratory Accreditation Program upon a Discharger request with justification.
- D. If a Discharger demonstrates that specific identifiable substances in the discharge are rapidly rendered harmless upon discharge to the receiving water, compliance with the acute toxicity limit may be determined after test samples are adjusted to remove the influence of those substances. Written acknowledgement that the Executive Officer concurs with the Discharger's demonstration and that the adjustment will not remove the influence of other substances must be obtained prior to any such adjustment. The Discharger may manually adjust the pH of whole effluent acute toxicity samples prior to performing bioassays. Effluent shall be dechlorinated prior to testing if it contains chlorine.
- E. Bioassay water monitoring shall include, on a daily basis, pH, dissolved oxygen, ammonia (if toxicity is observed), temperature, hardness, and alkalinity. These results shall be reported. If final or intermediate results of an acute bioassay test indicate a violation or threatened violation (e.g., the percentage of surviving test organisms is less than 70 percent), the Discharger shall initiate a new test as soon as practical and shall investigate the cause of the mortalities and report its findings in the next self-monitoring report. The Discharger shall repeat the test until a test fish survival rate of 90 percent or greater is observed. If the control fish survival rate is less than 90 percent, the bioassay test shall be restarted with new fish and shall continue as soon as practical until an acceptable test is completed (i.e., control fish survival rate is 90 percent or greater).
- F. The Discharger shall investigate the cause of any mortalities and report its findings in the next self-monitoring report.

## V. RECEIVING WATER MONITORING

- A. The Discharger shall monitor receiving waters at Monitoring Location RSW-001 as indicated in the table below:

**Table E-3. Receiving Water Monitoring**

Parameter	Units	Sample Type <sup>[1]</sup>	Minimum Sampling Frequency <sup>[2]</sup>
Dissolved Oxygen	mg/L and % saturation	Grab	[3]
Turbidity	NTU	Grab	[3]
Total Suspended Solids (TSS)	mg/L	Grab	[3]
Temperature	°C	Grab	[3]
pH	s.u.	Grab	[3]
Hardness	mg/L as CaCO <sub>3</sub>	Grab	[3]
Arsenic, Cadmium, Copper, Chromium (VI), Lead, Nickel, Selenium, Silver, Zinc <sup>[5]</sup>	ug/L	Grab	[3]
Mercury, Total Recoverable <sup>[4]</sup>	ug/L	Grab	[3]
Chloroform	ug/L	Grab	[3]
Dichlorobromomethane	ug/L	Grab	[3]
Chlorodibromomethane	ug/L	Grab	[3]
Bromoform	ug/L	Grab	[3]

Parameter	Units	Sample Type <sup>[1]</sup>	Minimum Sampling Frequency <sup>[2]</sup>
Other Pollutants (see Fact Sheet Table F-3)	µg/L or other units as applicable	Grab or as applicable	[3]

Abbreviations:

NTU	= nephelometric turbidity units
mg/L	= milligrams per liter
CaCO <sub>3</sub>	= calcium carbonate
°C	= degrees Celsius
ug/L	= micrograms per liter
ppt	= parts per trillion

Footnotes:

- <sup>[1]</sup> Pollutants and pollutant parameters shall be analyzed using the analytical methods described in 40 CFR 136. For priority pollutants, the methods must meet the lowest MLs specified in SIP Attachment 4, and Table E-5 MLs. Where no methods are specified for a given pollutant, the methods must be approved by this Regional Water Board or the State Water Board.
- <sup>[2]</sup> Samples shall be collected from a location not impacted by the discharge.
- <sup>[3]</sup> The receiving water data must be sufficient to characterize the concentration of each toxic pollutant in the ambient receiving water. The data on the conventional water quality parameters (pH, salinity, and hardness) should also be sufficient to characterize these parameters in the ambient receiving water. The receiving water shall be monitored once during the term of this Order. Monitoring shall be completed within 12 months of the due date for, and submitted with, the new NOI required on the first page of the Order.
- <sup>[4]</sup> For mercury monitoring, the Discharger has the option to use U.S. EPA Method 245.1 or 245.7. However, if the Method 245.1 or 245.7 result shows mercury at or greater than the lowest applicable objective (see Table F-3), then the Discharge must re-monitor at least once using ultra-clean sampling methods (U.S. EPA Method 1669) to the maximum extent practicable and ultra-clean analytical methods (U.S. EPA Method 1631).
- <sup>[5]</sup> All metals shall be reported as total recoverable. If total chromium concentration exceeds 11 ug/L, then analysis for chromium VI shall also be conducted.

- B.** Receiving water samples shall be collected on days coincident with effluent sampling or as required to meet Title 22 drinking water intake monitoring requirements. When possible, the Discharger should coordinate the Title 22 drinking water intake monitoring to be on the same day as effluent monitoring of filter backwash discharge. Samples shall be collected from a location not impacted by the discharge.
- C.** Receiving water monitoring is not required when there is no water in the receiving water other than the discharge.
- D.** The Executive Officer may waive receiving water monitoring requirements where access for sampling is unsafe or excessively difficult. If the Discharger seeks waiver from receiving water monitoring, the Discharger shall provide justification for the waiver with its NOI.

**VI. REPORTING****A. General Reporting Requirements**

The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.

**B. Self-Monitoring Reports**

- 1. Format.** At any time during the term of this Order, the State or Regional Water Board may notify the Dischargers to electronically submit self-monitoring reports (SMRs) using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (<http://www.waterboards.ca.gov/ciwqs/index.html>). The CIWQS website will provide additional information for SMR submittal in the event of a planned service interruption for

electronic submittal. In the interim, Dischargers shall submit SMRs using the submittal method specified in Authorization to Discharge.

- 2. Due Dates and Contents.** The Discharger shall submit annual SMRs March 1 each year covering the previous calendar year. The annual SMR shall contain the items below:
- a. The applicable items described in Attachment D, sections V.B and V.C.
  - b. The results of all monitoring specified in the MRP. The Discharger shall arrange all reported data in a tabular format and summarize data to clearly illustrate whether the Facility is operating in compliance with effluent limitations.
  - c. The Discharger shall attach a cover letter to each SMR that includes the following:
    - i. Clear identification of any violations of the Order or a clear statement that there were no violations.
    - ii. Annual compliance evaluation summary that identifies each parameter for which the Order specifies an effluent limit, the number of samples taken during the monitoring period, and the number of samples that exceed the effluent limits.
    - iii. Detailed description of any violations, their causes, and proposed time schedule for any corrective actions taken or planned to resolve the violations and prevent recurrences.
    - iv. Tabulations of required analyses and observations, including parameters, dates, times, monitoring locations, sample types, test results, method detection limits, MLs, and RLs, which are based on the laboratory report(s) and signed by the laboratory director or other responsible official. In addition, if intake water or dilution credit-based limitations apply, the Discharger shall also include the necessary supporting calculations as an attachment.
    - v. Any claims for data invalidation. Data should not be submitted in an SMR if it does not meet quality assurance/quality control standards. However, if the Discharger wishes to invalidate any measurement after it was submitted in an SMR, a letter shall identify the measurement suspected to be invalid and state the Discharger's intent to submit, within 60 days, a formal request to invalidate the measurement. This request shall include the original measurement in question, the reason for invalidating the measurement, all relevant documentation that supports invalidation [e.g., laboratory sheet, log entry, test results, etc.], and the corrective actions taken or planned [with a time schedule for completion] to prevent recurrence of the sampling or measurement problem.
    - vi. Signature. (The transmittal letter shall be signed in accordance with Attachment D, section V.B.)
  - d. Annual SMRs shall include all new monitoring results obtained since the last SMR was submitted. If the analytical data for samples collected during last quarter of a year are unavailable for incorporation into that annual SMR, then the Discharger shall propose in the transmittal letter a date when it will complete the annual report with the missing data and shall submit those data by that date.
  - e. If the Discharger monitors any pollutant more frequently than required by this Order, the Discharger shall include the results of such monitoring in the calculations and reporting for the applicable SMR.

- f. Comprehensive discussion of performance and compliance. (This summary shall include any corrective actions taken or planned, such as changes to equipment or operations that may be needed to achieve compliance, and any other actions taken or planned that are intended to improve the performance and reliability of the Discharger’s practices.)
- g. Submittals required by Provisions VI.C.3 and VI.C.4 of the Order.

**3. Monitoring Periods.** Monitoring periods for all required monitoring shall be completed as set forth in the table below:

**Table E-4. Monitoring Periods and Reporting Schedule**

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period
Continuous	Effective date of Authorization to Discharge	All times while the facility is discharging
1/Day	Effective date of Authorization to Discharge	Midnight through 11:59 p.m.
1/Week	First Sunday following (or on) effective date of Authorization to Discharge	Sunday through Saturday
1/Month	First day of calendar month following (or on) effective date of Authorization to Discharge	First day of calendar month through last day of calendar month
1/ Quarter	First day of calendar quarter following (or on) effective date of Authorization to Discharge	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31
2/Year	Closest January 1 or July 1 before or after effective date of Authorization to Discharge <sup>[1]</sup>	January 1 through June 30 July 1 through December 31
Once	Effective date of Authorization to Discharge	Once such that the results are reported with the new NOI form required on the first page of the Order

Footnote:

<sup>[1]</sup> Monitoring conducted during the term of the previous order may be used to satisfy monitoring required with this sampling frequency.

**4. RL and MDL Reporting.** The Discharger shall report with each sample result the Reporting Level (RL) and Method Detection Limit (MDL) as determined by the procedure in 40 C.F.R. part 136. The Discharger may select any analytical methods described in 40 C.F.R. part 136; however, the RLs shall be below applicable water quality objectives (see Fact Sheet Table F-3) and any effluent limitations. Otherwise, RLs shall be as low as possible. The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

- a. Sample results greater than or equal to the RL shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).
- b. Sample results less than the RL, but greater than or equal to the laboratory’s MDL, shall be reported as “Detected, but Not Quantified,” or DNQ. The estimated chemical concentration of the sample shall also be reported. For purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ. The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy ( $\pm$  a



percentage of the reported value), numerical ranges (low to high), or any other means the laboratory considers appropriate.

- c. Sample results less than the laboratory's MDL shall be reported as "Not Detected" or "ND."
- d. The Discharger shall instruct laboratories to establish calibration standards so that the lowest calibration standard is at or below the minimum level (ML) specified below (or its equivalent if there is differential treatment of samples relative to calibration standards). At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve. The table below lists MLs for priority pollutants:

**Table E-5. Minimum Levels**

CTR No.	Pollutant/Parameter	Suggested Analytical Method [1]	Minimum Level for Treated Filter Backwash Wastewater Discharges (µg/l)
1	Antimony	204.2	5
2	Arsenic	206.3	2
3	Beryllium		2
4	Cadmium	200 or 213	0.5
5a	Chromium (III)	SM 3500	
5b	Chromium (VI)	SM 3500	5
	Chromium (total) <sup>[2]</sup>	SM 3500	2
6	Copper	200.9	10
7	Lead	200.9	2
8	Mercury	245.1, 245.7, or 1631	0.002
9	Nickel	249.2	50
10	Selenium	200.8 or SM 3114B or C	2
11	Silver	272.2	2
12	Thallium	279.2	1
13	Zinc	200 or 289	20
14	Cyanide	SM 4500 CN <sup>-</sup> C or I	5
15	Asbestos	0100.2	
16	2,3,7,8-TCDD (Dioxin)	1613	
17	Acrolein	603	5
18	Acrylonitrile	603	2
19	Benzene	602	0.5
33	Ethylbenzene	602	2
39	Toluene	602	2
20	Bromoform	601	2
21	Carbon Tetrachloride	601	0.5
22	Chlorobenzene	601	2
23	Chlorodibromomethane	601	0.5
24	Chloroethane	601	2
25	2-Chloroethylvinyl Ether	601	1
26	Chloroform	601	2
75	1,2-Dichlorobenzene	601	2
76	1,3-Dichlorobenzene	601	2
77	1,4-Dichlorobenzene	601	2

CTR No.	Pollutant/Parameter	Suggested Analytical Method [1]	Minimum Level for Treated Filter Backwash Wastewater Discharges (µg/l)
27	Dichlorobromomethane	601	0.5
28	1,1-Dichloroethane	601	1
29	1,2-Dichloroethane	601	0.5
30	1,1-Dichloroethylene or 1,1-Dichloroethene	601	0.5
31	1,2-Dichloropropane	601	0.5
32	1,3-Dichloropropylene or 1,3-Dichloropropene	601	0.5
34	Methyl Bromide or Bromomethane	601	2
35	Methyl Chloride or Chloromethane	601	2
36	Methylene Chloride or Dichloromethane	601	2
37	1,1,2,2-Tetrachloroethane	601	0.5
38	Tetrachloroethylene	601	0.5
40	1,2-Trans-Dichloroethylene	601	1
41	1,1,1-Trichloroethane	601	2
42	1,1,2-Trichloroethane	601	0.5
43	Trichloroethene	601	2
44	Vinyl Chloride	601	0.5
45	2-Chlorophenol	604	5
46	2,4-Dichlorophenol	604	5
47	2,4-Dimethylphenol	604	2
48	2-Methyl-4,6-Dinitrophenol or Dinitro-2-methylphenol	604	10
49	2,4-Dinitrophenol	604	5
50	2-Nitrophenol	604	10
51	4-Nitrophenol	604	10
52	3-Methyl-4-Chlorophenol	604	5
53	Pentachlorophenol	604	1
54	Phenol	604	1
55	2,4,6-Trichlorophenol	604	10
56	Acenaphthene	610 HPLC	1
57	Acenaphthylene	610 HPLC	10
58	Anthracene	610 HPLC	10
60	Benzo(a)Anthracene or 1,2 Benzanthracene	610 HPLC	5
61	Benzo(a)Pyrene	610 HPLC	2
62	Benzo(b)Fluoranthene or 3,4 Benzofluoranthene	610 HPLC	10
63	Benzo(ghi)Perylene	610 HPLC	5
64	Benzo(k)Fluoranthene	610 HPLC	2
74	Dibenzo(a,h)Anthracene	610 HPLC	0.1
86	Fluoranthene	610 HPLC	10
87	Fluorene	610 HPLC	10
92	Indeno(1,2,3-cd) Pyrene	610 HPLC	0.05

CTR No.	Pollutant/Parameter	Suggested Analytical Method [1]	Minimum Level for Treated Filter Backwash Wastewater Discharges (µg/l)
100	Pyrene	610 HPLC	10
68	Bis(2-Ethylhexyl)Phthalate	606 or 625	5
70	Butylbenzyl Phthalate	606 or 625	10
79	Diethyl Phthalate	606 or 625	10
80	Dimethyl Phthalate	606 or 625	10
81	Di-n-Butyl Phthalate	606 or 625	10
84	Di-n-Octyl Phthalate	606 or 625	10
59	Benzidine	625	5
65	Bis(2-Chloroethoxy)Methane	625	5
66	Bis(2-Chloroethyl)Ether	625	1
67	Bis(2-Chloroisopropyl)Ether	625	10
69	4-Bromophenyl Phenyl Ether	625	10
71	2-Chloronaphthalene	625	10
72	4-Chlorophenyl Phenyl Ether	625	5
73	Chrysene	625	5
78	3,3'-Dichlorobenzidine	625	5
82	2,4-Dinitrotoluene	625	5
83	2,6-Dinitrotoluene	625	5
85	1,2-Diphenylhydrazine <sup>[3]</sup>	625	1
88	Hexachlorobenzene	625	1
89	Hexachlorobutadiene	625	1
90	Hexachlorocyclopentadiene	625	5
91	Hexachloroethane	625	1
93	Isophorone	625	1
94	Naphthalene	625	10
95	Nitrobenzene	625	10
96	N-Nitrosodimethylamine	625	5
97	N-Nitrosodi-n-Propylamine	625	5
98	N-Nitrosodiphenylamine	625	1
99	Phenanthrene	625	5
101	1,2,4-Trichlorobenzene	625	1
102	Aldrin	608	0.005
103	α-BHC	608	0.01
104	β-BHC	608	0.005
105	γ-BHC (Lindane)	608	0.02
106	δ-BHC	608	0.005
107	Chlordane	608	0.1
108	4,4'-DDT	608	0.01
109	4,4'-DDE	608	0.05
110	4,4'-DDD	608	0.05
111	Dieldrin	608	0.01
112	Endosulfan (alpha)	608	0.02
113	Endosulfan (beta)	608	0.01
114	Endosulfan Sulfate	608	0.05
115	Endrin	608	0.01
116	Endrin Aldehyde	608	0.01

CTR No.	Pollutant/Parameter	Suggested Analytical Method [1]	Minimum Level for Treated Filter Backwash Wastewater Discharges (µg/l)
117	Heptachlor	608	0.01
118	Heptachlor Epoxide	608	0.01
119-125	PCBs: Aroclors 1016, 1221, 1232, 1242, 1248, 1254, 1260	608 and 1668C <sup>[4]</sup>	0.5
126	Toxaphene	608	0.5

Footnotes:

- <sup>[1]</sup> The suggested method is the U.S. EPA Method unless otherwise specified (SM = Standard Methods). The Discharger may use another U.S. EPA approved or recognized method if that method has a level of quantification below the applicable water quality objective. Where no method is suggested, the Dischargers have the discretion to use any standard method.
- <sup>[2]</sup> Analysis for total chromium may be substituted for analysis of chromium (III) and chromium (VI) if the concentration measured is below the lowest hexavalent chromium criterion (11 µg/l).
- <sup>[3]</sup> Measurement for 1,2-diphenylhydrazine may use azobenzene as a screen. If azobenzene is measured at >1 µg/l, then the Discharger shall analyze for 1,2 diphenylhydrazine.
- <sup>[4]</sup> The Discharger shall use U.S. EPA Method 608 for PCBs monitoring. Compliance with effluent limitations shall be evaluated using U.S. EPA Method 608.

## 5. Compliance Determination

- a.** Compliance with effluent limitations shall be determined using sample reporting protocols defined above and in the Fact Sheet and Attachments A and D. For purposes of reporting and administrative enforcement, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of a pollutant is greater than the effluent limitation and greater than or equal to the reporting level (RL).
- b.** When determining compliance with an average effluent limitation and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of detected but not quantified (DNQ) or nondetect (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:
- i.** The data set shall be ranked from low to high, reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.
  - ii.** The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

## C. Discharge Monitoring Reports (DMRs)

1. At any time during the term of this Order, the State Water Board or Regional Water Board may notify and require the Discharger to electronically submit DMRs.
2. Once notified by the State Water Board or Regional Water Board, the Discharger shall submit DMRs as required.

**D. Violations and Unauthorized Discharges**

1. Within 24 hours of becoming aware of a violation of this Order, the Discharger shall report by telephone to the Regional Water Board staff who oversees implementation of this Order (and who will be identified in the Authorization to Discharge).
2. The Discharger shall report spills to the California Office of Emergency Services (telephone 800-852-7550) only when spills are in accordance with applicable reportable quantities for hazardous materials.
3. If requested by Regional Water Board staff, the Discharger shall submit a written report to the Regional Water Board within five working days following telephone notification. A report submitted electronically is acceptable. The written report shall include the following:
  - a. Date and time of violation or spill, and duration if known;
  - b. Location of violation or spill (street address or description of location);
  - c. Nature of violation or material spilled;
  - d. Quantity of any material involved;
  - e. Receiving water body affected, if any;
  - f. Cause of violation or spill;
  - g. Estimated size of affected area;
  - h. Observed impacts to receiving waters (e.g., oil sheen, fish kill, or water discoloration);
  - i. Corrective actions taken to correct violation or to contain, minimize, or clean up spill;
  - j. Future corrective actions planned to prevent recurrence and implementation schedule;
  - k. Persons or agencies notified.

## ATTACHMENT F - FACT SHEET

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## ATTACHMENT F – FACT SHEET

This Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order. As described in section II.B of the Order, the California Regional Water Quality Control Board, San Francisco Bay Region (Regional Water Board) incorporates this Fact Sheet as its findings supporting the issuance of the Order.

### I. PERMIT INFORMATION

- A. This Order regulates discharges of treated filter backwash from drinking water treatment facilities to inland surface waters. It reissues NPDES General Permit No. CAG382001, which the Regional Water Board reissued through Order No. R2-2009-0033 (previous order) on April 8, 2009. The previous order was effective from March 1, 2010, until the effective date of this Order.
- B. Site owners and operators that complete a Notice of Intent (NOI) and apply for an Authorization to Discharge under this Order, and that are granted such authorization, are hereinafter called “Dischargers.” For purposes of this Order, references to “discharger” or “permittee” in applicable federal and State laws, regulations, plans, and policies are held to be equivalent to references to Discharger herein.

### II. FACILITY DESCRIPTION

#### A. Filter Backwash Treatment and Discharges

- 1. **Description.** Drinking water filter facilities normally include coagulation/flocculation, sedimentation, filtration, and disinfection processes. Filtration is used to clarify the source water and improve taste by removing particles from the water, such as clay, silt, natural organic matter and micro-organisms. Filter backwash is generated when the filters are washed to remove accumulated solids through the use of reverse pressure and water flow. Backwashing involves the following general steps, and may vary from facility to facility:
  - a. The filters are taken off line. Then each filter is spray washed with water. This forces the accumulated particles on the filter into suspension.
  - b. After the wash cycle occurs, backwashing begins and previously filtered water flows through the filter in the reverse direction. Most or all of the accumulated particles are flushed out.
  - c. The filter is then rewashed (filter-to-waste) and put back on line.
  - d. Throughout this Order, the term “filter backwash” and “filter backwash wastewater” includes the water used to spray-wash, filter backwash, filter-to-waste (rewash), and any other settling basin sedimentation desludge decant water. The filter backwash wastewater flows into settling basins where the solids in the filter backwash settle out. Clarifiers may also be used to remove solids from filter backwash in place of, or in addition, to settling basins.
  - e. Depending on the chlorine content, the filter backwash decant from the settling basins or clarifiers may or may not undergo residual chlorine reduction before being discharged to an inland surface water.
  - f. Chlorine reduction at some drinking water filter facilities can involve storing filter backwash in holding tanks to allow for residual chlorine to naturally decay prior to

discharge. Retention times vary. Other drinking water filter facilities use dechlorination chemicals to reduce chlorine concentrations in the filter backwash to within discharge limits prior to discharge.

## **B. General Description of Coverage**

1. This Order covers the discharge from settling basins or clarifiers of treated dechlorinated filter backwash to inland surface waters. At least two dischargers are anticipated to seek coverage under this Order. The dischargers include (1) the San Francisco Public Utilities Commission (SFPUC), Harry Tracy Water Treatment Plant and associated San Andreas Reservoir; and (2) the City of Napa (Napa), Hennessey Water Treatment Plant and associated Lake Hennessey.
2. This Order does not cover discharges that can be covered under the statewide General NPDES Permit for Drinking Water System Discharges (Order WQ 2014-0194-DWQ, NPDES No. CAG140001). For these discharges, dischargers must seek coverage under CAG140001. This is because the State Water Board newly issued CAG140001 with the intent to establish statewide consistency in the regulation of planned and unplanned low threat discharges that are short-term or seasonal, or unplanned short-term discharges, from drinking water systems including drinking water filter facilities. The Regional Water Board's previous order had covered some of the same discharges as are now under the scope of CAG140001. However, continuing to do so in this Order would have a high potential to create inconsistent regulation. Therefore, this Order is narrower in scope than the previous order and covers only treated filter backwash discharges. This Order is necessary because CAG140001 does not currently apply to planned filter backwash discharges.

## **C. Discharge Points and Receiving Waters**

Receiving waters consist of inland surface waters of the San Francisco Bay Region. Because drinking water filter facilities are located in the upper parts of watersheds, they typically discharge to inland surface waters (e.g., freshwater), such as reservoirs or lakes or creeks. The NOI Form in Attachment B requires each discharger to specify its discharge locations and to provide a map or diagram indicating the discharge path to surface waters.

## **D. Existing Requirements**

The previous order included the following effluent limitations:



**Table F-1. Previous Group A Effluent Limitations (Not Short-Term or Seasonal)**

Constituents	Units	Daily Maximum	Weekly Average	Monthly Average	Instantaneous Maximum	Instantaneous Minimum
Total Suspended Solids (TSS)	mg/L	--	45	30	--	--
Settleable Matter <sup>[1]</sup>	mL/L-hr	0.2	--	0.1	--	--
pH <sup>[2]</sup>	standard units	--	--	--	8.5	6.5
Total Chlorine Residual <sup>[3]</sup>	mg/L	--	--	--	0.0	--
Bromoform	µg/L	8.6	--	4.3	--	--
Dichlorobromomethane	µg/L	1.1	--	0.56	--	--
Chlorodibromomethane	µg/L	0.80	--	0.40	--	--
Copper <sup>[4]</sup>	µg/L	9.4	--	4.7	--	--
Zinc	µg/L	90	--	45	--	--
Acute Toxicity				[5]		

Abbreviations:

mg/L = milligrams per liter

µg/L = micrograms per liter

mL/L-hr = milliliters per liter-hour

Footnotes:<sup>[1]</sup> The settleable matter (i.e., settleable solids) limit only applied to “on-site storage facility dewatering effluent.”<sup>[2]</sup> Exceedance of the pH limit did not constitute a violation of the previous order if a Discharger could demonstrate that the discharge did not cause natural background pH to be depressed below 6.5 nor raised above 8.5, or if outside this range, the receiving water had not been altered from normal ambient pH by more than 0.5 standard units.<sup>[3]</sup> The Regional Water Board has determined that residual chlorine field test kits and analyzers (EPA-approved Standard Methods 4500-Cl F and G) have a minimum reporting level of up 0.08 mg/L; therefore, the Discharger will be considered out of compliance with the total chlorine residual limit if the effluent concentration is greater than 0.08 mg/L.<sup>[4]</sup> For discharges to fresh water with 150 mg/L hardness as calcium carbonate or greater, the discharge limitations for copper shall be an AMEL of 9.8 ug/L and an MDEL of 20 ug/L.<sup>[5]</sup> Representative samples of the effluent shall meet the following limits for acute toxicity:

Continuous discharge:

a. The survival of bioassay test organisms in 96-hour static renewal bioassays of undiluted effluent shall be:

- i. a 3-sample median value of not less than 90 percent survival; and
- ii. a single-sample maximum of not less than 70 percent survival.

b. These acute toxicity limits are further defined as follows:

i. a 3-sample median limit: 3-sample median is defined as follows: if one of the past two or fewer samples shows less than 90 percent survival, then survival of less than 90 percent on the next sample represents a violation of the effluent limitation.

ii. Single-sample maximum: Any bioassay test showing survival of 70 percent or greater is not a violation of this limit. A bioassay test showing survival of less than 70 percent represents a violation of this effluent limit.

Intermittent discharge: Any bioassay test showing survival of 70 percent or greater is not a violation of this limit. A bioassay test showing survival of less than 70 percent represents a violation of this effluent limit.

Continuous discharge: Any bioassay test showing survival of 70 percent or greater is not a violation of this limit. A bioassay test showing survival of less than 70 percent represents a violation of this effluent limit.

**Table F-2. Previous Group B Effluent Limitations (Short Term or Seasonal Discharges)**

Constituents	Units	Daily Maximum	Weekly Average	Monthly Average	Instantaneous Maximum	Instantaneous Minimum
TSS	mg/L	--	45	30	--	--
Settleable Matter <sup>[1]</sup>	mL/L-hr	0.2	--	0.1	--	--
pH <sup>[2]</sup>	standard units	--	--	--	8.5	6.5
Total Chlorine Residual <sup>[3]</sup>	mg/L	--	--	--	0.0	--

TTHMs	mg/L	--	--	0.1	--	--
Zinc	µg/L	90	--	45	--	--
Acute Toxicity	[4]					

Abbreviations:

mg/L = milligrams per liter  
 µg/L = micrograms per liter  
 mL/L-hr = milliliters per liter-hour

Footnotes:

- [1] The settleable matter (i.e., settleable solids) limit only applied to “on-site storage facility dewatering effluent.”
- [2] Exceedance of the pH limit did not constitute a violation of the previous order if a Discharger could demonstrate that the discharge did not cause natural background pH to be depressed below 6.5 nor raised above 8.5, or if outside this range, the receiving water had not been altered from normal ambient pH by more than 0.5 standard units.
- [3] The Regional Water Board has determined that residual chlorine field test kits and analyzers (EPA-approved Standard Methods 4500-Cl F and G) have a minimum reporting level of up 0.08 mg/L; therefore, the Discharger will be considered out of compliance with the total chlorine residual limit if the effluent concentration is greater than 0.08 mg/L.
- [4] Representative samples of the effluent shall meet the following limits for acute toxicity:  
 Continuous discharge:  
 a. The survival of bioassay test organisms in 96-hour static renewal bioassays of undiluted effluent shall be:  
 i. a 3-sample median value of not less than 90 percent survival; and  
 ii. a single-sample maximum of not less than 70 percent survival.  
 b. These acute toxicity limits are further defined as follows:  
 i. a 3-sample median limit: 3-sample median is defined as follows: if one of the past two or fewer samples shows less than 90 percent survival, then survival of less than 90 percent on the next sample represents a violation of the effluent limitation.  
 ii. Single-sample maximum: Any bioassay test showing survival of 70 percent or greater is not a violation of this limit. A bioassay test showing survival of less than 70 percent represents a violation of this effluent limit. Intermittent discharge: Any bioassay test showing survival of 70 percent or greater is not a violation of this limit. A bioassay test showing survival of less than 70 percent represents a violation of this effluent limit.

**E. Compliance Summary**

Under the previous order, dischargers anticipated to be covered under this Order (Napa and SFPUC) had, in total, violated effluent limitations 30 times. Of the 30 effluent limit violations, 2 involved copper, 15 involved dichlorobromomethane, 3 involved pH, 4 involved total residual chlorine, 1 involved total suspended solids, and 5 involved acute toxicity. These violations are not anticipated to be a significant problem under this Order because both Napa and SFPUC upgraded their facilities in 2014. Since the upgrades, 1 toxicity and 2 copper violations were reported. The toxicity violations were due to final adjustments necessary to polymer dosing from the treatment system upgrade. The copper violations were due to startup activities related to the upgrades or past use of copper sulfate in the reservoir to control algae. In any case, the filter facility and treatment system for filter backwash would remove more copper from the reservoir than is put back into the reservoir. The Regional Water Board completed enforcement actions for 20 of the 30 effluent limit violations. The other 10 violations are pending review and resolution.

**III. APPLICABLE PLANS, POLICIES, AND REGULATIONS**

**A. Legal Authorities**

This Order serves as Waste Discharge Requirements (WDRs) pursuant to California Water Code article 4, chapter 4, division 7 (commencing with § 13260). This Order is also issued pursuant to Clean Water Act (CWA) section 402 and implementing regulations adopted by U.S. EPA and Water Code chapter 5.5, division 7 (commencing with § 13370). It shall serve as an NPDES permit for point source discharges to surface waters from enrolled facilities.

## B. California Environmental Quality Act

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of the California Environmental Quality Act, Public Resources Code division 13, chapter 3 (commencing with § 21100).

## C. State and Federal Regulations, Policies, and Plans

**1. Water Quality Control Plan.** The Regional Water Board adopted the *Water Quality Control Plan for the San Francisco Bay Basin* (Basin Plan), which designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. Requirements in this Order implement the Basin Plan. In addition, this Order implements State Water Board Resolution No. 88-63, which established State policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Receiving water beneficial uses include the following:

- Agricultural Supply
- Areas of Special Biological Significance
- Cold Freshwater Habitat
- Freshwater Replenishment
- Groundwater Recharge
- Industrial Service Supply
- Fish Migration
- Municipal and Domestic Supply
- Navigation
- Industrial Process Supply
- Preservation of Rare or Endangered Species
- Water Contact Recreation
- Non-Contact Water Recreation
- Fish Spawning
- Warm Freshwater Habitat
- Wildlife Habitat

**2. National Toxics Rule (NTR) and California Toxics Rule (CTR).** U.S. EPA adopted the NTR on December 22, 1992, and amended it on May 4, 1995, and November 9, 1999. About 40 criteria in the NTR apply in California. On May 18, 2000, U.S. EPA adopted the CTR. The CTR promulgated new toxics criteria for California and incorporated the previously adopted NTR criteria that applied in the State. U.S. EPA amended the CTR on February 13, 2001. These rules contain water quality criteria for priority pollutants.

**3. State Implementation Policy.** On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000, with respect to the priority pollutant criteria U.S. EPA promulgated for California through the NTR and the priority pollutant objectives the Regional Water Board established in the Basin Plan. The SIP became effective on May 18, 2000, with respect to the priority pollutant criteria U.S. EPA promulgated through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005, that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives, and provisions for chronic toxicity control. Requirements of this Order implement the SIP.

**4. Safe Clean Water.** In compliance with Water Code section 106.3, it is State policy that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes. This Order promotes that policy by requiring dischargers to meet applicable water quality objectives, including maximum contaminant levels

designed to protect human health, and to ensure that receiving water is safe for domestic use. As explained in Fact Sheet section IV.C.3.d, limits are established if there is a reasonable potential for treated filter backwash discharge to cause or contribute to exceedance of maximum contaminant levels.

- 5. Antidegradation Policy.** Federal regulations at 40 C.F.R. section 131.12 requires that state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy through State Water Board Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California," which is deemed to incorporate the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. Permitted discharges must be consistent with the antidegradation provisions of 40 C.F.R. section 131.12 and State Water Board Resolution No. 68-16.
- 6. Anti-Backsliding Requirements.** CWA sections 402(o) and 303(d)(4) and 40 C.F.R. section 122.44(l) restrict backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed.
- 7. Endangered Species Act Requirements.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code §§ 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. §§ 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the State, including protecting rare, threatened, or endangered species. The Dischargers are responsible for meeting all applicable Endangered Species Act requirements.

#### **D. Impaired Waters on CWA 303(d) List**

In July 2015, U.S. EPA approved a revised list of impaired waters prepared pursuant to CWA section 303(d), which requires identification of specific waters where it is expected that water quality standards will not be met after implementation of technology-based effluent limitations on point sources. Where it has not done so already, the Regional Water Board plans to adopt Total Maximum Daily Loads (TMDLs) for pollutants on the 303(d) list. TMDLs establish wasteload allocations for point sources and load allocations for non-point sources, and are established to achieve the water quality standards for the impaired waters.

Inland surface waters are listed as impaired for the following: chlordane, coliform bacteria, DDT (dichlorodiphenyltrichloroethane), diazinon, dieldrin, heptachlor epoxide, low dissolved oxygen, mercury, nickel, nutrient/eutrophication biological indicators, nutrients, organic enrichment/low dissolved oxygen, pathogens, PCBs (polychlorinated biphenyls), pH, pyrethroids, sediment toxicity, sedimentation/siltation, selenium, temperature, toxaphene, toxicity, and trash.

Treated filter backwash discharges that would be authorized under this Order are not expected to be a measurable source of the pollutants listed above and thus will not contribute to the impairments. Based on representative data on treated filter backwash shown in Fact Sheet section IV.C.3, the

concentration of chlordane, dieldrin, heptachlor epoxide, mercury, nickel, and selenium PCBs, and/or toxaphene have not been detected above the lowest applicable water quality objectives.

Coliform bacteria, low dissolved oxygen, nutrient/eutrophication biological indicators, nutrients, organic enrichment/low dissolved oxygen, and pathogens are not expected to be in treated filter backwash discharges because the source water used for drinking water is typically of high quality with very low levels of these pollutants. Moreover, disinfection at the drinking water filter facilities would further reduce levels of pathogenic and organic compounds (nutrients) and any residues would remain with the sediments settled from the filter backwash prior to discharge.

For pH and toxicity, this Order specifies limits for pH and toxicity that will ensure that the discharges do not result in exceedance of objectives. While there was a reported effluent toxicity violation at the SFPUC facility in 2015, it is possible that the cause was due to excess coagulation polymers from startup of facility upgrades, which is in the process of being corrected as of the development of this Order. Also, a biologist's surveys after the discharges found no adverse impacts to the receiving water from the discharges.

This Order specifies limits on TSS and settleable matter and prohibits bypass of systems that remove sediments from discharges. These requirements will ensure that discharges will not contribute to sediment toxicity and sedimentation/siltation in inland waters.

For temperature and trash, filter backwash discharges will not contribute to these impairments because heat is not used in the processes, and, if there is any trash from source waters, the trash would be screened out prior to or as part of the filter facilities.

#### **IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS**

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants discharged into waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations: 40 C.F.R. section 122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 C.F.R. section 122.44(d) requires that permits include water quality-based effluent limitations to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of receiving waters.

##### **A. Discharge Prohibitions**

###### **1. Prohibitions in this Order**

- a. Discharge Prohibition III.A.** (No discharge other than as described in NOI and Authorization to Discharge): This prohibition is based on 40 C.F.R. section 122.21(a), duty to apply, and Water Code section 13260, which requires filing an application and Report of Waste Discharge before discharge can occur. Discharges not described in an NOI and Authorization to Discharge are prohibited.
- b. Discharge Prohibition III.B.** (No bypassing settling basins or clarifiers). This prohibition requires that discharges not bypass settling basins or clarifiers because these units are the primary form of pollutant control at the facilities this Order covers. These

units will be identified in the NOI and will be considered as part of granting discharge authorization. Bypassing could greatly reduce discharge quality. This prohibition is based on 40 C.F.R. section 122.41(m), which generally prohibits bypasses (see Attachment D, section I.G). This prohibition is revised to be more specific and clearer owing to the narrower scope of this Order from the previous order. This Order covers only discharges of treated filter backwash; the previous order had covered all other discharges from drinking water treatment plants that could have included other forms of treatment.

## **2. Exception to Shallow Water Discharge Prohibition**

Basin Plan Discharge Prohibition 1 prohibits discharge of “any wastewater which has particular characteristics of concern to beneficial uses at any point at which the wastewater does not receive a minimum initial dilution of at least 10:1, or into any nontidal water... .” This prohibition is intended to provide an added degree of protection from the continuous effect of discharges and provide a buffer against the effects of abnormal discharges caused by temporary upsets or malfunctions. As explained in Basin Plan section 4.2, the Regional Water Board reviews requests for exceptions to this prohibition based in part on the reliability of a discharger’s system in preventing inadequately treated wastewater from being discharged to the receiving water. Basin Plan section 4.2 allows exceptions when an inordinate burden would be placed on a discharger relative to the beneficial uses protected and an equivalent level of environmental protection can be achieved by alternate means.

Treated filter backwash discharges from drinking water filter facilities are not continuous and not subject to upset. This Basin Plan prohibition was intended to prevent the effects from treatment plant upsets. In any case, providing an initial dilution of at least 10:1, and/or transporting the discharges many miles to a tidal waterbody, would be impracticable for this type of discharge because these discharges are located in upper parts of watersheds and discharge to shallow streams. Construction of diffuser systems is not practical in shallow streams; some of which also may not flow naturally in summer months. Transport of the discharge to tidal waters would be cost prohibitive since it would require new piping through many miles of urban developed areas. Thus, compliance with the prohibition would constitute an inordinate burden for dischargers. Moreover, Provisions VI.C.3 and VI.C.4.a of the Order, requiring development and implementation of plans to ensure proper operation and maintenance and best management practices to control all potential pollutants, provide an equivalent level of water quality protection.

## **B. Technology-Based Effluent Limitations**

### **1. Scope and Authority**

CWA section 301(b) and 40 C.F.R. section 122.44 require that permits include conditions meeting technology-based requirements at a minimum and any more stringent effluent limitations necessary to meet water quality standards. The CWA requires that technology-based effluent limitations be established based on several levels of control:

- a. Best practicable treatment control technology (BPT).** BPT represents the average of the best existing performance by well-operated facilities within an industrial category or subcategory. BPT standards apply to toxic, conventional, and non-conventional pollutants.

- b. Best available technology economically achievable (BAT).** BAT represents the best existing performance of treatment technologies that are economically achievable within an industrial point source category. BAT standards apply to toxic and non-conventional pollutants.
- c. Best conventional pollutant control technology (BCT).** BCT represents the control from existing industrial point sources of conventional pollutants, including biochemical oxygen demand, total suspended solids, fecal coliform, pH, and oil and grease. BCT standards are established after considering a two-part reasonableness test. The first test compares the relationship between the costs of attaining a reduction in effluent discharge and the resulting benefits. The second test examines the cost and level of reduction of pollutants from the discharge from publicly owned treatment works to the cost and level of reduction of such pollutants from a class or category of industrial sources. Effluent limitations must be reasonable under both tests.
- d. New source performance standards (NSPS).** NSPS represent the best available demonstrated control technology standards. The intent of NSPS guidelines is to set limitations that represent state-of-the-art treatment technology for new sources.

The CWA requires U.S. EPA to develop effluent limitations, guidelines, and standards representing application of BPT, BAT, BCT, and NSPS. CWA section 402(a)(1) and 40 C.F.R. section 125.3 authorize the use of best professional judgment to derive technology-based effluent limitations on a case-by-case basis when U.S. EPA has not promulgated effluent limitations, guidelines, and standards. When best professional judgment is used, the Regional Water Board must consider specific factors outlined in 40 C.F.R. section 125.3. No BCT and BAT need to be developed for total suspended solids and settleable matter because Basin Plan Table 4-2 sets the total suspended solids and settleable matter limits as the technology standard in the region for treatment facilities whose primary purpose is to control solids consistent with federal requirements.

## 2. Applicable Limitations

### a. Filter Backwash Discharges

- i. Total Suspended Solids.** Elevated levels of suspended solids in filter backwash may occur if the backwash is not treated properly. To ensure continued proper treatment, this Order retains the effluent limitations for TSS of an average monthly effluent limit (AMEL) of 30 mg/L and an average weekly effluent limit (AWEL) of 45 mg/L from the previous order. The suspended solids limitations are based on Basin Plan Table 4-2. While intended for all sewage treatment facilities in the San Francisco Bay Region, the Basin Plan provides that the limits may also be applied to other non-sewage discharges.
- ii. Settleable Matter.** This Order retains the effluent limitations for settleable matter of an AMEL of 0.1 mL/L/hr and a maximum daily effluent limit (MDEL) of 0.2 mL/L/hr. The settleable matter limitations are needed because the filter backwash wastewaters are normally treated by settling. In the Regional Water Board best professional judgment, Basin Plan Table 4-2 provides sufficient technology-based

controls for settleable matter. As explained above, no BCT and BAT need to be developed for settleable matter.

Settleable matter effluent limitations are needed to assure treatment effectiveness. In the previous order, the effluent limitations were footnoted to apply only to onsite storage facility dewatering operations. This footnote was incorrect because the fact sheet of the previous order indicated that backwash water was treated to remove solids and thus settleable “solids” limits from the Basin Plan are technically achievable. Therefore, these limits are appropriate and consistent with Basin Plan Table 4-2.

- iii. **Chlorine Residual.** The instantaneous maximum effluent limitation of 0.0 mg/L for total chlorine residual is retained from the previous order. This limitation reflects Basin Plan Table 4-2 requirements.

## C. Water Quality-Based Effluent Limitations

### 1. Scope and Authority

This Order contains water quality-based effluent limitations (WQBELs) that implement water quality objectives that protect beneficial uses. CWA section 301(b) and 40 C.F.R. section 122.44(d) require that permits include limitations more stringent than federal technology-based requirements where necessary to achieve applicable water quality standards. According to 40 C.F.R. section 122.44(d)(1)(i), permits must include effluent limitations for all pollutants that are or may be discharged at levels that have a reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective, WQBELs must be established using (1) U.S. EPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting a narrative criterion, supplemented with relevant information (40 C.F.R. § 122.44[d][1][vi]). The process for determining reasonable potential and calculating WQBELs is intended to achieve applicable water quality objectives and criteria and to protect designated uses of receiving waters as specified in the Basin Plan. This Order imposes WQBELs for pollutants with reasonable potential to cause or contribute to exceedances of water quality standards.

### 2. Beneficial Uses and Water Quality Criteria and Objectives

Fact Sheet section III.C.1 identifies the potential beneficial uses of the receiving waters for discharges subject to this Order. Water quality criteria and objectives to protect these beneficial uses are described below:

- a. **Basin Plan.** The Basin Plan specifies numeric water quality objectives for many pollutants to protect aquatic life and municipal drinking water supplies (see Basin Plan sections 3.3.21 and 3.3.22). It also specifies narrative water quality objectives, such as the narrative toxicity objective, “All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.”



- b. CTR.** The CTR specifies numeric aquatic life and human health criteria for numerous priority pollutants. These criteria apply to inland surface waters and enclosed bays and estuaries. Some human health criteria are for consumption of “water and organisms” and others are for consumption of “organisms only.” Waters with the municipal or domestic supply beneficial use designation are subject to the “water and organisms” criteria.
- c. NTR.** The NTR establishes numeric aquatic life criteria for a number of pollutants for San Francisco Bay waters upstream to and including Suisun Bay and the San Joaquin-Sacramento River Delta.
- d. Receiving Water Salinity.** Basin Plan section 4.6.2 (like the CTR and the NTR) states that the salinity characteristics (i.e., freshwater versus saltwater) of the receiving water are to be considered in determining the applicable water quality objectives. Freshwater criteria apply to discharges to waters with salinities equal to or less than one part per thousand (ppt) at least 95 percent of the time. Saltwater criteria apply to discharges to waters with salinities equal to or greater than 10 ppt at least 95 percent of the time in a normal water year.

For discharges to waters with salinities between these two categories, or tidally-influenced freshwaters that support estuarine beneficial uses, the applicable water quality objectives are the lower of the salt or freshwater objectives (the latter calculated based on ambient hardness) for each substance.

Receiving waters for the discharges this Order are inland freshwaters. Thus, the reasonable potential analyses and WQBELs are based on freshwater criteria, and salt water criteria are not applicable.

- e. Receiving Water Hardness.** Some freshwater objectives for metals are hardness dependent (as hardness increases, the toxicity of certain metals decreases). Adequate receiving water hardness data are available for the anticipated receiving waters under this Order. Napa collected 5 hardness samples from Lake Hennessey, and SFPUC collected 196 hardness samples from the San Andreas Reservoir. The geometric mean of aggregated Napa and SFPUC hardness data was 60 mg/L, which was used to calculate the freshwater water quality objectives.
- f. Site Specific Translators.** NPDES regulations at 40 C.F.R. 122.45(c) require that effluent limitations for metals be expressed as total recoverable metal. Since water quality objectives for metals are typically expressed as dissolved metal, translators must be used to convert metals concentrations from dissolved to total recoverable and vice versa. The CTR includes default translators; however, site-specific conditions, such as water temperature, pH, suspended solids, and organic carbon affect the form of metal (dissolved, non-filterable, or otherwise) present in the water and therefore available to cause toxicity. In general, the dissolved form of the metal is more available and more toxic to aquatic life than non-filterable forms. Site-specific translators can be developed to account for site-specific conditions, thereby preventing exceedingly stringent or under protective water quality objectives.

This Order covers discharges to various receiving waters; therefore, site-specific conditions vary. CTR default translators were used for all metals.

This Order covers discharges only to inland freshwaters; therefore, the copper water quality objectives listed in Basin Plan Table 3-4 were used.

### 3. Need for WQBELs

Assessing whether a pollutant has reasonable potential to exceed a water quality objective is the fundamental step in determining whether a WQBEL is required.

- a. Methodology.** SIP section 1.3 sets forth the methodology used for priority pollutants to assess whether they have reasonable potential to exceed water quality objectives. In this Order, this methodology is also applied to non-priority pollutants as guidance in determining reasonable potential. The analysis begins with identifying the maximum effluent concentration (MEC) observed for each pollutant based on available effluent concentration data and the ambient background concentration (B). SIP section 1.4.3 states that ambient background concentrations are either the maximum ambient concentration observed or, for water quality objectives intended to protect human health, the arithmetic mean of observed concentrations. There are three triggers in determining reasonable potential:
- i. Trigger 1** is activated if the maximum effluent concentration is greater than or equal to the lowest applicable water quality objective ( $MEC \geq$  water quality objective).
  - ii. Trigger 2** is activated if the ambient background concentration observed in the receiving water is greater than the water quality objective ( $B >$  water quality objective) *and* the pollutant is detected in any effluent sample.
  - iii. Trigger 3** is activated if a review of other information indicates that a WQBEL is needed to protect beneficial uses.
- b. Effluent Data.** Data from two surface water filter facilities were used to evaluate the need to develop effluent limitations for this Order. SFPUC, which operates the Harry Tracy Water Treatment Plant and associated San Andreas Reservoir, and Napa, which operates the Hennessey Water Treatment Plant and associated Lake Hennessey, submitted effluent monitoring data from the previous order term. Both facilities upgraded their operations in 2014, and, as a result, the data from 2014 and 2015 more accurately reflect current facility operations and discharges. The reasonable potential analysis was conducted using these more representative effluent data.
- c. Ambient Background Data.** The SIP states that, when calculating WQBELs, ambient background concentrations are to be either the observed maximum ambient water column concentrations or, for water quality objectives intended to protect human health from carcinogenic effects, the arithmetic mean of observed ambient water concentrations.
- San Andreas Reservoir and Lake Hennessey ambient receiving water data were used to represent background conditions for surface water filter facility discharges to the San Andreas Reservoir and Lake Hennessey – both of which are freshwater receiving waters.
- d. Reasonable Potential Analyses.** Quantitative reasonable potential analyses were conducted using data from two known facilities that would seek coverage under this Order. The effluent monitoring data were aggregated and the maximum values were used. The MECs and most stringent applicable water quality criteria are presented in the

following tables, along with the analysis results (yes or no) for each pollutant. Reasonable potential was not determined for all pollutants because there are not applicable criteria for all pollutants, and monitoring data are unavailable for others. When additional data become available, further analysis will be conducted to determine whether WQBELs are necessary. The receiving water monitoring data were also aggregated, and the maximum values were used in the background column in Table F-3.

Based on representative data from 2014-15 subsequent to facility upgrades, the discharges no longer demonstrated reasonable potential to cause or contribute to an exceedance of a water quality standard for the following pollutants: bromoform, dichlorobromomethane, chlorodibromomethane, and zinc. As a result, the effluent limitations, for the above pollutants, from the previous order term are no longer necessary, but monitoring of these pollutants will continue to be required to inform the next permit reissuance.

Copper demonstrates reasonable potential and Basin Plan Table 4-3 also requires whole effluent acute toxicity limit.

**Table F-3. Reasonable Potential Analysis – Treated Filter Backwash Discharges**

CTR No.	Pollutant <sup>[1]</sup>	Unit	Governing Criteria	MEC or Minimum DL <sup>[1,2]</sup>	Background	Result <sup>[3]</sup>
1	Antimony	µg/L	6	NA	NA	U
2	Arsenic	µg/L	50	3.21	2.4	No
3	Beryllium	µg/L	4	NA	NA	U
4	Cadmium	µg/L	1.6	<0.009	0.023	No
5a	Chromium (III)	µg/L	50	NA	NA	U
5b	Chromium (VI)	µg/L	11	1.78	0.214	No
6	Copper	µg/L	6	32.5	1.0	Yes
7	Lead	µg/L	1.7	1.26	0.016	No
8	Mercury	µg/L	0.025	0.00347	0.0011	No
9	Nickel	µg/L	33.9	3.5	0.8	No
10	Selenium	µg/L	5	<0.179	0.0249	No
11	Silver	µg/L	1.7	<0.003	0.00338	No
12	Thallium	µg/L	1.7	NA	NA	U
13	Zinc	µg/L	78	6.05	0.4	No
14	Cyanide	µg/L	5.2	NA	NA	U
15	Asbestos	Fibers/L	7,000,000	NA	NA	U
16	2,3,7,8-TCDD	µg/L	1.3x10-8	NA	NA	U
17	Acrolein	µg/L	320	NA	NA	U
18	Acrylonitrile	µg/L	0.059	NA	NA	U
19	Benzene	µg/L	1.0	NA	NA	U
20	Bromoform	µg/L	4.3	<0.5	0.5	No
21	Carbon Tetrachloride	µg/L	0.25	NA	NA	U
22	Chlorobenzene	µg/L	70	NA	NA	U
23	Chlorodibromomethane	µg/L	0.401	<0.5	0.1	No
24	Chloroethane	µg/L	No Criteria	NA	NA	U
25	2-Chloroethylvinyl Ether	µg/L	No Criteria	NA	NA	U
26	Chloroform	µg/L	No Criteria	5	0.5	No
27	Dichlorobromomethane	µg/L	0.56	<0.5	0.1	No
28	1,1-Dichloroethane	µg/L	5	NA	NA	U
29	1,2-Dichloroethane	µg/L	0.38	NA	NA	U

CTR No.	Pollutant <sup>[1]</sup>	Unit	Governing Criteria	MEC or Minimum DL <sup>[1,2]</sup>	Background	Result <sup>[3]</sup>
30	1,1-Dichloroethylene	µg/L	0.057	NA	NA	U
31	1,2-Dichloropropane	µg/L	0.52	NA	NA	U
32	1,3-Dichloropropylene	µg/L	0.5	NA	NA	U
33	Ethylbenzene	µg/L	300	NA	NA	U
34	Methyl Bromide	µg/L	48	NA	NA	U
35	Methyl Chloride	µg/L	No Criteria	NA	NA	U
36	Methylene Chloride	µg/L	4.7	NA	NA	U
37	1,1,2,2-Tetrachloroethane	µg/L	0.17	NA	NA	U
38	Tetrachloroethylene	µg/L	0.8	NA	NA	U
39	Toluene	µg/L	150	NA	NA	U
40	1,2-Trans-Dichloroethylene	µg/L	10	NA	NA	U
41	1,1,1-Trichloroethane	µg/L	200	NA	NA	U
42	1,1,2-Trichloroethane	µg/L	0.6	NA	NA	U
43	Trichloroethylene	µg/L	2.7	NA	NA	U
44	Vinyl Chloride	µg/L	0.5	NA	NA	U
45	2-Chlorophenol	µg/L	120	NA	NA	U
46	2,4-Dichlorophenol	µg/L	93	NA	NA	U
47	2,4-Dimethylphenol	µg/L	540	NA	NA	U
48	2-Methyl-4,6-Dinitrophenol	µg/L	13.4	NA	NA	U
49	2,4-Dinitrophenol	µg/L	70	NA	NA	U
50	2-Nitrophenol	µg/L	No Criteria	NA	NA	U
51	4-Nitrophenol	µg/L	No Criteria	NA	NA	U
52	3-Methyl-4-Chlorophenol	µg/L	No Criteria	NA	NA	U
53	Pentachlorophenol	µg/L	0.28	NA	NA	U
54	Phenol	µg/L	21,000	NA	NA	U
55	2,4,6-Trichlorophenol	µg/L	2.1	NA	NA	U
56	Acenaphthene	µg/L	1,200	NA	NA	U
57	Acenaphthylene	µg/L	No Criteria	NA	NA	U
58	Anthracene	µg/L	9,600	NA	NA	U
59	Benzidine	µg/L	0.00012	NA	NA	U
60	Benzo(a)Anthracene	µg/L	0.0044	NA	NA	U
61	Benzo(a)Pyrene	µg/L	0.0044	NA	NA	U
62	Benzo(b)Fluoranthene	µg/L	0.0044	NA	NA	U
63	Benzo(ghi)Perylene	µg/L	No Criteria	NA	NA	U
64	Benzo(k)Fluoranthene	µg/L	0.0044	NA	NA	U
65	Bis(2-Chloroethoxy)Methane	µg/L	No Criteria	NA	NA	U
66	Bis(2-Chloroethyl)Ether	µg/L	0.031	NA	NA	U
67	Bis(2-Chloroisopropyl)Ether	µg/L	1,400	NA	NA	U
68	Bis(2-Ethylhexyl)Phthalate	µg/L	1.8	NA	NA	U
69	4-Bromophenyl Phenyl Ether	µg/L	No Criteria	NA	NA	U
70	Butylbenzyl Phthalate	µg/L	3,000	NA	NA	U
71	2-Chloronaphthalene	µg/L	1,700	NA	NA	U
72	4-Chlorophenyl Phenyl Ether	µg/L	No Criteria	NA	NA	U
73	Chrysene	µg/L	0.0044	NA	NA	U
74	Dibenzo(a,h)Anthracene	µg/L	0.0044	NA	NA	U
75	1,2-Dichlorobenzene	µg/L	600	NA	NA	U
76	1,3-Dichlorobenzene	µg/L	400	NA	NA	U
77	1,4-Dichlorobenzene	µg/L	5	NA	NA	U
78	3,3-Dichlorobenzidine	µg/L	0.04	NA	NA	U

CTR No.	Pollutant <sup>[1]</sup>	Unit	Governing Criteria	MEC or Minimum DL <sup>[1,2]</sup>	Background	Result <sup>[3]</sup>
79	Diethyl Phthalate	µg/L	23,000	NA	NA	U
80	Dimethyl Phthalate	µg/L	313,000	NA	NA	U
81	Di-n-Butyl Phthalate	µg/L	2,700	NA	NA	U
82	2,4-Dinitrotoluene	µg/L	0.11	NA	NA	U
83	2,6-Dinitrotoluene	µg/L	No Criteria	NA	NA	U
84	Di-n-Octyl Phthalate	µg/L	No Criteria	NA	NA	U
85	1,2-Diphenylhydrazine	µg/L	0.04	NA	NA	U
86	Fluoranthene	µg/L	300	NA	NA	U
87	Fluorene	µg/L	1,300	NA	NA	U
88	Hexachlorobenzene	µg/L	0.00075	NA	NA	U
89	Hexachlorobutadiene	µg/L	0.44	NA	NA	U
90	Hexachlorocyclopentadiene	µg/L	50	NA	NA	U
91	Hexachloroethane	µg/L	1.9	NA	NA	U
92	Indeno(1,2,3-cd) Pyrene	µg/L	0.0044	NA	NA	U
93	Isophorone	µg/L	8.4	NA	NA	U
94	Naphthalene	µg/L	No Criteria	NA	NA	U
95	Nitrobenzene	µg/L	17	NA	NA	U
96	N-Nitrosodimethylamine	µg/L	0.00069	NA	NA	U
97	N-Nitrosodi-n-Propylamine	µg/L	0.005	NA	NA	U
98	N-Nitrosodiphenylamine	µg/L	5	NA	NA	U
99	Phenanthrene	µg/L	No Criteria	NA	NA	U
100	Pyrene	µg/L	960	NA	NA	U
101	1,2,4-Trichlorobenzene	µg/L	5	NA	NA	U
102	Aldrin	µg/L	0.00013	NA	NA	U
103	alpha-BHC	µg/L	0.0039	NA	NA	U
104	beta-BHC	µg/L	0.014	NA	NA	U
105	gamma-BHC (Lindane)	µg/L	0.019	NA	NA	U
106	delta-BHC	µg/L	No Criteria	NA	NA	U
107	Chlordane	µg/L	0.00057	NA	NA	U
108	4,4-DDT	µg/L	0.00059	NA	NA	U
109	4,4-DDE	µg/L	0.00059	NA	NA	U
110	4,4-DDD	µg/L	0.00083	NA	NA	U
111	Dieldrin	µg/L	0.00014	NA	NA	U
112	alpha-Endosulfan	µg/L	0.056	NA	NA	U
113	beta-Endosulfan	µg/L	0.056	NA	NA	U
114	Endosulfan Sulfate	µg/L	110	NA	NA	U
115	Endrin	µg/L	0.036	NA	NA	U
116	Endrin Aldehyde	µg/L	0.76	NA	NA	U
117	Heptachlor	µg/L	0.00021	NA	NA	U
118	Heptachlor Epoxide	µg/L	0.0001	NA	NA	U
119-125	PCBs sum	µg/L	0.00017	NA	NA	U
126	Toxaphene	µg/L	0.0002	NA	NA	U

**Footnotes:**

- <sup>[1]</sup> This list contains the CTR priority pollutants and, when data are available, some other pollutants for which water quality objectives exist to protect municipal supply, groundwater recharge, and agricultural supply beneficial uses.
- <sup>[2]</sup> The Maximum Effluent Concentration (MEC) is the actual detected concentration unless preceded by a “<” sign, in which case the value shown is the minimum detection level (DL).
- <sup>[3]</sup> Results = Yes, if MEC ≥ WQC, B > WQC and MEC is detected, or Trigger 3;  
= No, if MEC and B are < WQC or all effluent data are undetected;  
= Unknown (U), if no criteria have been promulgated or there are insufficient data.

#### 4. WQBELs Calculations

- a. Copper. The following table shows the WQBEL calculations for copper. These WQBELs were developed in accordance with the procedures specified in SIP section 1.4.

The allowance for intake credit-based and dilution credit-based limitations are based on the SIP sections 1.4.4 and 1.4.2. Compliance with these alternate limits are provided in Provisions VI.D and E of the Order with rationale in the corresponding section of this Fact Sheet.

**Table F-4. WQBEL Calculations**

Pollutant	Copper D=0	Copper D=2	Copper D=5	Copper D=9	Copper D=15
Units	µg/L	µg/L	µg/L	µg/L	µg/L
Basis and criteria type	Basin Plan Freshwater Quality Objective				
Criteria –Acute	8.7	8.7	8.7	8.7	8.7
Criteria –Chronic	6.0	6.0	6.0	6.0	6.0
SSO Criteria -Acute	----	----	----	----	----
SSO Criteria -Chronic	----	----	----	----	----
Water effects ratio (WER)	1	1	1	1	1
Lowest WQO	6.0	6.0	6.0	6.0	6.0
Site specific translator - MDEL	----	----	----	----	----
Site specific translator - AMEL	----	----	----	----	----
Dilution factor (D) (if applicable)	0.0	2.0	5.0	9.0	15.0
No. of samples per month	4.0	4.0	4.0	4.0	4.0
Aquatic life criteria analysis required? (Y/N)	Y	Y	Y	Y	Y
HH criteria analysis required? (Y/N)	N	N	N	N	N
Applicable Acute WQO	8.7	8.7	8.7	8.7	8.7
Applicable Chronic WQO	6.0	6.0	6.0	6.0	6.0
HH criteria	1300	1300	1300	1300	1300
Background (Maximum concentration for aquatic life calculation)	0.0	1.0	1.0	1.0	1.0
Background (Average concentration for human health calculation)	0.0	1.0	1.0	1.0	1.0
Is the pollutant on the 303(d) list and bioaccumulative (Y/N)?	N	N	N	N	N
ECA acute	8.7	24.1	47.2	78.0	124.2
ECA chronic	6.0	16.0	31.0	51.0	81.0
ECA human health	1300.0	1300.0	1300.0	1300.0	1300.0
No. of data points <10 or at least 80% of data reported non detect? (Y/N)	Y	Y	Y	Y	Y
Average of effluent data points	----	----	----	----	----
Standard deviation of effluent data points	----	----	----	----	----
CV (calculated)	N/A	N/A	N/A	N/A	N/A
CV (selected)	0.6	0.6	0.6	0.6	0.6
ECA acute mult99	0.321	0.321	0.321	0.321	0.321
ECA chronic mult99	0.527	0.527	0.527	0.527	0.527
LTA acute	2.8	7.7	15.2	25.0	39.9
LTA chronic	3.2	8.4	16.3	26.9	42.7
minimum of LTAs	2.8	7.7	15.2	25.0	39.9
AMEL mult95	1.55	1.55	1.55	1.55	1.55
MDEL mult99	3.11	3.11	3.11	3.11	3.11
AMEL (aq life)	4.3	12.0	23.5	38.8	61.8
MDEL(aq life)	8.7	24.1	47.1	77.9	124.0
MDEL/AMEL Multiplier	2	2	2	2	2
AMEL (human hlth)	1300	1300	1300	1300	1300

Pollutant	Copper D=0	Copper D=2	Copper D=5	Copper D=9	Copper D=15
MDEL (human hlth)	-----	-----	-----	-----	-----
minimum of AMEL for Aq. life vs HH	4.3	12.0	23.5	38.8	61.8
minimum of MDEL for Aq. Life vs HH	8.7	24.1	47.1	77.9	124.0
Previous order AMEL	N/A	N/A	N/A	N/A	N/A
Previous order MDEL	N/A	N/A	N/A	N/A	N/A
Final limit - AMEL	<b>4.3</b>	<b>12.0</b>	<b>23.5</b>	<b>38.8</b>	<b>61.8</b>
Final limit - MDEL	<b>8.7</b>	<b>24.1</b>	<b>47.1</b>	<b>77.9</b>	<b>124.0</b>

- b. Acute Toxicity.** The whole effluent acute toxicity effluent limit is based on the Basin Plan Section 3.3.18.

#### D. Effluent Limitation Considerations

- 1. Anti-backsliding.** The effluent limitations in this Order comply with anti-backsliding requirements because they are at least as stringent as those in the previous order, with some exceptions. These exceptions consist of the removal of effluent limits that were in the previous order for the following:

- a. **pH** - 40 C.F.R. section 122.44(1) provides that a permit may not contain less stringent requirements unless the circumstances on which the previous permit was based have changed since the time the permit was issued and would constitute cause for modification.

The circumstances have changed because the scope of this Order is narrower than that of the previous order, which covered a longer list of discharges including discharges from facilities that purposely elevated pH to control corrosion in the distribution system. Those types of discharges are not covered by this Order.

The pH in some surface waters can deviate naturally away from 6.5 to 8.5 on occasion due to factors such as precipitation, geology, and climate. The filter systems, including the filter backwash systems, do not provide for pH adjustment. Any change in pH occurs in the source waters to the facility and are not caused by any filtration of that water in the conveyance facility. Because pH control systems are subject to upset that can result in pH levels more harmful to aquatic life than the natural pH deviations such as due to precipitation and other climatic factors, to require the addition of pH control systems to meet the pH limits (1) would require implementation of additional measures to comply with the Basin Plan Prohibition 1 (see IV.A.2, above), and (2) could result in discharges that are more harmful to aquatic life. Therefore, such a requirement is unreasonable.

- b. **Bromoform, dichlorobromomethane, chlorodibromomethane, and zinc** - Based on 2014-15 representative effluent data, there is no reasonable potential for these pollutants to exceed water quality objectives. This is consistent with State Water Board Order No. WQ2001-16.

- 2. Antidegradation.** This Order is consistent with the antidegradation provisions of 40 C.F.R. section 131.12 and State Water Board Resolution No. 68-16. It continues the status quo with respect to the discharges authorized in the previous order with the following exceptions. Thus, this Order does not allow for a reduced level of treatment or increase effluent

limitations or increase in types of discharges. It holds Dischargers to the same performance. Therefore, there will be no change in water quality beyond the level authorized in the previous order, which is the baseline by which to measure whether degradation will occur. Therefore, further analysis and findings authorizing degradation are unnecessary.

- a. **Four Prohibitions Not Retained** - The previous order specified six prohibitions, and this Order specifies only two prohibitions from the previous order. Four of the previous order's prohibitions are not necessary. The following summarizes the basis for not retaining the four prohibitions:
- i. Prohibition on bottom sediments from water storage facilities – This prohibition is not necessary because water storage facilities are to be covered under the Statewide General Permit for Drinking Water Systems CAG140001.
  - ii. Prohibition on onsite storage of oil, fuel, and any other chemical storage causing contamination of stormwater runoff and/or water and wastewater discharge – This prohibition is not necessary because this Order does not otherwise authorize discharge from onsite storage of oil, fuel, and any other chemicals, and such discharges are already prohibited by Prohibition 13 of the Basin Plan.
  - iii. Prohibition on discharges exceeding 2,200 hours per year at any one location – This prohibition is no longer necessary because this Order's requirements do not rely upon Resolution No. R2-2008-0101, which granted a categorical SIP exception for short term or seasonal discharges. Resolution No. R2-2008-0101 had defined "short-term or seasonal," to mean discharges not exceeding 2,200 hours per year. Because this Order implements the SIP without needing that categorical exception, the exception's 2,200 hours per year is also no longer needed.
  - iv. Prohibition on causing a condition of pollution, contamination, or nuisance is unnecessary because the receiving water limitations adequately address the prohibition.

3. **Stringency of Requirements for Individual Pollutants.** This Order contains both technology-based and WQBELs for individual pollutants. This Order's technology-based requirements implement minimum applicable federal technology-based requirements. In addition, this Order contains more stringent effluent limitations as necessary to meet water quality standards. Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement CWA requirements.

This Order's WQBELs have been derived to implement water quality objectives that protect beneficial uses. The beneficial uses and water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that WQBELs were derived from the CTR, the CTR is the applicable standard pursuant to 40 C.F.R. section 131.38. The procedures for calculating these WQBELs are based on the CTR, as implemented in accordance with the SIP, which U.S. EPA approved on May 18, 2000. U.S. EPA approved most Basin Plan beneficial uses and water quality objectives prior to May 30, 2000. Beneficial uses and water quality objectives submitted to U.S. EPA prior to May 30, 2000, but not approved by U.S. EPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to 40 C.F.R. section



131.21(c)(1). U.S. EPA approved the remaining beneficial uses and water quality objectives so they are applicable water quality standards pursuant to 40 C.F.R. section 131.21(c)(2).

## **V. RATIONALE FOR RECEIVING WATER LIMITATIONS**

The receiving water limits are based on the water quality objectives listed in Basin Plan Chapter 3 and are intended to ensure that receiving waters meet water quality standards in accordance with the CWA and regulations adopted thereunder. The receiving water limitations from the previous order on turbidity are being carried over to this order. In addition, narrative prohibitions on erosion, floating materials, bottom deposits, temperature, and toxic substances are also being carried over from the previous order, and continue to be protective of the receiving waters.

The receiving water limitation for pH is revised to be consistent with the Basin Plan objective.

## **VI. RATIONALE FOR PROVISIONS**

### **A. Standard Provisions**

Attachment D contains standard provisions that apply to all NPDES permits in accordance with 40 C.F.R. section 122.41 and additional conditions applicable to specific categories of permits in accordance with 40 C.F.R. section 122.42. Dischargers must comply with these provisions. The conditions set forth in 40 C.F.R. sections 122.41(a)(1) and (b) through (n) apply to all state-issued NPDES permits and must be incorporated into the permits either expressly or by reference.

In accordance with 40 C.F.R. section 123.25(a)(12), states may omit or modify conditions to impose more stringent requirements. This Order contains provisions that supplement the federal standard provisions in Attachment D. This Order omits federal conditions that address enforcement authority specified in 40 C.F.R. sections 122.41(j)(5) and (k)(2) because the State's enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates Water Code section 13387(e) by reference.

### **B. Monitoring and Reporting Provisions**

CWA section 308 and 40 C.F.R. sections 122.41(h), 122.41(j)-(l), 122.44(i), and 122.48 require that NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 also authorize the Regional Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. The Monitoring and Reporting Program (MRP) in Attachment E establishes monitoring, reporting, and recordkeeping requirements that implement federal and State requirements. For more information regarding these requirements, see Fact Sheet section VII.

### **C. Special Provisions**

#### **1. Reopener Provisions**

These provisions are based on 40 C.F.R. sections 122.62 and 122.63 and allow modification of this Order and its effluent limitations as necessary in response to updated water quality objectives, regulations, or other new and relevant information that may become available in the future, and other circumstances as allowed by law.

## 2. Facility Modification/Maintenance.

This provision requires Dischargers to inform the Regional Water Board of modifications to their facilities that will affect effluent quality. The provision also requires Dischargers to inform the Regional Water Board if an outfall is relocated or eliminated so that the Regional Water Board can make any necessary modification to its permit coverage. This provision is based on 40 CFR 2.41(I)(1).

## 3. Application for Authorization to Discharge

The provisions requiring submittal of an NOI form and compliance with this Order upon receipt of an Authorization to Discharge are based on 40 C.F.R. section 122.28(b). Likewise, the provision allowing the Executive Officer to terminate an Authorization to Discharge is also based on 40 C.F.R. section 122.28(b). The provision allowing the Executive Officer to require an individual permit is based on 40 C.F.R. section 122.28(b)(3).

## 4. Basis for Construction, Operation, and Maintenance Specifications

**a. Wastewater Facilities Review and Evaluation, and Status Reports.** The purpose of this provision is to ensure adequate and reliable treatment and disposal of all wastewater and is based on 40 C.F.R. section 122.41(e).

**b. Operations and Maintenance Manual Review and Status Reports.** The purpose of this provision is to ensure that operations and maintenance procedures are in place, useful, and relevant to current equipment and operational practices. It is based on 40 C.F.R. section 122.41(e).

## 5. Basis for Best Management Practices, Special Studies, and Additional Monitoring Requirements

**Best Management Practices Plans.** This provision requires Dischargers to develop, update annually, and implement Best Management Practices (BMPs) plans. The purpose of the BMPs plan is to control and abate pollutant discharges to surface waters. The basis for this provision is 40 C.F.R. section 122.41 and as a means to provide equivalent protection to justify exception to the Basin Plan prohibition 1 on discharges without 10:1 initial dilution.

## D. Intake Water Credit-Based Limitations

SIP section 1.4.4 provides that the Regional Water Board may consider pollutants in intake water on a pollutant-by-pollutant basis when establishing WQBELs if a discharger demonstrates certain conditions are met.

It is appropriate to allow for intake water credits for copper in this Order. SFPUC requested that the Regional Water Board consider allowance of intake water credits in this Order. Copper compounds and other chemicals are or have been used to control algae and other organisms that threaten drinking water quality in reservoirs. For example, copper sulfate was added to the San Andreas Reservoir from approximately 1954 to 1993 to control algae, bacteria, and crustacea to prevent taste and odor problems and to comply with drinking water standards. SFPUC reported that this legacy copper has been found in intake water to the Harry Tracy Water Treatment Plant at concentrations that significantly exceed applicable water quality objectives. This facility does not add copper but provides a net reduction in copper loading.

Subsection 1 of this provision is based on the SIP conditions that must be met to qualify for the intake water credit-based limits with the exception of condition (2) of SIP section 1.4.4. Condition (2) requires consistency with any applicable TMDL. This is unnecessary because TMDLs are not anticipated, or needed, to be established for the water bodies covered by this Order. Additionally, the requirement that intake credit limits must be pre-established in an authorization to discharge is for clarity with which limitations (Table 2 or Provision VI.D) a discharger must comply. A discharger also has the option of seeking applicability after its original NOI and withdrawing applicability all together, but both must be approved in an authorization or amended authorization to discharge from the Executive Officer.

Subsection 2 of this provision is based on SIP section 1.4.4 that intake water credit-based limits would allow a facility to discharge a mass and concentration of the intake water pollutant that is no greater than the mass and concentration found in the facility's intake water. The Order specifies compliance based on an annual average to account for sample and analytical variability in consideration of the minimum required monitoring frequency. The specified calculations are based on standard practice.

#### **E. Dilution Credit-Based Limitations**

SIP section 1.4.2 provide that the Regional Water Board may consider mixing zones, dilution credits, and ambient background concentration, of a priority pollutant in the receiving water body on a pollutant-by-pollutant basis and on a discharge-by-discharge or water body-by water body basis when establishing water quality based effluent limitations if a discharger demonstrates certain conditions are met.

SFPUC requested that the Regional Water Board consider allowance of dilution credits in this Order. As explained in section VI.D above, this facility does not add copper but provides a net reduction in copper loading.

Subsection 1 of this provision is based on the SIP conditions that must be met to qualify for the dilution credit based limits. There is no need for any adjustment due to TMDLs because TMDLs are not anticipated, or needed, to be established for the water bodies covered by this Order. Additionally, the dilution credit-based limits will be pre-established in the authorization to discharge so as to provide clarity with which limitations (Table 2 or Provision VI.E) a discharger must comply. Conservative assumption using the maximum observed background concentration will ensure that limitations are protective for all potential discharges. Moreover, the limitations, calculated as shown in Table F-4, are based on pre-selected dilution credits that encompass a reasonable range achievable and that the Regional Water Board has granted to other inland surface water dischargers.

A discharger also has the option of seeking applicability after its original NOI and withdrawing applicability all together, but both must be approved in an authorization or amended authorization to discharge from the Executive Officer.

### **VII. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS**

The MRP is a standard requirement in all NPDES permits issued by the Regional Water Board, including this Order. It specifies sampling stations, pollutants to be monitored (including parameters for which effluent limitations are specified), monitoring frequencies, and additional reporting

requirements. The principal purposes of a monitoring program are to document compliance with WDRs and prohibitions established by the Regional Water Board; to facilitate self-policing by dischargers in the prevention and abatement of pollution arising from waste discharges; to develop or assist in the development of limitations, discharge prohibitions, national standards of performance, pretreatment and toxicity standards, and other standards; and to prepare water and wastewater quality inventories.

**A. Effluent and Intake Monitoring.** Effluent monitoring is necessary to evaluate compliance with the Order's prohibitions and effluent limitations, and to inform the next permit reissuance. Additional monitoring for non-limited parameters are included for the first two years of this Order in order to verify the finding that those parameters pose no reasonable potential to cause exceedance of water quality objectives. The reasonable potential analysis for this Order was based on a truncated dataset because of facility upgrades in 2014 that improved discharge quality.

The intake monitoring is required only if intake water credit based limits apply, and is necessary to evaluate compliance with the intake water based limits.

This Order specifies an ML for chlorine residual of 0.1 mg/L which is consistent with the Statewide General Permit and other recently issued Regional Water Board permits. The previous order specified a 0.08 mg/L ML based on professional judgment at the time. In 2014, information came to light that justifies a 0.1 mg/L ML due to the capabilities of field instruments available. The Missouri Department of Natural Resources (2004, Permit Manual, Appendix T: Total Chlorine Residual Study), following applicable U.S. EPA guidance, generated data that showed that residual chlorine results ranging between the MDL of 0.04 mg/L and a calculated ML of 0.1 mg/L are not reliable due to analytical noise.

This Order specifies that for continuous chlorine monitoring, that only specific data will be used for the purpose of mandatory minimum penalty assessment. The methodology was developed with the State Water Board and an association of treatment plant operators (2004 BACWA Strategy for Reporting Continuous Chlorine for MMP Purposes). Following on this concept, a small allowance is made for MMP assessment of monthly average limits when additional monitoring cannot be conducted to obtain a representative monthly average of the discharge because of the intermittent nature of the discharge.

**B. Receiving Water Monitoring.** Receiving water monitoring is necessary to characterize the effects discharges could have on receiving waters and, in some cases, to evaluate compliance with receiving water limits. Freshwater monitoring is also necessary to calculate some water quality objectives.

## VIII. PUBLIC PARTICIPATION

The Regional Water Board considered the issuance of WDRs that will serve as an NPDES permit for discharges of treated filter backwash from drinking water filter facilities in the San Francisco Bay Region. As a step in the WDRs adoption process, the Regional Water Board developed tentative WDRs and encouraged public participation in the WDRs adoption process.

**A. Notification of Interested Parties.** The Regional Water Board notified prospective dischargers and interested agencies and persons of its intent to prescribe WDRs and provided an opportunity to submit written comments and recommendations. Notification was provided through *The*

*Recorder* in San Francisco. The public had access to the agenda and any changes in dates and locations through the Regional Water Board website at [www.waterboards.ca.gov/sanfranciscobay](http://www.waterboards.ca.gov/sanfranciscobay).

- B. Written Comments.** Interested persons were invited to submit written comments concerning the tentative WDRs as explained through the notification process, which replaced an earlier draft that was noticed for public comment on September 8, 2015. Comments were due either in person or by mail at the Regional Water Board office at 1515 Clay Street, Suite 1400, Oakland, California 94612, to the attention of Farhad Azimzadeh.

For full staff response and Regional Water Board consideration, the written comments were due at the Regional Water Board office by 5:00 p.m. on November 4, 2015.

- C. Public Hearing.** The Regional Water Board held a public hearing on the tentative WDRs during its regular meeting at the following date and time, and at the following location:

Date: March 9, 2016  
Time: 9:00 a.m.  
Location: Elihu Harris Building  
1515 Clay Street, 1<sup>st</sup> Floor Auditorium  
Oakland, CA 94612  
  
Contact: Farhad Azimzadeh, (510) 622-2310,  
[Farhad.Azimzadeh@waterboards.ca.gov](mailto:Farhad.Azimzadeh@waterboards.ca.gov)

Interested persons were invited to attend. At the public hearing, the Regional Water Board heard testimony pertinent to the discharges, WDRs, and permit. For accuracy of the record, important testimony was requested to be in writing.

Dates and venues change. The Regional Water Board web address is [www.waterboards.ca.gov/sanfranciscobay](http://www.waterboards.ca.gov/sanfranciscobay), where one could access the current agenda for changes in dates and locations.

- D. Reconsideration of Waste Discharge Requirements.** Any aggrieved person may petition the State Water Board to review the Regional Water Board decision regarding the final WDRs. The State Water Board must receive the petition at the following address within 30 calendar days of the Regional Water Board action:

State Water Resources Control Board  
Office of Chief Counsel  
P.O. Box 100, 1001 I Street  
Sacramento, CA 95812-0100

For instructions on how to file a petition for review, see [www.waterboards.ca.gov/public\\_notices/petitions/water\\_quality/wqpetition\\_instr.shtml](http://www.waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instr.shtml).

- E. Information and Copying.** Supporting documents and comments received are on file and may be inspected at the address above at any time between 9:00 a.m. and 5:00 p.m., Monday through Friday. Copying of documents may be arranged by calling (510) 622-2300.

- F. Register of Interested Persons.** Any person interested in being placed on the mailing list for information regarding the WDRs and NPDES permit should contact the Regional Water Board, reference CAG382001, and provide a name, address, and phone number.
- G. Additional Information.** Requests for additional information or questions regarding this Order should be directed to Farhad Azimzadeh at (510) 622-2310 or [Farhad.Azimzadeh@waterboards.ca.gov](mailto:Farhad.Azimzadeh@waterboards.ca.gov).