TENTATIVE ORDER No. R2-2016-XXXX
NPDES No. CA0030198

The following discharger is subject to waste discharge requirements (WDRs) set forth in this Order.

Table 1. Discharger Information

Discharger	The Exploratorium
Facility Name	The Exploratorium Heating and Cooling System and Fog Bridge Desalination System
Facility Address	Piers 15 and 17, The Embarcadero San Francisco, CA 94111, San Francisco County
CIWQS Place Number	749047

Table 2. Discharge Location

Discharge Point [1]	Effluent Description	Discharge Point Latitude (North)	Discharge Point Longitude (West)	Receiving Water
001	Non-contact heating and cooling water	37º48'7" N	122º23'49" W	San Francisco Bay Central Basin
002	Filter backwash water	37º48'7" N	122º23'49" W	San Francisco Bay Central Basin
003	Reverse osmosis concentrate and filter backwash water	37º48'7" N	122º23'54" W	San Francisco Bay Central Basin

Table 3. Administrative Information

This Order was adopted on:	DATE
This Order shall become effective on:	April 1, 2016
This Order shall expire on:	March 31, 2021
The Discharger shall file a Report of Waste Discharge as an application for reissuance of WDRs in accordance with California Code of Regulations, title 23, and an application for reissuance of a National Pollutant Discharge Elimination System (NPDES) permit no later than:	June 30, 2020
The U.S. Environmental Protection Agency (U.S. EPA) and the California Regional Water Quality Control Board, San Francisco Bay Region, have classified this discharge as follows:	Minor

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.

_____

Bruce H. Wolfe, Executive Officer

Contents

Tables

Attachments

I. FACILITY INFORMATION

Information describing The Exploratorium Heating and Cooling System and Fog Bridge Desalination System (collectively, the Facility) is summarized in Table 1 and Fact Sheet (Attachment F) sections I and II.

II. FINDINGS

The California Regional Water Quality Control Board, San Francisco Bay Region (Regional Water Board), finds:

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). It shall serve as an NPDES permit for point source discharges from the Facility to surface waters.

B. Background and Rationale for Requirements. The Regional Water Board developed the requirements in this Order based on information the Discharger submitted as part of its application, information obtained through monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F) 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 E and G are also incorporated into this Order.

C. Provisions and Requirements Implementing State Law. No provision or requirement in this Order is included to implement State law only.

D. Notification of Interested Parties. The Regional Water Board notified the Discharger 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. R2-2010-0082 (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, the Discharger 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 wastewater at a location or in a manner different from that described in this Order is prohibited.

B. Heating and Cooling System influent flow in excess of 2.0 MGD is prohibited, with compliance measured at Monitoring Locations INF-001 and INF-002 as described in the Monitoring and Reporting Program (MRP).

C. Fog Bridge Desalination System influent flow in excess of 0.029 MGD is prohibited, with compliance measured at Monitoring Location INF-003 as described in the MRP.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

This Order does not contain effluent limitations or discharge specifications.

V. RECEIVING WATER LIMITATIONS

A. The discharge shall not cause the following conditions to exist in receiving waters at any place:

1. Floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses;

2. Alteration of suspended sediment in such a manner as to cause nuisance or adversely affect beneficial uses, or detrimental increase in the concentrations of toxic pollutants in sediments or aquatic life;

3. Suspended material in concentrations that cause nuisance or adversely affect beneficial uses;

4. Bottom deposits or aquatic growths to the extent that such deposits or growths cause nuisance or adversely affect beneficial uses;

5. Changes in turbidity that cause nuisance or adversely affect beneficial uses, or increases from normal background light penetration or turbidity greater than 10 percent in areas where natural turbidity is greater than 50 nephelometric turbidity units;

6. Coloration that causes nuisance or adversely affects beneficial uses;

7. Visible, floating, suspended, or deposited oil or other products of petroleum origin; or

8. 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. The discharge shall not cause the following limits to be exceeded in receiving waters at any place within one foot of the water surface:

1. Dissolved Oxygen 5.0 mg/L, minimum

The median dissolved oxygen concentration for any three consecutive months shall not be less than 80% of the dissolved oxygen content at saturation. When natural factors cause concentrations less than that specified above, the discharge shall

not cause further reduction in ambient dissolved oxygen concentrations.

2.	Dissolved Sulfide	Natural background levels
3.	pH	The pH shall not be depressed below 6.5 or raised above 8.5. The discharge shall not cause changes greater than 0.5 pH units in normal ambient pH levels.
4.	Nutrients	Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses.

C. The discharge shall not cause a violation of any water quality standard for receiving waters adopted by the Regional Water Board or State Water Resources Control Board (State Water Board) as required by the CWA and regulations adopted thereunder. If more stringent water quality standards are promulgated or approved pursuant to CWA section 303, or amendments thereto, the Regional Water Board may revise or modify this Order in accordance with the more stringent standards.

D. The daily average temperature of the receiving water, measured at Monitoring Location RSW-001 as described in the MRP, shall not be more than 4ºF greater than the daily average ambient receiving water temperature measured at Monitoring Location INF-001 or INF-002 as described in the MRP.

VI. PROVISIONS

A. Standard Provisions

1. The Discharger shall comply with all "Standard Provisions" in Attachment D.

2. The Discharger shall comply with all applicable provisions of the "Regional Standard Provisions, and Monitoring and Reporting Requirements for NPDES Wastewater Discharge Permits" (Attachment G). The following Attachment G provisions do not apply: I.C, I.D.2, I.D.3, I.I.2, I.J, I.K, III.A.3.b, III.A.3.c, III.B, III.C.2, III.C.3, III.C.4, III.C.5, IV.B.3, IV.B.4, IV.B.5, and IV.B.6.

B. Monitoring and Reporting Program (MRP) Requirements

The Discharger shall comply with the MRP (Attachment E), and future revisions thereto, and applicable sampling and reporting requirements in Attachments D and G.

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 a reasonable potential to cause or contribute to, or will cease to have, adverse impacts on water quality or beneficial uses of the receiving waters.

b. If new or revised water quality objectives or total maximum daily loads (TMDLs) come into effect for San Francisco Bay and its contiguous water bodies (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 objectives and wasteload allocations in the TMDLs. Adoption of the effluent limitations in this Order is not intended to restrict in any way future modifications based on legally-adopted water quality objectives 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 WDRs addresses requirements similar to this discharge.

f. Or as otherwise authorized by law.

The 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. Fog Bridge Desalination System Salinity Study

The Discharger shall conduct a salinity monitoring study to confirm how much saltier the Desalination System reverse osmosis concentrate is compared to ambient Bay water.

a. Work Plan. The Discharger shall submit a work plan by June 30, 2016, that describes the scope and schedule of the planned study and explain how a representative concentration factor (i.e., the reverse osmosis concentrate salinity divided by the ambient Bay salinity) will be calculated. The Discharger shall collect a sufficient number of samples to account for system variability and ambient Bay salinity temporal variability. Influent samples shall be collected at any point that represents ambient inflow from the intake pumps and precedes filtration and reverse osmosis. Effluent samples shall be collected at any point following filtration and reverse osmosis prior to mixing with filter backwash or receiving water.

b. Final Report. The Discharger shall submit a final report by November 30, 2016, that reflects any feedback the Executive Officer may provide in response to the original work plan and presents the results of the study, including the representative concentration factor.

ATTACHMENT A – DEFINITIONS

Arithmetic Mean (μ)
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:

Arithmetic mean = $\mu = \Sigma x / n$ where: Σx is the sum of the measured ambient water concentrations, and n 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 (σ)
Measure of variability calculated as follows:

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

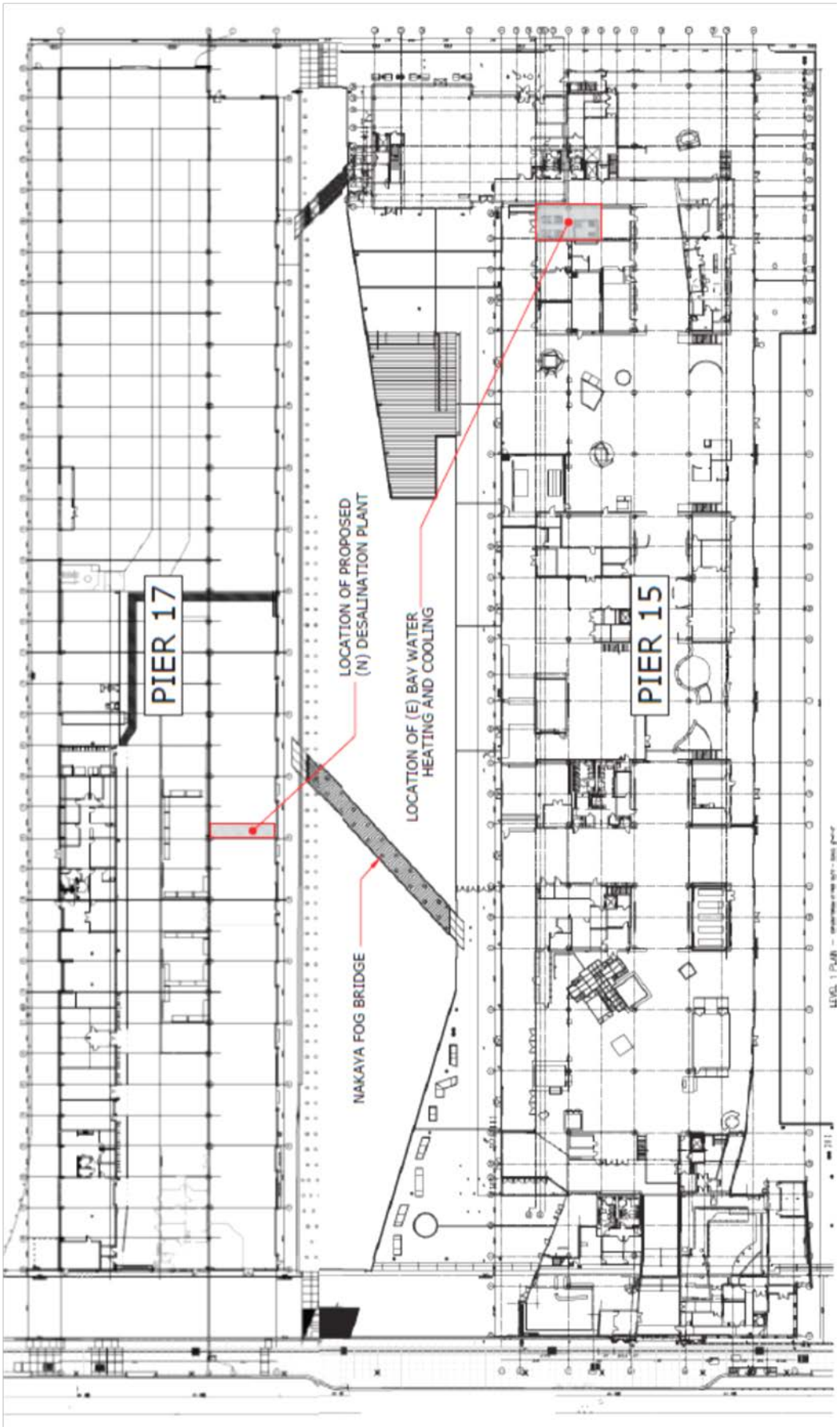
where:

x is the observed value;
μ is the arithmetic mean of the observed values; and
n is the number of samples.

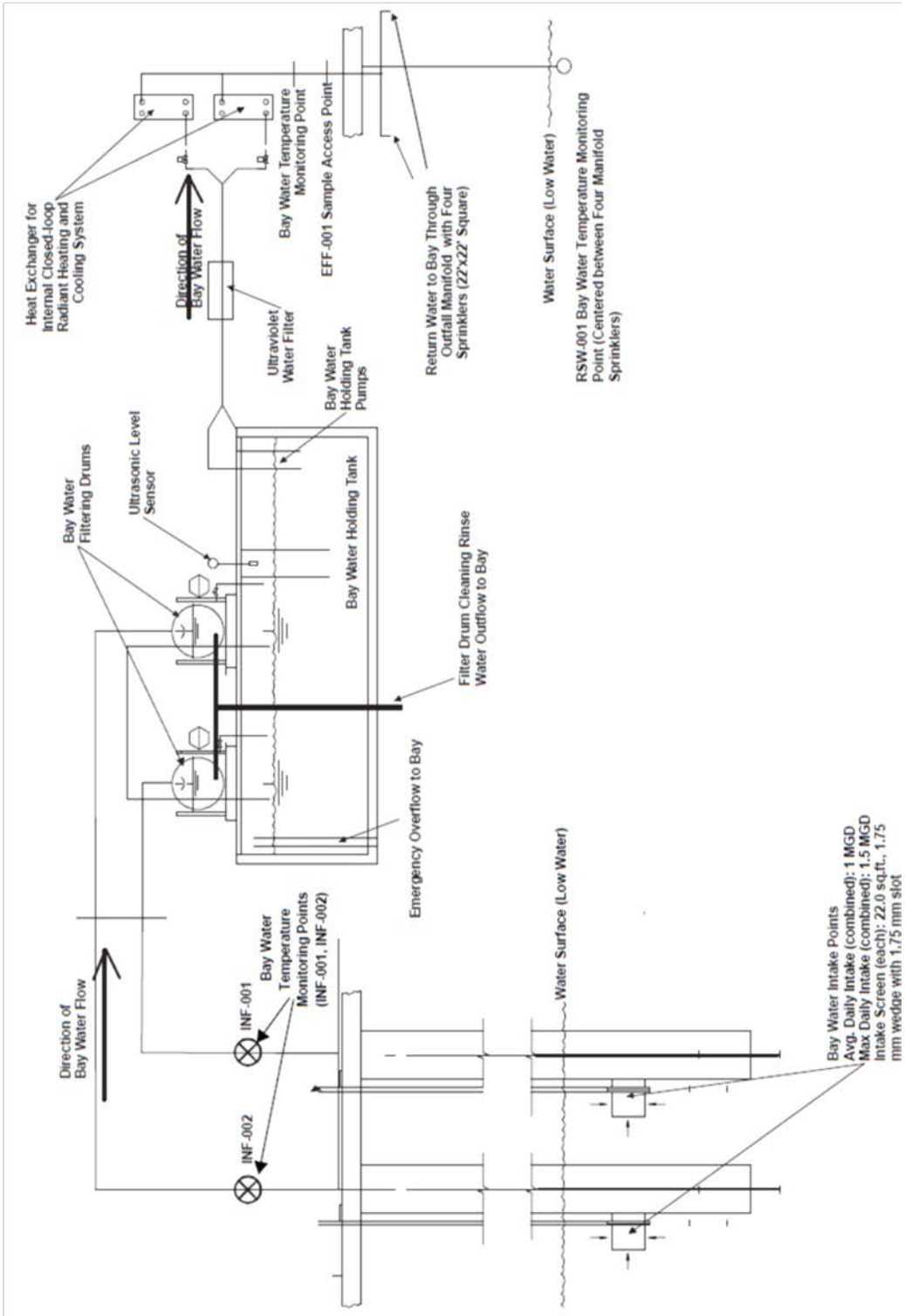
Toxicity Reduction Evaluation (TRE)
Study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of 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.

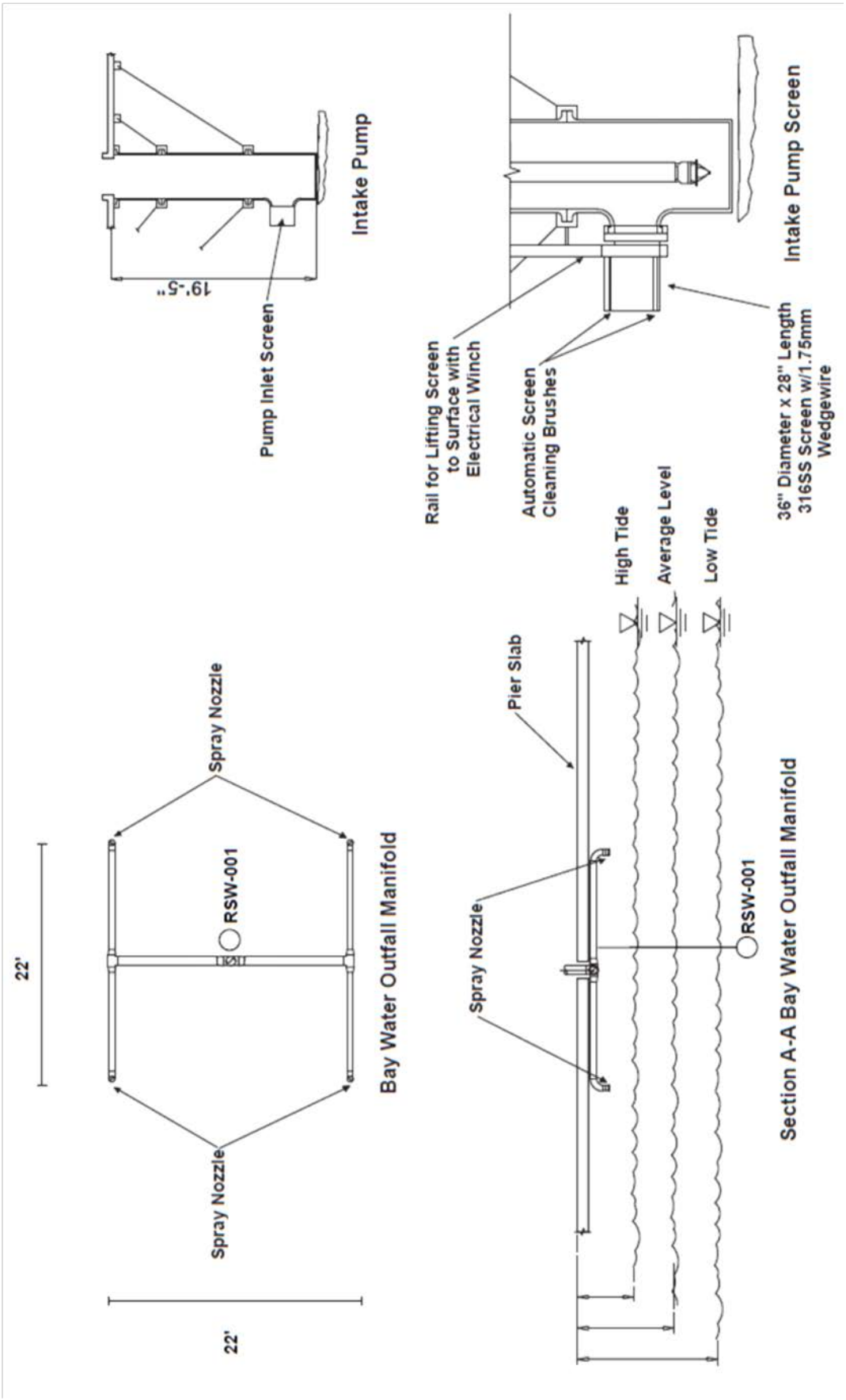
ATTACHMENT B – FACILITY MAPS


wra
ENVIRONMENTAL CONSULTANTS
2169-G East Francisco Blvd.
San Rafael, CA 94901
(415) 454-8868 Phone
(415) 454-0129 Fax
Exploratorium NDPES
Permit Renewal Project
Piers 15 and 17
San Francisco,
California
Figure 2.
Aerial View of the
Project Area
This map is representational only, and
not meant for use in detailed design
0
37.5
75
150
Feet


PIER 17
PIER 15
LOCATION OF PROPOSED
(N) DESALINATION PLANT
LOCATION OF (E) BAY WATER
HEATING AND COOLING
NAKAYA FOG BRIDGE

ATTACHMENT C – PROCESS FLOW DIAGRAMS




Intake Pump
19'-5"
Pump Inlet Screen
Intake Pump Screen
Rail for Lifting Screen to Surface with Electrical Winch
Automatic Screen Cleaning Brushes
36" Diameter x 28" Length 316SS Screen w/1.75mm Wedgewire
High Tide
Average Level
Low Tide
Pier Slab
Spray Nozzle
RSW-001
Section A-A Bay Water Outfall Manifold
Spray Nozzle
RSW-001
22'
Spray Nozzle
Bay Water Outfall Manifold
22'

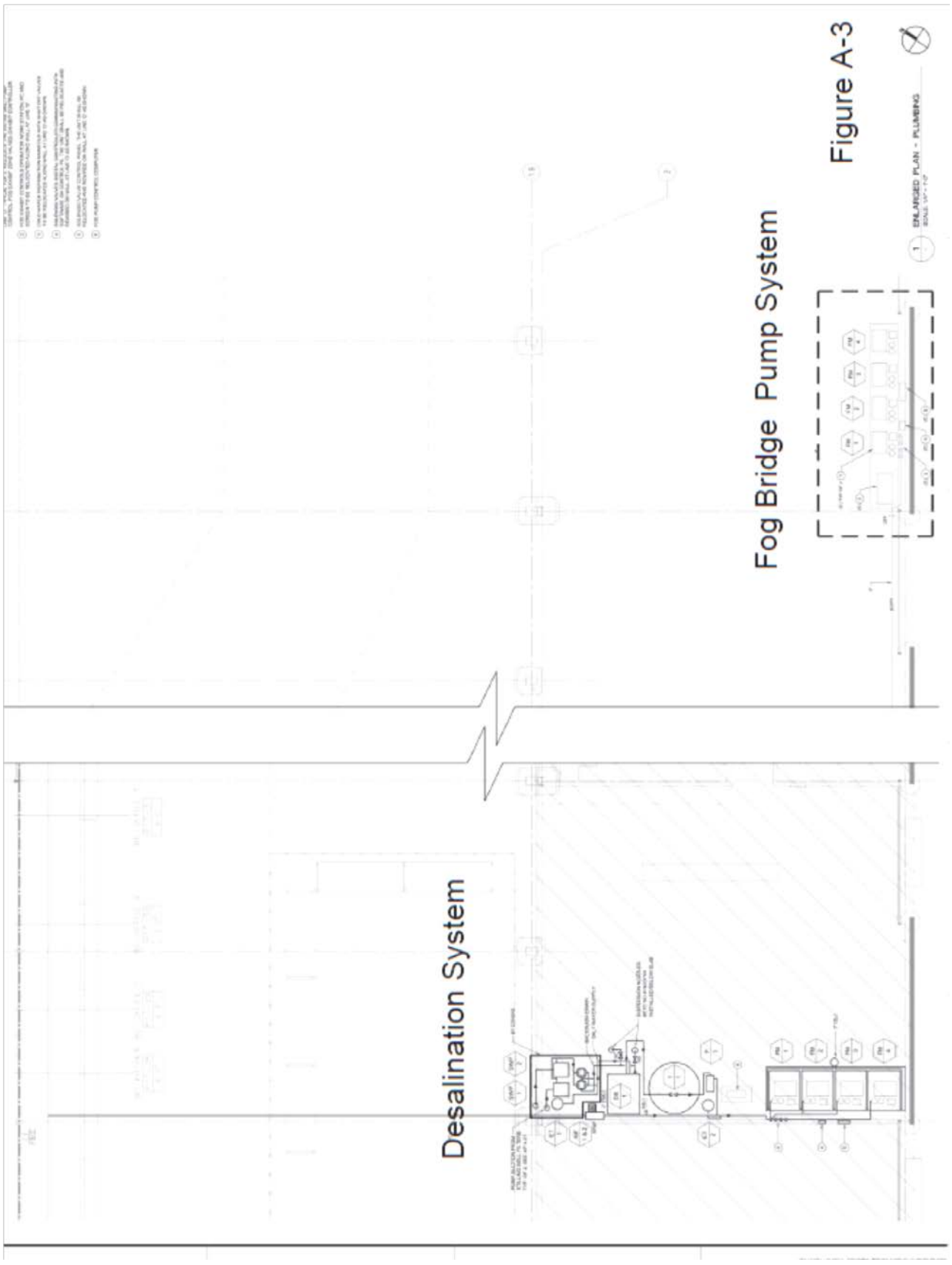
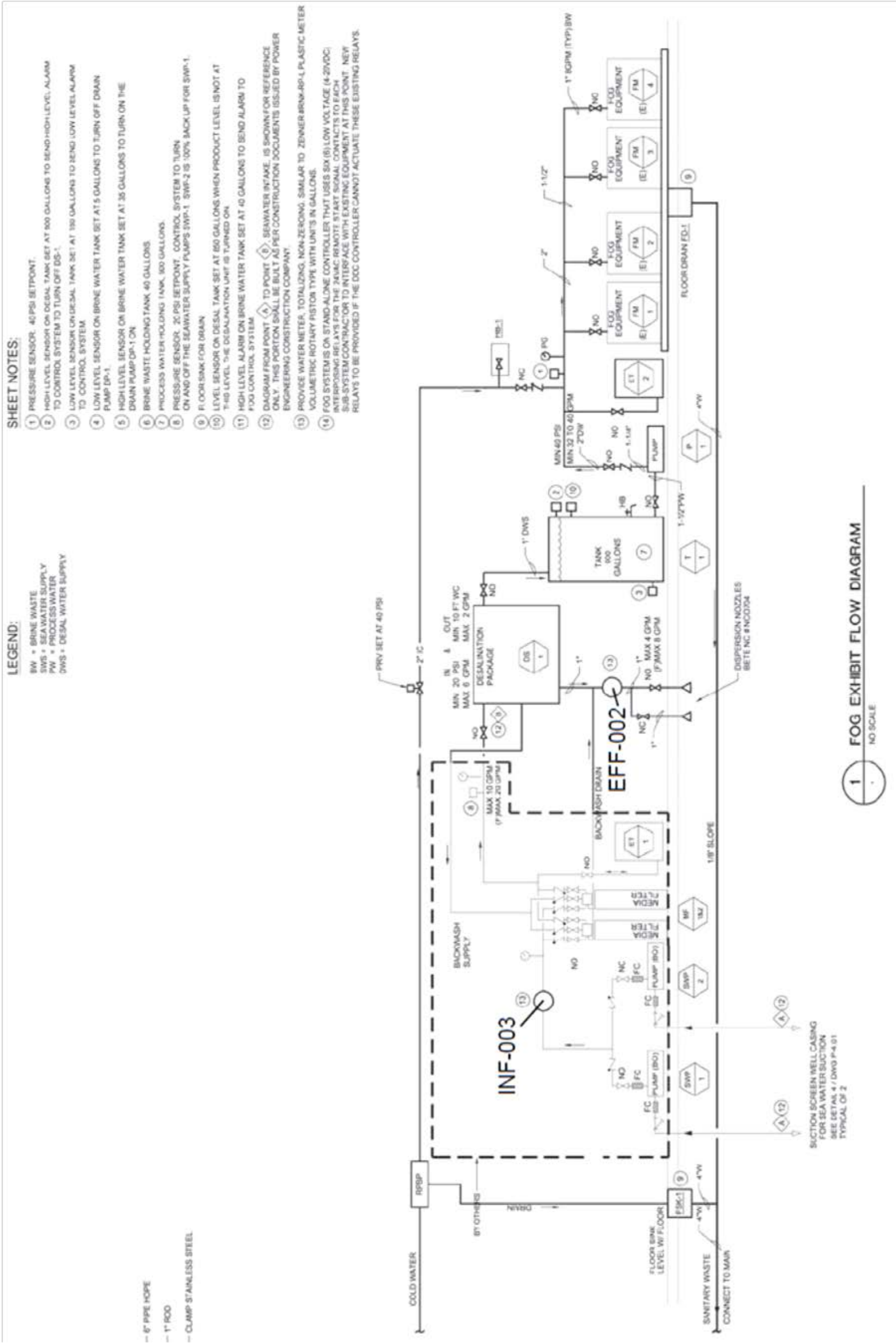
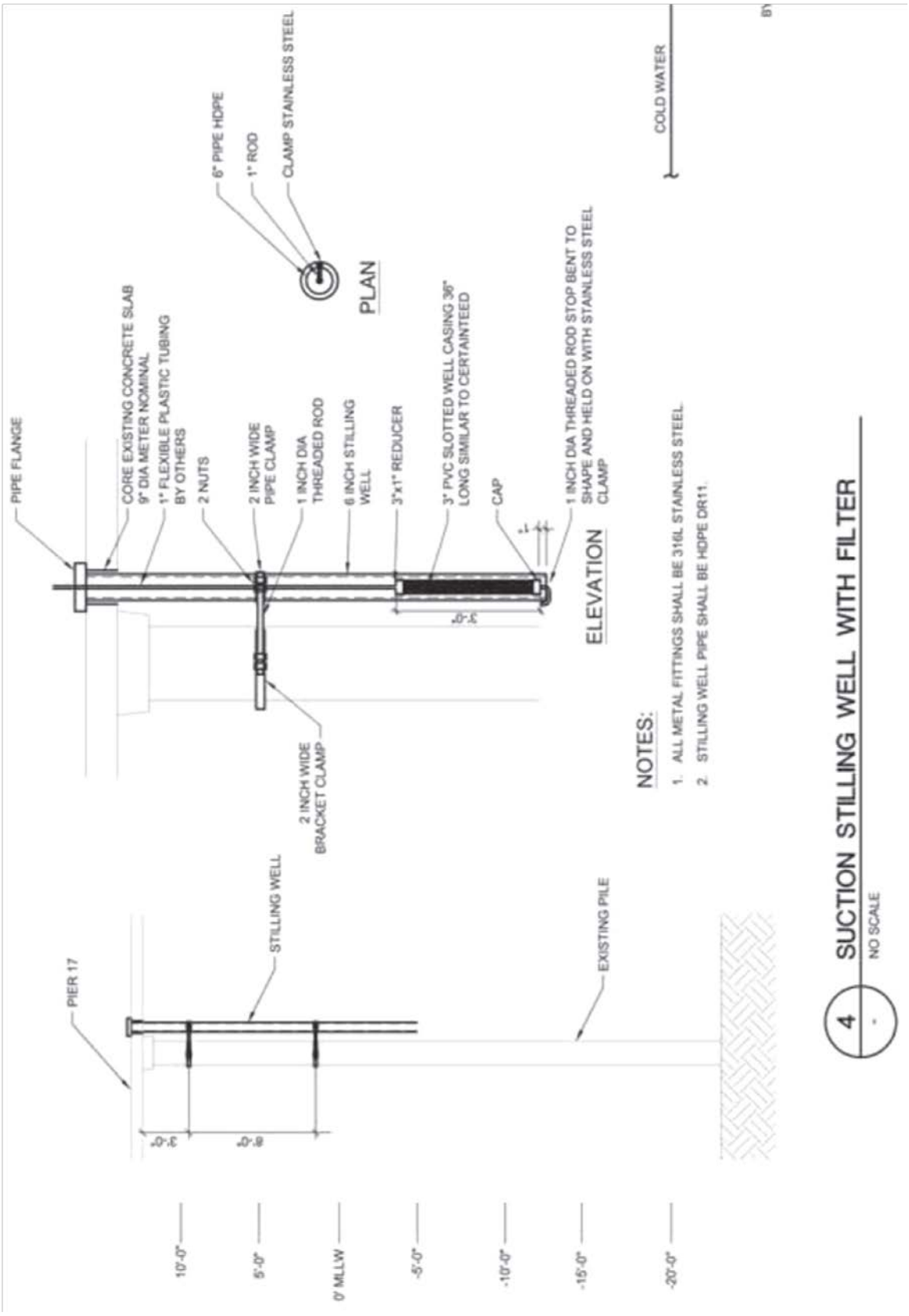


Figure A-3
Fog Bridge Pump System
Desalination System


FOG EXHIBIT FLOW DIAGRAM
NO SCALE
SHEET NOTES:
LEGEND:
INF-003
EFF-002


PLAN
6" PIPE HDPE
1" ROD
CLAMP STAINLESS STEEL
COLD WATER
ELEVATION
PIPE FLANGE
CORE EXISTING CONCRETE SLAB
9" DIA METER NOMINAL
1" FLEXIBLE PLASTIC TUBING
BY OTHERS
2 NUTS
2 INCH WIDE
PIPE CLAMP
1 INCH DIA
THREADED ROD
6 INCH STILLING
WELL
3"x1" REDUCER
3" PVC SLOTTED WELL CASING 36"
LONG SIMILAR TO CERTAINTEED
CAP
1 INCH DIA THREADED ROD STOP BENT TO
SHAPE AND HELD ON WITH STAINLESS STEEL
CLAMP
2 INCH WIDE
BRACKET CLAMP
NOTES:
1. ALL METAL FITTINGS SHALL BE 316L STAINLESS STEEL.
2. STILLING WELL PIPE SHALL BE HDPE DR11.
STILLING WELL
EXISTING PILE
PIER 17
3'-0"
8'-0"
10'-0"
5'-0"
0' MLLW
-5'-0"
-10'-0"
-15'-0"
-20'-0"
4
SUCTION STILLING WELL WITH FILTER
NO SCALE

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 ensuring 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 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. chapter 1, subchapters N or O. Monitoring must be conducted according to sufficiently sensitive test methods approved under 40 C.F.R. part 136 for the analysis of pollutants or pollutant parameters or required under 40 C.F.R. chapter 1, subchapter N or O. For the purposes of this paragraph, a method is sufficiently sensitive when:

1. The method minimum level (ML) is at or below the level of the effluent limitation established in the permit for the measured pollutant or pollutant parameter, and either (a) the method ML is at or below the level of the applicable water quality criterion for the measured pollutant or pollutant parameter, or (b) the method ML is above the applicable water quality criterion, but the amount of the pollutant or pollutant parameter in a facility's discharge is high enough that the method detects and quantifies the level of the pollutant or pollutant parameter in the discharge; or

2. The method has the lowest ML of the analytical methods approved under 40 C.F.R. part 136 or required under 40 C.F.R. chapter 1, subchapter N or O for the measured pollutant or pollutant parameter.

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. chapter 1, subchapters N or O, monitoring must be conducted according to a test procedure specified in this Order for such pollutants. (40 C.F.R. §§ 122.21(e)(3), 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).)

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 (µg/L) (40 C.F.R. § 122.42(a)(1)(i));
   - **b.** 200 µg/L for acrolein and acrylonitrile; 500 µg/L for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol; and 1 milligram per liter (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 (µg/L) (40 C.F.R. § 122.42(a)(2)(i));
   - **b.** 1 milligram per liter (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. If any discrepancies exist between this MRP and the "Regional Standard Provisions, and Monitoring and Reporting Requirements (Supplement to Attachment D) for NPDES Wastewater Discharge Permits" (Attachment G), this MRP shall prevail.

B. The Discharger shall conduct all monitoring in accordance with Attachment D, section III, as supplemented by Attachment G. Equivalent test methods must be more sensitive than those specified in 40 C.F.R. part 136 and must be specified in this permit.

II. MONITORING LOCATIONS

The Discharger shall establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order:

Table E-1. Monitoring Locations

Monitoring Location Type	Monitoring Location Name	Monitoring Location Description
Heating and Cooling System		
Influent	INF-001	Any point in Heating and Cooling System that represents ambient inflow from Intake Pump No. 1 and precedes filtration and ultraviolet treatment.
Influent	INF-002	Any point in Heating and Cooling System that represents ambient inflow from Intake Pump No. 2 and precedes filtration and ultraviolet treatment.
Effluent	EFF-001	Any point after heat exchange prior to mixing with receiving water.
Receiving Water	RSW-001	Point in receiving water where Heating and Cooling System effluent meets receiving water.
Desalination System		
Influent	INF-003	Any point in Desalination System that represents combined ambient inflow from Intake Pumps No. 1 and No. 2 and precedes filtration and reverse osmosis.
Effluent	EFF-002	Any point after mixing reverse osmosis concentrate and filter backwash water prior to mixing with receiving water.

III. INFLUENT MONITORING REQUIREMENTS

The Discharger shall monitor influent at Monitoring Locations INF-001, INF-002, and INF-003 as follows:

Table E-2. Influent Monitoring

Parameter	Monitoring Locations	Units	Sample Type	Minimum Sampling Frequency
Temperature	INF-001 or INF-002	°F	Continuous or Grab	Continuous/D
Flow [1]	INF-001, INF-002, and INF-003	MGD	Continuous	Continuous/D

Unit Abbreviations:

°F = degrees Fahrenheit
MGD = million gallons per day

Sample Types and Frequencies:

Continuous = measured continuously
Continuous/D = measured continuously, and recorded and reported daily
Grab = grab sample

Footnote:

[1] Flow shall be monitored continuously and the following information shall be reported in quarterly self-monitoring reports:
- Daily average flow rate (MGD)
- Daily maximum flow rate (MGD) for each monitoring location and for the combined flow at Monitoring Locations INF-001 and INF-002.

IV. EFFLUENT MONITORING REQUIREMENTS

The Discharger shall monitor effluent at Monitoring Locations EFF-001 and EFF-002 as follows:

Table E-3. Effluent Monitoring

Parameter	Monitoring Location	Units	Sample Type	Minimum Sampling Frequency
Temperature	EFF-001	°F	Continuous or Grab	Continuous/D
Flow [1]	EFF-002	MGD	Continuous	Continuous/D

Unit Abbreviations:

°F = degrees Fahrenheit
MGD = million gallons per day

Sample Types and Frequencies:

Continuous = measured continuously
Continuous/D = measured continuously, and recorded and reported daily
Grab = grab sample

Footnote:

[1] Flow shall be monitored continuously and the following information shall be reported in quarterly self-monitoring reports:
- Daily average flow rate (MGD)
- Daily maximum flow rate (MGD)

V. RECEIVING WATER MONITORING REQUIREMENTS

The Discharger shall monitor receiving water at Monitoring Location RSW-001 as follows:

Table E-4. Receiving Water Monitoring

Parameter	Monitoring Location	Units	Sample Type	Minimum Sampling Frequency
Temperature	RSW-001	°F	Continuous or Grab	Continuous/D
Standard Observations [1]	RSW-001	--	Visual Observation	1/Quarter

Unit Abbreviations:

°F = degrees Fahrenheit

Sample Types and Frequencies:

Continuous = measured continuously

Continuous/D = measured continuously, and recorded and reported daily
Grab = grab sample
1/Quarter = once per quarter

Footnote:

[1] Standard observations are described in Attachment G section III.C.2.

VI. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

The Discharger shall comply with all Standard Provisions (Attachments D and G) related to monitoring, reporting, and recordkeeping, with modifications as shown in section VII, below.

B. Self-Monitoring Reports (SMRs)

1. **SMR Format.** The Discharger shall electronically submit SMRs using the State Water Board's California Integrated Water Quality System (CIWQS) 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.

2. **SMR Due Dates and Contents.** The Discharger shall submit SMRs by the due dates, and with the contents, specified below:

   a. **Quarterly SMRs —** Quarterly SMRs shall be due 30 days after the end of each quarter. The quarterly SMR shall contain the applicable items described in sections V.B and V.C of both Attachments D and G. Quarterly SMRs shall include all new monitoring results obtained since the last SMR was submitted. 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 SMR.

   b. **Annual SMRs —** Annual SMRs shall be due February 1 each year, covering the previous calendar year. The annual SMR shall contain the applicable items described in sections V.B and V.C of both Attachments D and G.

   c. **Specifications for Submitting SMRs to CIWQS —** The Discharger shall submit analytical results and other information using one of the following methods:

Table E-5. CIWQS Reporting

Parameter	Method of Reporting	
	EDF/CDF data upload or manual entry	Attached File
All parameters identified in influent, effluent, and receiving water monitoring tables (except Dissolved Oxygen and Temperature)	Required for all results	
Dissolved Oxygen Temperature	Required for monthly maximum and minimum results only [1]	Discharger may use this method for all results or keep records

Parameter	Method of Reporting	
	EDF/CDF data upload or manual entry	**Attached File**
Antimony, Arsenic, Beryllium, Cadmium, Chromium, Copper, Cyanide, Lead, Mercury, Nickel, Selenium, Silver, Thallium, Zinc; Dioxins & Furans (by U.S. EPA Method 1613); Other Pollutants (by U.S. EPA methods 601, 602, 608, 610, 614, 624, and 625)	Required for all results [2]	
Volume and Duration of Blended Discharge [3]	Required for all blended effluent discharges	
Analytical Method	Not required (Discharger may select "data unavailable") [1]	
Collection Time Analysis Time	Not required (Discharger may select "0:00") [1]	

Footnotes:

[1] The Discharger shall continue to monitor at the minimum frequency specified in this MRP, keep records of the measurements, and make the records available upon request.

[2] These parameters require EDF/CDF data upload or manual entry regardless of whether monitoring is required by this MRP or other provisions of this Order (except for biosolids, sludge, or ash provisions).

[3] The requirement for volume and duration of blended discharge applies only if this Order authorizes the Discharger to discharge blended effluent.

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. The Discharger is not required to duplicate the submittal of data entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format, the Discharger shall electronically submit the data in a tabular format as an attachment.

3. **Monitoring Periods.** Monitoring periods for all required monitoring shall be as set forth below unless otherwise specified:

Table E-6. Monitoring Periods

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period
Continuous	Order effective date	All times
1/Quarter	Closest January 1, April 1, July 1, or October 1 following or on Order effective date	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31

Footnote:

[1] Monitoring performed during the previous order term may be used to satisfy monitoring required by this Order.

C. Discharge Monitoring Reports (DMRs)

If required, the Discharger shall electronically certify and submit DMRs with SMRs using the Electronic Self-Monitoring Reports module eSMR 2.5 or the latest upgraded version. As of the effective date of this Order, electronic DMR submittal is not required. However, at any time during the term of this Order, the State Water Board or Regional Water Board may notify and require the Discharger to submit DMRs. Information about electronic DMR submittal is available at the DMR website at http://www.waterboards.ca.gov/water_issues/programs/discharge_monitoring.

VII. MODIFICATIONS TO ATTACHMENT G

This MRP modifies Attachment G as indicated below:

A. Attachment G sections V.C.1.f and V.C.1.g are revised as follows, and section V.C.1.h (Reporting data in electronic format) is deleted:

f. Annual self monitoring report requirements

By the date specified in the MRP, the Discharger shall submit an annual report to the Regional Water Board covering the previous calendar year. The report shall contain the following:

1) Annual compliance summary table of treatment plant performance, including documentation of any blending events (this summary table is not required if the Discharger has submitted the year's monitoring results to CIWQS in electronic reporting format by EDF/CDF upload or manual entry);

2) Comprehensive discussion of treatment plant performance and compliance with the permit (This discussion shall include any corrective actions taken or planned, such as changes to facility equipment or operation practices that may be needed to achieve compliance, and any other actions taken or planned that are intended to improve performance and reliability of the Discharger's wastewater collection, treatment, or disposal practices.);

3) Both tabular and graphical summaries of the monitoring data for the previous year if parameters are monitored at a frequency of monthly or greater (this item is not required if the Discharger has submitted the year's monitoring results to CIWQS in electronic reporting format by EDF/CDF upload or manual entry);

4) List of approved analyses, including the following:

(i) List of analyses for which the Discharger is certified;

(ii) List of analyses performed for the Discharger by a separate certified laboratory (copies of reports signed by the laboratory director of that laboratory shall not be submitted but be retained onsite); and

(iii) List of "waived" analyses, as approved;

5) Plan view drawing or map showing the Discharger's facility, flow routing, and sampling and observation station locations;

6) Results of annual facility inspection to verify that all elements of the SWPP Plan are accurate and up to date (only required if the Discharger does not route all stormwater to the headworks of its wastewater treatment plant); and

7) Results of facility report reviews (The Discharger shall regularly review, revise, and update, as necessary, the O&M Manual, the Contingency Plan, the Spill Prevention Plan, and Wastewater Facilities Status Report so that these documents remain useful and relevant to current practices. At a minimum, reviews shall be conducted annually. The Discharger shall include, in each Annual Report, a description or summary of review and evaluation procedures, recommended or planned actions, and an estimated time schedule for implementing these actions. The Discharger shall complete changes to these documents to ensure they are up-to-date.).

g. Report submittal

The Discharger shall submit SMRs addressed as follows, unless the Discharger submits SMRs electronically to CIWQS:

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

h. Reporting data in electronic format – *Deleted*

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 this Order, the Regional Water Board incorporates this Fact Sheet as its findings supporting the issuance of this Order.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the Facility:

Table F-1. Facility Information

CIWQS Place ID	749047
Discharger	The Exploratorium
Facility Name	The Exploratorium Heating and Cooling System and Fog Bridge Desalination System
Facility Address	Piers 15 and 17, The Embarcadero San Francisco, CA 94111 San Francisco County
Facility Contact, Title, Phone	Jennifer Fragomeni, Director of Facilities and Operations, (415) 528-4340
Authorized Person to Sign and Submit Reports	Same as facility contact
Mailing Address	The Exploratorium Pier 17, Suite 100, The Embarcadero San Francisco, CA 94111
Billing Address	Same as mailing address
Facility Type	Heating and Cooling System and Desalination System
Major or Minor Facility	Minor
Threat to Water Quality	1
Complexity	A
Pretreatment Program	No
Reclamation Requirements	Not Applicable
Facility Design Flow	Heating and Cooling System: 2.0 million gallons per day (MGD) maximum Desalination System: 0.029 MGD maximum
Watershed	San Francisco Bay
Receiving Water	San Francisco Bay Central Basin
Receiving Water Type	Marine

A. The Exploratorium (Discharger) owns and operates a Heating and Cooling System and Fog Bridge Desalination System (collectively, the Facility) in San Francisco. The Facility discharges wastewater to Central San Francisco Bay, a water of the United States.

For the purposes of this Order, references to the "discharger" or "permittee" in applicable federal and State laws, regulations, plans, or policies are held to be equivalent to references to the Discharger herein.

B. The Discharger is regulated pursuant to National Pollutant Discharge Elimination System (NPDES) Permit No. CA0030198. The Discharger was previously subject to the NPDES permit in Order No. R7-2010-0082 (previous order), which became effective on October 1, 2010, and was administratively extended by operation of law past its stated expiration date (September 30, 2015).

C. The Discharger filed a Report of Waste Discharge and submitted an application for reissuance of its Waste Discharge Requirements (WDRs) and NPDES permit on April 3, 2015. Supplemental application packages were submitted on April 16, 2015, and September 15, 2015.

II. FACILITY DESCRIPTION

A. Operations and Wastewater Controls

1. Heating and Cooling System

The Heating and Cooling System uses San Francisco Bay water to heat and cool The Exploratorium buildings when needed. Bay water is pumped into the building through two screened submersible intakes below Pier 15. This Order regulates the return of Bay water from this system back to the Bay.

Intake water is drawn into the system through one of two cylindrical intake screens. The intake screens are both 36 inches in diameter and 28 inches long, and have 1.75-mm slots. Through-screen intake velocities do not exceed approximately 0.16 feet per second (fps) at the maximum permitted load of 2.0 million gallons per day (MGD), assuming 30 percent fouling. This velocity is below the 0.5 fps intake velocity specified in 40 C.F.R. sections 125.84(b)(2) and 125.84(c)(1) for larger new facilities that withdraw cooling water.

Automatic brush-cleaning systems clean the intake screens. The Discharger also uses an electric winch system to lift the intake screens out of the water and above the pier deck for manual cleaning. Chlorine is not used in this process.

Bay water then passes through dual filtering drums to remove particles. Each drum filter has an automatic backwash system that uses Bay water to clean the drum filters. Some of the filtered Bay water is sprayed through the filters from the inside and returned to the Bay through a 4-inch outfall pipe (Discharge Point No. 002). Less than 100 gallons of Bay water are used to backwash the drum filters each day.

After passing through the filtering drums, the water is stored in a holding tank. From there, water is pumped through an ultraviolet (UV) filter into two closed-loop heat exchangers. There is no direct contact between Bay water and internal heating and cooling water in the heat exchangers. The heat exchangers heat or cool the building depending on the weather.

The waste heating or cooling water is returned to the Bay through an outfall manifold with four spray nozzles beneath Pier 15 (Discharge Point No. 001). The spray nozzles are spread across a 22-foot square on the manifold. This system maximizes the surface area of the discharge for heat dissipation as the water returns to the Bay, allowing cool ambient air temperatures beneath the pier and evaporative cooling to minimize the temperature difference between the discharge and the Bay surface.

2. Fog Bridge Desalination System

This Order regulates the discharge to the Bay under Pier 17 of concentrate from a Spectra Watermaker Model LB 2800 F seawater desalination system (online on or about December 2015). The Desalination System provides a sustainable source of freshwater for The Exploratorium Fog Bridge Exhibit.

The Fog Bridge Exhibit is an installation that stretches across a 150-foot-long pedestrian bridge spanning the water between Piers 15 and 17. Freshwater is pumped at high pressure through more than 800 nozzles lining the bridge to create an immersive environment that shrouds participants in a fog mist. Each Fog Bridge Exhibit show lasts about six minutes. Shows occur about 8 times per day, Friday through Wednesday, and about 13 times per day on Thursday. Each show uses 160 gallons of freshwater. On a typical day, the majority of the mist is expected to evaporate prior to reaching the Bay.

The Spectra Watermaker system is a fully automated reverse osmosis desalination unit. It includes intake and outflow ports, pumps, filtering mechanisms, a storage tank, and automated controls. It generates 1.9 gallons-per-minute (gpm) of freshwater when operating at its design intake capacity of 6.0 gpm. Each day the system intakes an average of 4,100 gallons and a maximum of 6,100 gallons (which reflects the increased number of shows on Thursdays).

Intake water is drawn into the system through one of two cylindrical intake screens. The intake screens are both 3 inches in diameter and 36 inches long, and have 0.8-mm slots. The intake mechanism is housed within a 6-inch diameter PVC stilling well installed 5 feet below Mean Low Low Water (MLLW) under Pier 17. Through-screen intake velocities reach approximately 0.083 fps at the designed 6.0 gpm influent flow and could reach up to approximately 0.14 fps at the maximum influent flow capacity of 10 gpm.

Water is then pumped through two 20-micron and two 5-micron filters before flowing to the reverse osmosis membranes. The concentrate resulting from the reverse osmosis process is estimated to be 1.25 times as salty as ambient Bay water. The membranes are designed to be regularly backwashed. Chlorine is not used for cleaning purposes. The concentrate and all filter backwash water are combined and discharged at a rate of approximately 4.2 gpm. If the salinity of the desalinated Bay water is greater than 0.075 parts per thousand (ppt), it is rerouted and also combined with the concentrate and filter backwash water.

Discharge occurs via one of two effluent dispersion nozzles fixed above the Bay beneath Pier 17 (Discharge Point No. 003). The spray nozzles disperse the effluent over a wide surface of the Bay. Tides and wave action then quickly disperse the elevated salinity to ambient Bay levels.

B. Previous Requirements and Self-Monitoring Report (SMR) Data

The effluent limitations in the previous order and available monitoring data from the previous order term are presented below:

Table F-2. Previous Effluent Limitations and Monitoring Data

Parameter	Effluent Limitations	Available Monitoring Data (10/2013 – 09/2015)
Temperature [1,2]	4ºF (daily average difference between discharge and receiving water)	-4.28ºF – 3.08ºF
Total Residual Chlorine	0.0 mg/L (instantaneous maximum)	None [3]

Unit Abbreviations:

mg/L = milligrams per liter
°F = degrees Fahrenheit

Footnotes:

[1] Temperature data are not available prior to October 28, 2013.

[2] Data are based on the daily average temperature measured at both Monitoring Locations INF-001 and INF-002 when pumping.

[3] Chlorine was never used.

C. Compliance Summary

1. **Flow Discharge Prohibition.** The previous order prohibited effluent flow exceeding 0.50 MGD. Although discharge flow data from October 2014 to September 2015 suggest that the Discharger had regularly violated this flow limit prohibition, this prohibition was established before the system was put into service and was based on expected building heating and cooling needs at the time; it was not set for purposes of water quality protection. Considering the science educational purpose of The Exploratorium and the lack of water quality harm, enforcement is unwarranted. This Order now reflects the flow necessary to serve the actual building heating and cooling needs. This Order prohibits influent flow to exceed 2.0 MGD.

2. **Reporting Requirements.** A Notice of Violation was sent to the Discharger on March 30, 2015, for failing to submit 2013 and 2014 annual self-monitoring reports when due, and failing to submit complete quarterly self-monitoring reports. On June 11, 2015, the Discharger submitted the annual reports and required data, with the exception of some flow monitoring data that it plans to submit when available.

D. Planned Changes

No changes are planned to the Facility as described above.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

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 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 from the Facility to surface waters.

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.

Because of the marine influence on San Francisco Bay, total dissolved solids levels exceed 3,000 mg/L; therefore, San Francisco Bay meets an exception to State Water Board Resolution No. 88-63. The table below lists beneficial uses applicable to San Francisco Bay Central Basin:

Table F-3. Beneficial Uses

Discharge Points	Receiving Water	Beneficial Uses
001, 002, and 003	San Francisco Bay Central Basin	Industrial Service Supply (IND) Industrial Process Supply (PROC) Ocean, Commercial and Sport Fishing (COMM) Shellfish Harvesting (SHELL) Estuarine Habitat (EST) Fish Migration (MIGR) Preservation of Rare and Endangered Species (RARE) Fish Spawning (SPWN) Wildlife Habitat (WILD) Water Contact Recreation (REC1) Non-Contact Water Recreation (REC2) Navigation (NAV)

2. **Thermal Plan.** The State Water Board adopted a *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California* (Thermal Plan) on May 18, 1972, and amended this plan on September 18, 1975. This plan contains temperature objectives for surface waters. Requirements of this Order implement the Thermal Plan.

3. **CWA, Section 316(b).** This section of the Clean Water Act requires that the location, design, construction, and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impact. Adverse environmental impacts can be caused by impingement of marine life on intake screens and filters and entrainment of smaller marine organisms as the water is passed through the heat exchangers.

   According to May 28, 2010, correspondence, the National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS) reviewed the potential impacts of the Heating and Cooling System water intakes proposed at that time when operating at maximum capacity. NMFS concluded that the Heating and Cooling System was unlikely to adversely affect federally-listed endangered species. The current approach velocity of 0.16 fps remains below the thresholds cited in the NMFS letter so the actual Heating and Cooling System is not expected to adversely affect federally-listed species. Since the approach velocity was calculated based on maximum intake capacity, it is not affected by this Order increasing allowed flow volume to 2.0 MGD. The Fog Bridge Desalination System water intake system is designed to result in less impingement and entrainment than the Heating and Cooling System; therefore, this Order does not contain any additional requirements related to impingement or entrainment for the Desalination System intakes.

4. **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.

5. **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.

6. **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 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 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 Resolution 68-16.

7. **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.

8. **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 Discharger is responsible for meeting all applicable Endangered Species Act requirements.

D. Impaired Waters on CWA 303(d) List

In October 2011, 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.

San Francisco Bay is listed as impaired by chlordane, DDT, dieldrin, dioxin compounds, invasive species, furan compounds, mercury, PCBs, dioxin-like PCBs, and selenium. On February 12, 2008, U.S. EPA approved a TMDL for mercury in San Francisco Bay. On March 29, 2010, U.S. EPA approved a TMDL for PCBs in San Francisco Bay. The Discharger received no wasteload allocation for mercury or PCBs; however, none is needed because Facility discharges do not contribute net mercury or PCBs loads to San Francisco Bay. The discharges contain no pollutants (other than waste heat) not already present in Facility influent. Similarly, Facility discharges are not a source of chlordane, DDT, dieldrin, dioxin compounds, invasive species, furan compounds, or selenium.

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. This Order contains one discharge prohibition and no effluent limitations for the reasons explained below.

A. Discharge Prohibitions

1. Prohibitions in this Order

a. Discharge Prohibition III.A (No discharge other than as described in this Order): The Order prohibits discharge other than as described in the Order based on 40 C.F.R. section 122.21(a) and Water Code section 13260, which require filing an application and Report of Waste Discharge before a discharge can occur. Discharges not described in the application and Report of Waste Discharge, and subsequently in the Order, are prohibited.

b. Discharge Prohibition III.B (Heating and Cooling System influent flow not to exceed permitted flow): This Order prohibits Heating and Cooling System influent flow greater than 2.0 MGD. This prohibition is based on the flow necessary to serve the actual building heating and cooling needs.

c. Discharge Prohibition III.C (Fog Bridge Desalination System influent flow not to exceed permitted flow): This Order prohibits Fog Bridge Desalination System influent flow greater than 0.029 MGD. This prohibition is based on the maximum system design capacity. Exceeding the maximum design capacity could result in lowering the reliability of achieving compliance with requirements.

2. Basin Plan Discharge Prohitions

a. Basin Plan Table 4-1, Discharge Prohibition 1, prohibits the discharge of any wastewater that 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. The purposes of

this prohibition are to provide an added degree of protection from the continuous effects of waste discharge, to provide a buffer against the effects of abnormal discharges caused by any malfunctions, to minimize public contact with undiluted waste, and to reduce the visual impacts of waste discharge. In the case of this Facility, none of these reasons for this prohibition apply. There is no treatment so no treatment upset can occur. Furthermore, the discharges are expected to receive the equivalent of a minimum initial dilution of at least 10:1 by being sprayed over the Bay through diffuser nozzles.

b. Basin Plan Table 4-1, Discharger Prohibition 17, prohibits the discharge of waste so as to alter the total dissolved solids or salinity of receiving waters sufficiently to adversely affect beneficial uses. The purpose of this prohibition is to prohibit the discharge of excessively salty water to streams and the Bay-Delta system. In this case, this prohibition does not apply because the receiving water is saltwater and the discharge has no potential to exceed water quality objectives; therefore, adverse effects on beneficial uses are not anticipated (see Fact Sheet section IV.C.3.c).

B. Technology-Based Effluent Limitations

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. The CWA requires U.S. EPA to develop effluent limitations, guidelines, and standards representing these levels of control, and CWA section 402(a)(1) and 40 C.F.R. section 125.3 authorize the use of best professional judgment when U.S. EPA has not done so. U.S. EPA has not developed effluent limitations, guidelines, and standards for the types of industry represented by this Facility. This Order does not contain technology-based effluent limitations based on best professional judgment because this Facility does not operate a treatment system.

C. Water Quality-Based Effluent Limitations

1. Scope and Authority

CWA section 301(b) and 40 C.F.R. section 122.44(d) require that permits include water quality-based effluent limitations (WQBELs) 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 protect designated uses of receiving waters as specified in the Basin Plan. This Order does not impose numeric effluent limitations because, as explained below, no pollutant in the

discharges subject to this Order exhibits reasonable potential to cause or contribute to an exceedance of any water quality standard.

2. Beneficial Uses and Water Quality Criteria and Objectives

Discharge Point Nos. 001, 002, and 003 discharge to Central San Francisco Bay. Fact Sheet section III.C.1, above, identifies the beneficial uses of Central San Francisco Bay. Water quality criteria and objectives to protect these beneficial uses are described below:

a. Basin Plan Objectives. The Basin Plan specifies numeric water quality objectives for several toxic pollutants and narrative water quality objectives for toxicity and salinity. The narrative toxicity objective states, "All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms." The narrative salinity objective states, "Controllable water quality factors shall not increase the total dissolved solids or salinity of waters of the state so as to adversely affect beneficial uses, particularly fish migration and estuarine habitat."

b. CTR Criteria. 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." The criteria applicable to "organisms only" apply to San Francisco Bay Central Basin because it is not a source of drinking water.

c. NTR Criteria. The NTR establishes numeric aquatic life and human health criteria for a number of toxic pollutants for San Francisco Bay waters upstream to and including Suisun Bay and the Sacramento-San Joaquin Delta. The NTR criteria apply to San Francisco Bay Central Basin.

d. Thermal Plan. The Thermal Plan (*Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California, 1975*) defines "thermal waste" as cooling water and industrial process water used for the purpose of transporting waste heat. It further defines a specific water quality objective for new discharges of thermal waste. The maximum temperature is to be no greater than 4ºF above the natural temperature of the receiving water.

e. Receiving Water Salinity. Basin Plan section 4.6.2 (like the CTR and NTR) states that the salinity characteristics (i.e., freshwater vs. saltwater) of the receiving water are to be considered in determining applicable water quality objectives. Freshwater criteria apply to discharges to waters with salinities equal to or less than one 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 water quality objectives are the lower of the salt or freshwater objectives (the latter calculated based on ambient hardness) for each substance.

Central San Francisco Bay is a saltwater environment based on salinity data generated through the Regional Monitoring Program (RMP) and the U.S. Geological Survey (USGS). Salinity data were collected at the Yerba Buena (BC10) RMP sampling location

between 1993 and 2013. During that period, the average salinity was 25 ppt, with a range from 12 to 33 ppt. Salinity data were also collected at a USGS sampling location located at Pier 17 between November 2013 and November 2015. Salinity ranged from 20 to 33 ppt. Because the salinity was greater than 10 ppt in all of the samples, Central San Francisco Bay is classified as saltwater.

f. Site-Specific Metals Translators. Effluent limitations for metals must be expressed as total recoverable metal (40 C.F.R. § 122.45[c]). Since the 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 contains default translators; however, site-specific conditions, such as water temperature, pH, suspended solids, and organic carbon may affect the form of metal (dissolved, non-filterable, or otherwise) present and therefore available to cause toxicity. In general, dissolved metals are more available and more toxic to aquatic life than other forms. Site-specific translators can account for site-specific conditions, thereby preventing overly stringent or under-protective water quality objectives. In this Order, CTR default translators were used for all metals.

3. Need for Water Quality-Based Effluent Limitations (Reasonable Potential Analysis)

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. Available Information. The reasonable potential analyses for this Order are based on Heating and Cooling System effluent priority pollutant monitoring data the Discharger collected from Monitoring Location EFF-001 (formerly Monitoring Location EFF-002) in March and April 2015, influent and effluent temperature monitoring data the Discharger collected from October 2013 through September 2015, and USGS salinity data collected at Pier 17 from November 2013 through November 2015.

Background concentrations are based on RMP data collected at the Yerba Buena Island station (BC10) from 1993 through 2013, and additional Bay Area Clean Water Agencies' data from *San Francisco Bay Ambient Water Monitoring Interim Report* (2003) and *Ambient Water Monitoring: Final CTR Sampling Update* (2004). These reports contain monitoring results from 2002 and 2003 for priority pollutants the RMP did not monitor at the time. SIP section 1.4.3 requires that background water quality data be representative of the ambient receiving water that will mix with the discharge. RMP monitoring station BC10, relative to other RMP stations, fits SIP guidance for establishing background conditions.

b. Priority Pollutants

i. Methodology. SIP section 1.3 sets forth the methodology to be used to assess whether a priority pollutant has reasonable potential to exceed a CTR or NTR water quality objective. 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:

(a) Trigger 1 is activated if the maximum effluent concentration is greater than or equal to the lowest applicable water quality objective (MEC ≥ water quality objective).

(b) 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.

(c) Trigger 3 is activated if a review of other information indicates that a WQBEL is needed to protect beneficial uses.

ii. Heating and Cooling System Analysis. The maximum effluent concentrations, most stringent applicable water quality criteria and objectives, and ambient background concentrations are presented in the following table, along with the reasonable potential analysis results (no or unknown) for each priority pollutant. Reasonable potential was not determined for all priority pollutants because there are not water quality objectives for all of them, and monitoring data are unavailable for others. No priority pollutants exhibit reasonable potential at Discharge Point No. 001.

Table F-4. Reasonable Potential Analysis – Heating and Cooling System

CTR No.	Priority Pollutants	Governing criterion or objective (µg/L)	MEC or Minimum DL (µg/L) [1][2]	B or Minimum DL (µg/L) [1][2]	RPA Results [3]
1	Antimony	4,300	0.27	1.8	No
2	Arsenic	36	2.2	2.8	No
3	Beryllium	No Criteria	<0.45	0.22	U
4	Cadmium	9.4	0.45	0.13	No
5a	Chromium (III)	No Criteria	0.61 [4]	4.4 [4]	U
5b	Chromium (VI)	50	<0.9 [4]	4.4 [4]	No
6	Copper	7.2	3.7	2.5	No
7	Lead	8.5	1.8	0.8	No
8	Mercury [5]	---	0.0033	---	--- [5]
9	Nickel	8.3	1.2	3.7	No
10	Selenium	5	2.5	0.39	No
11	Silver	2.2	<0.1	0.052	No
12	Thallium	6.3	<0.25	0.21	No
13	Zinc	86	42	5.1	No
14	Cyanide	2.9	<0.9	<0.4	No
15	Asbestos	No Criteria	<0.2 MFL	Unavailable	U
16	2,3,7,8-TCDD	1.4E-08	Unavailable	8.2E-09	U
17	Acrolein	780	<1.7	<0.5	No
18	Acrylonitrile	0.66	<0.69	0.03	No
19	Benzene	71	<0.18	<0.05	No
20	Bromoform	360	<0.15	<0.5	No
21	Carbon Tetrachloride	4.4	<0.16	0.06	No

CTR No.	Priority Pollutants	Governing criterion or objective (µg/L)	MEC or Minimum DL (µg/L) [1][2]	B or Minimum DL (µg/L) [1][2]	RPA Results [3]
22	Chlorobenzene	21,000	<0.18	<0.5	No
23	Chlorodibromomethane	34	<0.17	<0.05	No
24	Chloroethane	No Criteria	<0.38	<0.5	U
25	2-Chloroethylvinyl ether	No Criteria	<0.28	<0.5	U
26	Chloroform	No Criteria	<0.19	<0.5	U
27	Dichlorobromomethane	46	<0.16	<0.05	No
28	1,1-Dichloroethane	No Criteria	<0.19	<0.05	U
29	1,2-Dichloroethane	99	<0.18	0.04	No
30	1,1-Dichloroethylene	3.2	<0.21	<0.5	No
31	1,2-Dichloropropane	39	<0.18	<0.05	No
32	1,3-Dichloropropylene	1,700	<0.16	<0.5	No
33	Ethylbenzene	29,000	<0.26	<0.5	No
34	Methyl Bromide	4,000	<0.3	<0.5	No
35	Methyl Chloride	No Criteria	<0.3	<0.5	U
36	Methylene Chloride	1,600	<0.4	22	No
37	1,1,2,2-Tetrachloroethane	11	<0.1	<0.05	No
38	Tetrachloroethylene	8.9	<0.19	<0.05	No
39	Toluene	200,000	<0.19	<0.3	No
40	1,2-Trans-Dichloroethylene	140,000	<0.22	<0.5	No
41	1,1,1-Trichloroethane	No Criteria	<0.19	<0.5	U
42	1,1,2-Trichloroethane	42	<0.16	<0.05	No
43	Trichloroethylene	81	<0.2	<0.5	No
44	Vinyl Chloride	530	<0.25	<0.5	No
45	2-Chlorophenol	400	<0.7	<1.2	No
46	2,4-Dichlorophenol	790	<0.9	<1.3	No
47	2,4-Dimethylphenol	2,300	<0.8	<1.3	No
48	2-Methyl- 4,6-Dinitrophenol	770	<0.6	<1.2	No
49	2,4-Dinitrophenol	14,000	<0.9	<0.7	No
50	2-Nitrophenol	No Criteria	<0.8	<1.3	U
51	4-Nitrophenol	No Criteria	<0.5	<1.6	U
52	3-Methyl 4-Chlorophenol	No Criteria	<0.8	<1.1	U
53	Pentachlorophenol	7.9	<0.6	<1	No
54	Phenol	4,600,000	<0.5	<1.3	No
55	2,4,6-Trichlorophenol	6.5	<0.97	<1.3	No
56	Acenaphthene	2,700	<0.01	0.0019	No
57	Acenaphthylene	No Criteria	<0.02	0.0013	U
58	Anthracene	110,000	<0.01	0.00059	No
59	Benzidine	0.00054	<5	<0.0015	No
60	Benzo(a)Anthracene	0.049	<0.02	0.0053	No
61	Benzo(a)Pyrene	0.049	<0.01	0.0033	No
62	Benzo(b)Fluoranthene	0.049	<0.01	0.0046	No
63	Benzo(ghi)Perylene	No Criteria	<0.02	0.0045	U
64	Benzo(k)Fluoranthene	0.049	<0.01	0.0018	No
65	Bis(2-Chloroethoxy)Methane	No Criteria	<0.9	<0.3	U

CTR No.	Priority Pollutants	Governing criterion or objective (µg/L)	MEC or Minimum DL (µg/L) [1][2]	B or Minimum DL (µg/L) [1][2]	RPA Results [3]
66	Bis(2-Chloroethyl)Ether	1.4	<0.7	<0.00015	No
67	Bis(2-Chloroisopropyl)Ether	170,000	<0.6	Unavailable	No
68	Bis(2-Ethylhexyl)Phthalate	5.9	<0.6	<0.7	No
69	4-Bromophenyl Phenyl Ether	No Criteria	<0.7	<0.23	U
70	Butylbenzyl Phthalate	5,200	<0.7	0.0056	No
71	2-Chloronaphthalene	4,300	<0.9	<0.3	No
72	4-Chlorophenyl Phenyl Ether	No Criteria	<0.9	<0.3	U
73	Chrysene	0.049	<0.01	0.0028	No
74	Dibenzo(a,h)Anthracene	0.049	<0.02	0.00064	No
75	1,2-Dichlorobenzene	17,000	<0.27	<0.3	No
76	1,3-Dichlorobenzene	2,600	<0.18	<0.3	No
77	1,4-Dichlorobenzene	2,600	<0.18	<0.3	No
78	3,3 Dichlorobenzidine	0.077	<5	<0.001	No
79	Diethyl Phthalate	120,000	<0.7	<0.21	No
80	Dimethyl Phthalate	2,900,000	<0.9	<0.21	No
81	Di-n-Butyl Phthalate	12,000	<0.6	0.016	No
82	2,4-Dinitrotoluene	9.1	<0.7	<0.27	No
83	2,6-Dinitrotoluene	No Criteria	<0.8	<0.29	U
84	Di-n-Octyl Phthalate	No Criteria	<0.5	<0.38	U
85	1,2-Diphenylhydrazine	0.54	<0.7	0.0037	No
86	Fluoranthene	370	<0.03	0.011	No
87	Fluorene	14,000	<0.01	0.0021	No
88	Hexachlorobenzene	0.00077	<0.7	0.000022	No
89	Hexachlorobutadiene	50	<0.6	<0.3	No
90	Hexachlorocyclopentadiene	17,000	<0.7	<0.3	No
91	Hexachloroethane	8.9	<0.6	<0.2	No
92	Indeno(1,2,3-cd)Pyrene	0.049	<0.02	0.004	No
93	Isophorone	600	<0.93	<0.3	No
94	Naphthalene	No Criteria	<0.02	0.013	U
95	Nitrobenzene	1,900	<0.9	<0.25	No
96	N-Nitrosodimethylamine	8.1	<0.5	<0.3	No
97	N-Nitrosodi-n-Propylamine	1.4	<0.8	<0.001	No
98	N-Nitrosodiphenylamine	16	<0.5	<0.001	No
99	Phenanthrene	No Criteria	<0.01	0.0095	U
100	Pyrene	11,000	<0.02	0.019	No
101	1,2,4-Trichlorobenzene	No Criteria	<0.6	<0.3	U
102	Aldrin	0.00014	<0.004	0.0000028	No
103	Alpha-BHC	0.013	<0.005	0.0005	No
104	Beta-BHC	0.046	<0.004	0.00041	No
105	Gamma-BHC	0.063	<0.004	0.0007	No
106	Delta-BHC	No Criteria	<0.004	0.000053	U
107	Chlordane	0.00059	<0.02	0.00018	No
108	4,4'-DDT	0.00059	<0.004	0.00017	No
109	4,4'-DDE	0.00059	<0.003	0.00069	No

CTR No.	Priority Pollutants	Governing criterion or objective (µg/L)	MEC or Minimum DL (µg/L) [1][2]	B or Minimum DL (µg/L) [1][2]	RPA Results [3]
110	4,4'-DDD	0.00084	<0.004	0.00031	No
111	Dieldrin	0.00014	<0.004	0.00026	No
112	Alpha-Endosulfan	0.0087	<0.004	0.000031	No
113	beta-Endosulfan	0.0087	<0.005	0.000069	No
114	Endosulfan Sulfate	240	<0.005	0.000082	No
115	Endrin	0.0023	<0.005	0.00004	No
116	Endrin Aldehyde	0.81	<0.005	Unavailable	No
117	Heptachlor	0.00021	<0.005	0.000019	No
118	Heptachlor Epoxide	0.00011	<0.004	0.000094	No
119-125	PCBs sum [5]	---	<0.35	---	--- [5]
126	Toxaphene	0.0002	<0.3	Unavailable	No

Abbreviations:

MFL = million fibers per liter
µg/L = micrograms per liter
WQC = water quality criterion

Footnotes:

[1] The maximum effluent concentration and ambient background concentration are the actual detected concentrations unless preceded by a "<" sign, in which case the value shown is the minimum detection level (MDL).

[2] The maximum effluent concentration or ambient background concentration is "Unavailable" when there are no monitoring data for the constituent.

[3] RPA 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
= U (Unknown; cannot determine) if no criteria have been promulgated or data are insufficient.

[4] The result shown is for total recoverable chromium.

[5] SIP section 1.3 excludes from its reasonable potential analysis procedure priority pollutants for which a TMDL has been developed. TMDLs have been developed for mercury and PCBs in San Francisco Bay. The Discharger received no wasteload allocation for mercury or PCBs; however, none is needed because Facility discharges do not contribute net mercury or PCBs loads to San Francisco Bay.

iii. Filter Drum Backwash Water Analysis. Filtered Bay water is used to backwash the dual filtering drums. This is the same water discharged at Discharge Point No. 001 but without passing through the heat exchangers. Therefore, it contains the same priority pollutant concentrations as the Heating and Cooling System discharges. No priority pollutants exhibit reasonable potential at Discharge Point No. 001; thus none exhibit reasonable potential at Discharge Point No. 002 (see Fact Sheet section IV.C.3.b.ii above).

iv. Desalination System Analysis. The maximum effluent concentrations, most stringent applicable water quality criteria and objectives, and ambient background concentrations are presented in the following table, along with the reasonable potential analysis results (no or unknown) for each priority pollutant. No priority pollutants exhibit reasonable potential at Discharge Point No. 003.

To conservatively estimate maximum effluent concentrations for the Fog Bridge Desalination System, existing effluent data for the Heating and Cooling System were

multiplied by a concentration factor of 1.5. The actual expected concentration factor is closer to 1.25.

Table F-5. Reasonable Potential Analysis – Desalination System

CTR No.	Priority Pollutants	Governing criterion or objective (µg/L)	MEC or Minimum DL (µg/L) [1][2]	B or Minimum DL (µg/L) [1][2]	RPA Results [3]
1	Antimony	4,300	0.41	1.8	No
2	Arsenic	36	3.3	2.8	No
3	Beryllium	No Criteria	<0.68	0.22	U
4	Cadmium	9.4	0.68	0.13	No
5a	Chromium (III)	No Criteria	0.92 [4]	4.4 [4]	U
5b	Chromium (VI)	50	<1.4 [4]	4.4 [4]	No
6	Copper	7.2	5.6	2.5	No
7	Lead	8.5	2.7	0.8	No
8	Mercury [5]	---	0.005	---	--- [5]
9	Nickel	8.3	1.8	3.7	No
10	Selenium	5	3.8	0.39	No
11	Silver	2.2	<0.15	0.052	No
12	Thallium	6.3	<0.38	0.21	No
13	Zinc	86	63	5.1	No
14	Cyanide	2.9	<1.4	<0.4	No
15	Asbestos	No Criteria	<0.3 MFL	Unavailable	U
16	2,3,7,8-TCDD	1.4E-08	Unavailable	8.2E-09	U
17	Acrolein	780	<2.6	<0.5	No
18	Acrylonitrile	0.66	<1	0.03	No
19	Benzene	71	<0.27	<0.05	No
20	Bromoform	360	<0.23	<0.5	No
21	Carbon Tetrachloride	4.4	<0.24	0.06	No
22	Chlorobenzene	21,000	<0.27	<0.5	No
23	Chlorodibromomethane	34	<0.26	<0.05	No
24	Chloroethane	No Criteria	<0.57	<0.5	U
25	2-Chloroethylvinyl ether	No Criteria	<0.42	<0.5	U
26	Chloroform	No Criteria	<0.29	<0.5	U
27	Dichlorobromomethane	46	<0.24	<0.05	No
28	1,1-Dichloroethane	No Criteria	<0.29	<0.05	U
29	1,2-Dichloroethane	99	<0.27	0.04	No
30	1,1-Dichloroethylene	3.2	<0.32	<0.5	No
31	1,2-Dichloropropane	39	<0.27	<0.05	No
32	1,3-Dichloropropylene	1,700	<0.24	<0.5	No
33	Ethylbenzene	29,000	<0.39	<0.5	No
34	Methyl Bromide	4,000	<0.45	<0.5	No
35	Methyl Chloride	No Criteria	<0.45	<0.5	U
36	Methylene Chloride	1,600	<0.6	22	No
37	1,1,2,2-Tetrachloroethane	11	<0.15	<0.05	No
38	Tetrachloroethylene	8.9	<0.29	<0.05	No
39	Toluene	200,000	<0.29	<0.3	No

CTR No.	Priority Pollutants	Governing criterion or objective (µg/L)	MEC or Minimum DL (µg/L) [1][2]	B or Minimum DL (µg/L) [1][2]	RPA Results [3]
40	1,2-Trans-Dichloroethylene	140,000	<0.33	<0.5	No
41	1,1,1-Trichloroethane	No Criteria	<0.29	<0.5	U
42	1,1,2-Trichloroethane	42	<0.24	<0.05	No
43	Trichloroethylene	81	<0.3	<0.5	No
44	Vinyl Chloride	530	<0.38	<0.5	No
45	2-Chlorophenol	400	<1.1	<1.2	No
46	2,4-Dichlorophenol	790	<1.4	<1.3	No
47	2,4-Dimethylphenol	2,300	<1.2	<1.3	No
48	2-Methyl- 4,6-Dinitrophenol	770	<0.9	<1.2	No
49	2,4-Dinitrophenol	14,000	<1.4	<0.7	No
50	2-Nitrophenol	No Criteria	<1.2	<1.3	U
51	4-Nitrophenol	No Criteria	<0.75	<1.6	U
52	3-Methyl 4-Chlorophenol	No Criteria	<1.2	<1.1	U
53	Pentachlorophenol	7.9	<0.9	<1	No
54	Phenol	4,600,000	<0.75	<1.3	No
55	2,4,6-Trichlorophenol	6.5	<1.5	<1.3	No
56	Acenaphthene	2,700	<0.015	0.0019	No
57	Acenaphthylene	No Criteria	<0.03	0.0013	U
58	Anthracene	110,000	<0.015	0.00059	No
59	Benzidine	0.00054	<7.5	<0.0015	No
60	Benzo(a)Anthracene	0.049	<0.03	0.0053	No
61	Benzo(a)Pyrene	0.049	<0.015	0.0033	No
62	Benzo(b)Fluoranthene	0.049	<0.015	0.0046	No
63	Benzo(ghi)Perylene	No Criteria	<0.03	0.0045	U
64	Benzo(k)Fluoranthene	0.049	<0.015	0.0018	No
65	Bis(2-Chloroethoxy)Methane	No Criteria	<1.4	<0.3	U
66	Bis(2-Chloroethyl)Ether	1.4	<1.1	<0.00015	No
67	Bis(2-Chloroisopropyl)Ether	170,000	<0.9	Unavailable	No
68	Bis(2-Ethylhexyl)Phthalate	5.9	<0.9	<0.7	No
69	4-Bromophenyl Phenyl Ether	No Criteria	<1.1	<0.23	U
70	Butylbenzyl Phthalate	5,200	<1.1	0.0056	No
71	2-Chloronaphthalene	4,300	<1.4	<0.3	No
72	4-Chlorophenyl Phenyl Ether	No Criteria	<1.4	<0.3	U
73	Chrysene	0.049	<0.015	0.0028	No
74	Dibenzo(a,h)Anthracene	0.049	<0.03	0.00064	No
75	1,2-Dichlorobenzene	17,000	<0.41	<0.3	No
76	1,3-Dichlorobenzene	2,600	<0.27	<0.3	No
77	1,4-Dichlorobenzene	2,600	<0.27	<0.3	No
78	3,3 Dichlorobenzidine	0.077	<7.5	<0.001	No
79	Diethyl Phthalate	120,000	<1.1	<0.21	No
80	Dimethyl Phthalate	2,900,000	<1.4	<0.21	No
81	Di-n-Butyl Phthalate	12,000	<0.9	0.016	No
82	2,4-Dinitrotoluene	9.1	<1.1	<0.27	No
83	2,6-Dinitrotoluene	No Criteria	<1.2	<0.29	U

CTR No.	Priority Pollutants	Governing criterion or objective (µg/L)	MEC or Minimum DL (µg/L) [1][2]	B or Minimum DL (µg/L) [1][2]	RPA Results [3]
84	Di-n-Octyl Phthalate	No Criteria	<0.75	<0.38	U
85	1,2-Diphenylhydrazine	0.54	<1.1	0.0037	No
86	Fluoranthene	370	<0.045	0.011	No
87	Fluorene	14,000	<0.015	0.0021	No
88	Hexachlorobenzene	0.00077	<1.1	0.000022	No
89	Hexachlorobutadiene	50	<0.9	<0.3	No
90	Hexachlorocyclopentadiene	17,000	<1.1	<0.3	No
91	Hexachloroethane	8.9	<0.9	<0.2	No
92	Indeno(1,2,3-cd)Pyrene	0.049	<0.03	0.004	No
93	Isophorone	600	<1.4	<0.3	No
94	Naphthalene	No Criteria	<0.03	0.013	U
95	Nitrobenzene	1,900	<1.4	<0.25	No
96	N-Nitrosodimethylamine	8.1	<0.75	<0.3	No
97	N-Nitrosodi-n-Propylamine	1.4	<1.2	<0.001	No
98	N-Nitrosodiphenylamine	16	<0.75	<0.001	No
99	Phenanthrene	No Criteria	<0.015	0.0095	U
100	Pyrene	11,000	<0.03	0.019	No
101	1,2,4-Trichlorobenzene	No Criteria	<0.9	<0.3	U
102	Aldrin	0.00014	<0.006	0.0000028	No
103	Alpha-BHC	0.013	<0.0075	0.0005	No
104	Beta-BHC	0.046	<0.006	0.00041	No
105	Gamma-BHC	0.063	<0.006	0.0007	No
106	Delta-BHC	No Criteria	<0.006	0.000053	U
107	Chlordane	0.00059	<0.03	0.00018	No
108	4,4'-DDT	0.00059	<0.006	0.00017	No
109	4,4'-DDE	0.00059	<0.0045	0.00069	No
110	4,4'-DDD	0.00084	<0.006	0.00031	No
111	Dieldrin	0.00014	<0.006	0.00026	No
112	Alpha-Endosulfan	0.0087	<0.006	0.000031	No
113	beta-Endosulfan	0.0087	<0.0075	0.000069	No
114	Endosulfan Sulfate	240	<0.0075	0.000082	No
115	Endrin	0.0023	<0.0075	0.00004	No
116	Endrin Aldehyde	0.81	<0.0075	Unavailable	No
117	Heptachlor	0.00021	<0.0075	0.000019	No
118	Heptachlor Epoxide	0.00011	<0.006	0.000094	No
119-125	PCBs sum [5]	---	<0.53	---	--- [5]
126	Toxaphene	0.0002	<0.45	Unavailable	No

Abbreviations:

MFL = million fibers per liter
µg/L = micrograms per liter
WQC = water quality criterion

Footnotes:

[1] The maximum effluent concentration and ambient background concentration are the actual detected concentrations unless preceded by a "<" sign, in which case the value shown is the minimum detection level (MDL).

[2] The maximum effluent concentration or ambient background concentration is "Unavailable" when there are no monitoring data for the constituent.

[3] RPA 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
= U (Unknown; cannot determine) if no criteria have been promulgated or data are insufficient.

[4] The result shown is for total recoverable chromium.

[5] SIP section 1.3 excludes from its reasonable potential analysis procedure priority pollutants for which a TMDL has been developed. TMDLs have been developed for mercury and PCBs in San Francisco Bay. The Discharger received no wasteload allocation for mercury or PCBs; however, none is needed because Facility discharges do not contribute net mercury or PCBs loads to San Francisco Bay.

c. Temperature. The Heating and Cooling System discharges non-contact heating and cooling water through Discharge Point No. 001 to Central San Francisco Bay, an enclosed Bay and estuary. The discharge is a thermal waste discharge and an elevated-temperature discharge. Thermal Plan sections 4.B and 5.B establish the following temperature water quality objectives for new discharges to enclosed Bays and estuaries:

i. Maximum Effluent Temperature. Thermal waste discharges may not have a temperature greater than 4°F above the natural temperature of the receiving water.

ii. Receiving Water Temperature Rise. Discharges may not cause surface water temperatures to rise greater than 4°F above the natural temperature of the receiving waters at any time or place.

Heating and Cooling System temperature data are available for the period from October 28, 2013 (after The Exploratorium opened), through the present, with the exception of November 17, 2013, through January 7, 2014. The effluent temperature measured upstream of the spray nozzles was, at times, up to 6°F higher than the ambient Bay water temperature measured at the intake. However, a significant amount of heat is lost by the time the effluent reaches the receiving water due to evaporative cooling as the effluent is sprayed over the Bay. Measuring the actual temperature of the spray after it leaves the spray nozzles and prior to reaching the Bay is impractical due to instrumentation limitations. The daily average receiving water temperature below the spray nozzles was no more than 3.1°F above the intake receiving water temperature, suggesting no reasonable potential for the discharge to exceed Thermal Plan water quality objectives. This Order contains a receiving water limit to provide further assurance that the discharge will not exceed water quality objectives.

d. Floating Material, Sediment, Settleable Material, Suspended Material, and Turbidity. The Basin Plan contains water quality objectives for floating material, sediment, settleable material, suspended material, and turbidity. These pollutants are unlikely to cause nuisance or adversely affect beneficial uses. Heating and Cooling System and Desalination System filter backwash water may contain these pollutants; however, any such pollutants will not observably affect the Bay because they originate from the Bay. Moreover, less than 100 gallons per day is discharged at Discharge Point No. 002 and less than 200 gallons per day is discharged at Discharge Point No. 003. On an annual basis, this flow volume represents a miniscule portion (less than 0.000007 percent) of the entire Bay (*San Francisco Bay-Delta Estuary*, San Francisco Estuary Partnership [SFEP], 1999). Therefore, the discharge is not expected to cause nuisance or adversely affect beneficial uses.

e. Salinity

i. Water Quality Objective. The Fog Bridge Desalination System discharges reverse osmosis concentrate to Central San Francisco Bay at Discharge Point No. 003. Basin Plan section 3.3.11 states, "Controllable water quality factors shall not increase the total dissolved solids or salinity of waters of the state so as to adversely affect beneficial uses, particularly fish migration and estuarine habitat." The *Draft Final Desalination Amendment to the Water Quality Control Plan for the Ocean Waters of California* (Desalination Amendment approved by the State Board on May 6, 2015, specifies implementation, monitoring, and reporting requirements for seawater desalination facilities that discharge to ocean waters. In the absence of desalination requirements directly applicable to enclosed bays like San Francisco Bay, this Order uses the Desalination Amendment as guidance in translating the narrative salinity objective in the Basin Plan into a numeric dilution criterion. The Desalination Amendment establishes the following receiving water limitation for salinity:

(a) Daily maximum receiving water salinity, as measured no farther than 100 meters (328 feet) horizontally from the discharge point, is not to exceed 2.0 ppt above natural background salinity.

(b) The following formula may be used to determine effluent limits necessary to meet this receiving water limitation:

$$Ce = Co + Dm * (2.0\ ppt)$$
$$Ce = (2.0\ ppt + Cs) + Dm * (2.0\ ppt)$$

Where:

Ce = effluent concentration limit (ppt)

Co = salinity concentration to be met at the completion of initial dilution

= 2.0 ppt + Cs (ppt)

Cs = natural background salinity

= 33 ppt (conservative estimate; see Fact Sheet section IV.C.2.e)

Dm = minimum probable initial dilution (parts seawater per part discharge)

The equation above is rearranged to solve for the minimum initial dilution required to achieve the salinity water quality objective:

$$Dm = (Ce - Co) / (2.0\ ppt)$$
$$Dm = (Ce - [2.0\ ppt + Cs]) / (2.0\ ppt)$$
$$Dm = (50\ ppt - [2.0\ ppt + 33\ ppt]) / (2.0\ ppt)$$
$$Dm = 7.5$$

Where:

Cs = 33 ppt (conservative estimate; see Fact Sheet section IV.C.2.e)

Ce = maximum effluent concentration = 1.5 * Cs = 50 ppt (system is expected to discharge effluent that is 1.25 times saltier than ambient Bay water; a conservative concentration factor of 1.5 is assumed)

Co = 2.0 ppt + Cs = 35 ppt

Dm = minimum probable initial dilution (parts seawater per part discharge)

ii. **Analysis.** Based on these calculations, the discharge from Discharge Point No. 003 must achieve a minimum initial dilution of at least 7.5:1 (parts seawater per part discharge) before reaching a distance of 100 meters horizontally. The Desalination System concentrate discharge likely receives at least 7.5:1 dilution by being sprayed out over Bay waters through diffuser nozzles. Winds and tides provide additional dilution.

D. Discharge Requirement Considerations

1. **Anti-backsliding.** This Order complies with the anti-backsliding provisions of CWA sections 402(o) and 303(d)(4) and 40 C.F.R. section 122.44(l), which generally require effluent limitations in a reissued permit to be as stringent as those in the previous permit. The effluent limitations of this Order are at least as stringent as those in the previous order.

   This Order does not retain limits for total chlorine residual because the Discharger has never used chlorine for cleaning purposes and does not plan to do so. Based on State Water Board Order WQ 2001-16, removing unnecessary limits does not violate anti-backsliding requirements.

2. **Antidegradation.** This Order complies with the antidegradation provisions of 40 C.F.R. section 131.12 and State Water Board Resolution No. 68-16. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings.

   This Order authorizes a flow increase from the Heating and Cooling System and a new Desalination System discharge. Administrative Procedures Update (APU) No. 90-004, which provides guidance for implementing the antidegradation policies, states that a simple antidegradation analysis is adequate when a proposed discharge would be spatially localized or would produce only minor effects. Because the effects of these new and increased discharges would be spatially limited to the area below Piers 15 and 17 and would be very minor, only a simple antidegradation analysis is necessary.

   This Order allows the Heating and Cooling System to discharge up to 2.0 MGD, compared to the 0.5 MGD specified in the previous order. The size of the Facility and its heating and cooling needs remain unchanged, however. Therefore, the waste heat load generated by the buildings remains unchanged from that anticipated by the previous order. Thus, the additional flow will not degrade San Francisco Bay water quality relative to the previously authorized flow. Morover, the additional flow will not degrade water quality because, on an annual basis, the increased flow volume is negligible compared to the size of San Francisco Bay, representing only about 0.04 percent of the total Bay volume (*San Francisco Bay-Delta Estuary*, SFEP, 1999).

   This Order authorizes a new Desalination System to discharge reverse osmosis concentrate to San Francisco Bay. The concentration factor is estimated to be about 1.25. The increased salinity will be spatially localized and will not be observable beyond the area immediately below Piers 15 and 17 because waves and tides will rapidly dissipate the elevated salinity. Furthermore, on an annual basis, the effluent flow volume will be negligible compared to the

size of San Francisco Bay, representing less than 0.00007 percent of the total Bay volume (*San Francisco Bay-Delta Estuary*, SFEP, 1999). Therefore, no degradation will occur.

The increased Heating and Cooling System discharge and new Desalination System discharge could increase impingement of organisms on intake screens and entrainment of organisms that pass through the screens. National Marine Fisheries Service correspondence dated May 28, 2010, suggests that potential impingement and entrainment related to the Heating and Cooling System would be unlikely to adversely affect federally protected species. The Desalination System will likely result in far less impingement and entrainment because of its smaller size. Therefore, adverse effects on marine life related to the Desalination System are anticipated to be inconsequential.

Because the discharges subject to this Order will not degrade water quality, additional findings justifying degradation are unwarranted.

3. **Stringency of Requirements for Individual Pollutants.** This Order contains 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.

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

The receiving water limitations in sections V.A and V.B of this Order are based on Basin Plan narrative and numeric water quality objectives. The receiving water limitation in section V.C of this Order requires compliance with federal and State water quality standards in accordance with the CWA and regulations adopted thereunder. The receiving water limitation in section V.D of this Order requires that the discharge achieve Thermal Plan water quality objectives (see Fact Sheet section IV.C.3.c above).

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. The Discharger 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. Attachment G contains standard 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

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 (Attachment E) of this Order establishes monitoring, reporting, and recordkeeping requirements that implement federal and State requirements. For more background 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. **Fog Bridge Desalination System Salinity Study.** This study is necessary to confirm the concentration factor assumed for this Order and to evaluate reasonable potential for the next permit reissuance.

VII. RATIONALE FOR MONITORING AND REPORTING PROGRAM (MRP)

Attachment E contains the MRP for this Order. It specifies sampling stations, pollutants to be monitored (including all parameters for which effluent limitations are specified), monitoring frequencies, and reporting requirements. The following provides the rationale for the MRP requirements:

A. Influent Monitoring. Influent flow monitoring is necessary to understand Facility operations. Heating and Cooling System influent temperature monitoring is necessary to evaluate compliance with this Order's receiving water limitation.

B. Effluent Monitoring. Heating and Cooling System effluent temperature monitoring is necessary to evaluate reasonable potential for the next permit reissuance. Desalination System effluent flow monitoring is necessary to understand Facility operations. Consistent with SIP section 1.3, this Order does not require effluent monitoring of priority pollutants because Facility discharges are low-volume and have no significant adverse impact on water quality. The Facility does not discharge priority pollutants that are not already in the influent.

C. Receiving Water Monitoring. Receiving water monitoring is necessary to evaluate compliance with this Order's receiving water limitations, including the receiving water temperature limitation.

VIII. PUBLIC PARTICIPATION

The Regional Water Board considered the issuance of these WDRs that will serve as an NPDES permit for the Facility. As a step in the WDR adoption process, Regional Water Board staff developed tentative WDRs and encouraged public participation in the WDR adoption process.

A. Notification of Interested Parties. The Regional Water Board notified the Discharger and interested agencies and persons of its intent to prescribe WDRs for the discharge and provided an opportunity to submit written comments and recommendations. Notification was provided through the *The Recorder*. The public had access to the agenda and any changes in dates and locations through the Regional Water Board's website at 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. Comments were to be submitted either in person or by mail to the Executive Officer at the Regional Water Board at 1515 Clay Street, Suite 1400, Oakland, California 94612, Attention: Jessica Watkins.

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 December 30, 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:	February 10, 2016
Time:	9:00 a.m.
Location:	Elihu Harris State Office Building 1515 Clay Street, 1st Floor Auditorium Oakland, CA 94612
Contact:	Jessica Watkins, (510) 622-2349, jessica.watkins@waterboards.ca.gov

Interested persons were invited to attend. At the public hearing, the Regional Water Board heard testimony pertinent to the discharge, 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 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 http://www.waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instr.shtml.

E. Information and Copying. The Report of Waste Discharge, related 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 the Facility, and provide a name, address, and phone number.

G. Additional Information. Requests for additional information or questions regarding this Order should be directed to Jessica Watkins at (510) 622-2349 or jessica.watkins@waterboards.ca.gov.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ATTACHMENT G

REGIONAL STANDARD PROVISIONS, AND MONITORING AND REPORTING REQUIREMENTS
(SUPPLEMENT TO ATTACHMENT D)

For

NPDES WASTEWATER DISCHARGE PERMITS

March 2010

Contents

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

REGIONAL STANDARD PROVISIONS, AND MONITORING AND REPORTING REQUIREMENTS (SUPPLEMENT TO ATTACHMENT D)

FOR

NPDES WASTEWATER DISCHARGE PERMITS

APPLICABILITY

This document applies to dischargers covered by a National Pollutant Discharge Elimination System (NPDES) permit. This document does not apply to Municipal Separate Storm Sewer System (MS4) NPDES permits.

The purpose of this document is to supplement the requirements of Attachment D, Standard Provisions. The requirements in this supplemental document are designed to ensure permit compliance through preventative planning, monitoring, recordkeeping, and reporting. In addition, this document requires proper characterization of issues as they arise, and timely and full responses to problems encountered. To provide clarity on which sections of Attachment D this document supplements, this document is arranged in the same format as Attachment D.

I. STANDARD PROVISIONS - PERMIT COMPLIANCE

A. Duty to Comply – Not Supplemented

B. Need to Halt or Reduce Activity Not a Defense – Not Supplemented

C. Duty to Mitigate – This supplements I.C. of Standard Provisions (Attachment D)

1. Contingency Plan - The Discharger shall maintain a Contingency Plan as originally required by Regional Water Board Resolution 74-10 and as prudent in accordance with current municipal facility emergency planning. The Contingency Plan shall describe procedures to ensure that existing facilities remain in, or are rapidly returned to, operation in the event of a process failure or emergency incident, such as employee strike, strike by suppliers of chemicals or maintenance services, power outage, vandalism, earthquake, or fire. The Discharger may combine the Contingency Plan and Spill Prevention Plan into one document. Discharge in violation of the permit where the Discharger has failed to develop and implement a Contingency Plan as described below will be the basis for considering the discharge a willful and negligent violation of the permit pursuant to California Water Code Section 13387. The Contingency Plan shall, at a minimum, contain the provisions of a. through g. below.

a. Provision of personnel for continued operation and maintenance of sewerage facilities during employee strikes or strikes against contractors providing services.

b. Maintenance of adequate chemicals or other supplies and spare parts necessary for continued operations of sewerage facilities.

c. Provisions of emergency standby power.

d. Protection against vandalism.

e. Expeditious action to repair failures of, or damage to, equipment and sewer lines.

f. Report of spills and discharges of untreated or inadequately treated wastes, including measures taken to clean up the effects of such discharges.

g. Programs for maintenance, replacement, and surveillance of physical condition of equipment, facilities, and sewer lines.

2. Spill Prevention Plan - The Discharger shall maintain a Spill Prevention Plan to prevent accidental discharges and minimize the effects of such events. The Spill Prevention Plan shall:

a. Identify the possible sources of accidental discharge, untreated or partially treated waste bypass, and polluted drainage;

b. Evaluate the effectiveness of present facilities and procedures, and state when they became operational; and

c. Predict the effectiveness of the proposed facilities and procedures, and provide an implementation schedule containing interim and final dates when they will be constructed, implemented, or operational.

This Regional Water Board, after review of the Contingency and Spill Prevention Plans or their updated revisions, may establish conditions it deems necessary to control accidental discharges and to minimize the effects of such events. Such conditions may be incorporated as part of the permit upon notice to the Discharger.

D. Proper Operation & Maintenance – This supplements I.D of Standard Provisions (Attachment D)

1. Operation and Maintenance (O&M) Manual - The Discharger shall maintain an O&M Manual to provide the plant and regulatory personnel with a source of information describing all equipment, recommended operational strategies, process control monitoring, and maintenance activities. To remain a useful and relevant document, the O&M Manual shall be kept updated to reflect significant changes in treatment facility equipment and operational practices. The O&M Manual shall be maintained in usable condition and be available for reference and use by all relevant personnel and Regional Water Board staff.

2. Wastewater Facilities Status Report - The Discharger shall regularly review, revise, or update, as necessary, its Wastewater Facilities Status Report. This report shall document how the Discharger operates and maintains its wastewater collection, treatment, and disposal facilities to ensure that all facilities are adequately staffed, supervised, financed, operated, maintained, repaired, and upgraded as necessary to provide adequate and reliable transport, treatment, and disposal of all wastewater from both existing and planned future wastewater sources under the Discharger's service responsibilities.

3. Proper Supervision and Operation of Publicly Owned Treatment Works (POTWs) - POTWs shall be supervised and operated by persons possessing certificates of appropriate grade pursuant to Division 4, Chapter 14, Title 23 of the California Code of Regulations.

E. Property Rights – Not Supplemented

F. Inspection and Entry – Not Supplemented

G. Bypass – Not Supplemented

H. Upset – Not Supplemented

I. Other – This section is an addition to Standard Provisions (Attachment D)

1. Neither the treatment nor the discharge of pollutants shall create pollution, contamination, or nuisance as defined by California Water Code Section 13050.

2. Collection, treatment, storage, and disposal systems shall be operated in a manner that precludes public contact with wastewater, except in cases where excluding the public is infeasible, such as private property. If public contact with wastewater could reasonably occur on public property, warning signs shall be posted.

3. If the Discharger submits a timely and complete Report of Waste Discharge for permit reissuance, this permit continues in force and effect until a new permit is issued or the Regional Water Board rescinds the permit.

J. Stormwater – This section is an addition to Standard Provisions (Attachment D)

These provisions apply to facilities that do not direct all stormwater flows from the facility to the wastewater treatment plant headworks.

1. Stormwater Pollution Prevention Plan (SWPP Plan)

The SWPP Plan shall be designed in accordance with good engineering practices and shall address the following objectives:

a. To identify pollutant sources that may affect the quality of stormwater discharges; and

b. To identify, assign, and implement control measures and management practices to reduce pollutants in stormwater discharges.

The SWPP Plan may be combined with the existing Spill Prevention Plan as required in accordance with Section C.2. The SWPP Plan shall be retained on-site and made available upon request of a representative of the Regional Water Board.

2. Source Identification

The SWPP Plan shall provide a description of potential sources that may be expected to add significant quantities of pollutants to stormwater discharges, or may result in non-stormwater discharges from the facility. The SWPP Plan shall include, at a minimum, the following items:

a. A topographical map (or other acceptable map if a topographical map is unavailable), extending one-quarter mile beyond the property boundaries of the facility, showing the wastewater treatment facility process areas, surface water bodies (including springs and wells), and discharge point(s) where the facility's stormwater discharges to a municipal storm drain system or other points of discharge to waters of the State. The requirements of this paragraph may be included in the site map required under the following paragraph if appropriate.

b. A site map showing the following:

1) Stormwater conveyance, drainage, and discharge structures;

2) An outline of the stormwater drainage areas for each stormwater discharge point;

3) Paved areas and buildings;

4) Areas of actual or potential pollutant contact with stormwater or release to stormwater, including but not limited to outdoor storage and process areas; material loading, unloading, and access areas; and waste treatment, storage, and disposal areas;

5) Location of existing stormwater structural control measures (i.e., berms, coverings, etc.);

6) Surface water locations, including springs and wetlands; and

7) Vehicle service areas.

c. A narrative description of the following:

1) Wastewater treatment process activity areas;

2) Materials, equipment, and vehicle management practices employed to minimize contact of significant materials of concern with stormwater discharges;

3) Material storage, loading, unloading, and access areas;

4) Existing structural and non-structural control measures (if any) to reduce pollutants in stormwater discharges; and

5) Methods of on-site storage and disposal of significant materials.

d. A list of pollutants that have a reasonable potential to be present in stormwater discharges in significant quantities.

3. Stormwater Management Controls

The SWPP Plan shall describe the stormwater management controls appropriate for the facility and a time schedule for fully implementing such controls. The appropriateness and priorities of controls in the SWPP Plan shall reflect identified potential sources of pollutants. The description of stormwater management controls to be implemented shall include, as appropriate:

a. Stormwater pollution prevention personnel

Identify specific individuals (and job titles) that are responsible for developing, implementing, and reviewing the SWPP Plan.

b. Good housekeeping

Good housekeeping requires the maintenance of clean, orderly facility areas that discharge stormwater. Material handling areas shall be inspected and cleaned to reduce the potential for pollutants to enter the storm drain conveyance system.

c. Spill prevention and response

Identify areas where significant materials can spill into or otherwise enter stormwater conveyance systems and their accompanying drainage points. Specific material handling procedures, storage requirements, and cleanup equipment and procedures shall be identified, as appropriate. The necessary equipment to implement a cleanup shall be available, and personnel shall be trained in proper response, containment, and cleanup of spills. Internal reporting procedures for spills of significant materials shall be established.

d. Source control

Source controls include, for example, elimination or reduction of the use of toxic pollutants, covering of pollutant source areas, sweeping of paved areas, containment of potential pollutants, labeling of all storm drain inlets with “No Dumping” signs, isolation or separation of industrial and non-industrial pollutant sources so that runoff from these areas does not mix, etc.

e. Stormwater management practices

Stormwater management practices are practices other than those that control the sources of pollutants. Such practices include treatment or conveyance structures, such as drop inlets, channels, retention and detention basins, treatment vaults, infiltration galleries, filters, oil/water separators, etc. Based on assessment of the potential of various sources to contribute pollutants to stormwater discharges in significant quantities, additional stormwater management practices to remove pollutants from stormwater discharges shall be implemented and design criteria shall be described.

f. Sediment and erosion control

Measures to minimize erosion around the stormwater drainage and discharge points, such as riprap, revegetation, slope stabilization, etc., shall be described.

g. Employee training

Employee training programs shall inform all personnel responsible for implementing the SWPP Plan. Training shall address spill response, good housekeeping, and material management practices. New employee and refresher training schedules shall be identified.

h. Inspections

All inspections shall be done by trained personnel. Material handling areas shall be inspected for evidence of, or the potential for, pollutants entering stormwater discharges. A tracking or follow up procedure shall be used to ensure appropriate response has been taken in response to an inspection. Inspections and maintenance activities shall be documented and recorded. Inspection records shall be retained for five years.

i. Records

A tracking and follow-up procedure shall be described to ensure that adequate response and corrective actions have been taken in response to inspections.

4. Annual Verification of SWPP Plan

An annual facility inspection shall be conducted to verify that all elements of the SWPP Plan are accurate and up-to-date. The results of this review shall be reported in the Annual Report to the Regional Water Board described in Section V.C.f.

K. Biosolids Management – This section is an addition to Standard Provisions (Attachment D)

Biosolids must meet the following requirements prior to land application. The Discharger must either demonstrate compliance or, if it sends the biosolids to another party for further treatment or distribution, must give the recipient the information necessary to ensure compliance.

1. Exceptional quality biosolids meet the pollutant concentration limits in Table III of 40 CFR Part 503.13, Class A pathogen limits, and one of the vector attraction reduction requirements in 503.33(b)(1)-(b)(8). Such biosolids do not have to be tracked further for compliance with general requirements (503.12) and management practices (503.14).

2. Biosolids used for agricultural land, forest, or reclamation shall meet the pollutant limits in Table I (ceiling concentrations) and Table II or Table III (cumulative loadings or pollutant concentration limits) of 503.13. They shall also meet the general requirements (503.12) and management practices (503.14) (if not exceptional quality biosolids) for Class A or Class B pathogen levels with associated access restrictions (503.32) and one of the 10 vector attraction reduction requirements in 503.33(b)(1)-(b)(10).

3. Biosolids used for lawn or home gardens must meet exceptional quality biosolids limits.

4. Biosolids sold or given away in a bag or other container must meet the pollutant limits in either Table III or Table IV (pollutant concentration limits or annual pollutant loading rate limits) of 503.13. If Table IV is used, a label or information sheet must be attached to the biosolids packing that explains Table IV (see 503.14). The biosolids must also meet the Class A pathogen limits and one of the vector attraction reduction requirements in 503.33(b)(1)-(b)(8).

II. STANDARD PROVISIONS – PERMIT ACTION – Not Supplemented

III. STANDARD PROVISIONS – MONITORING

A. Sampling and Analyses – This section is a supplement to III.A and III.B of Standard Provisions (Attachment D)

1. Use of Certified Laboratories

Water and waste analyses shall be performed by a laboratory certified for these analyses in accordance with California Water Code Section 13176.

2. Use of Appropriate Minimum Levels

Table C lists the suggested analytical methods for the 126 priority pollutants and other toxic pollutants that should be used, unless a particular method or minimum level (ML) is required in the MRP.

For priority pollutant monitoring, when there is more than one ML value for a given substance, the Discharger may select any one of the analytical methods cited in Table C for compliance determination, or any other method described in 40 CFR part 136 or approved by U.S. EPA (such as the 1600 series) if authorized by the Regional Water Board. However, the ML must be below the effluent limitation and water quality objective. If no ML value is below the effluent limitation and water quality objective, then the method must achieve an ML no greater than the lowest ML value indicated in Table C. All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements.

3. Frequency of Monitoring

The minimum schedule of sampling analysis is specified in the MRP portion of the permit.

a. Timing of Sample Collection

1) The Discharger shall collect samples of influent on varying days selected at random and shall not include any plant recirculation or other sidestream wastes, unless otherwise stipulated by the MRP.

2) The Discharger shall collect samples of effluent on days coincident with influent sampling unless otherwise stipulated by the MRP or the Executive Officer. The Executive Officer may approve an alternative sampling plan if it is demonstrated to be representative of plant discharge flow and in compliance with all other permit requirements.

3) The Discharger shall collect grab samples of effluent during periods of day-time maximum peak effluent flows (or peak flows through secondary treatment units for facilities that recycle effluent flows).

4) Effluent sampling for conventional pollutants shall occur on at least one day of any multiple-day bioassay test the MRP requires. During the course of the test, on at least one day, the Discharger shall collect and retain samples of the discharge. In the event a bioassay test does

not comply with permit limits, the Discharger shall analyze these retained samples for pollutants that could be toxic to aquatic life and for which it has effluent limits.

i. The Discharger shall perform bioassay tests on final effluent samples; when chlorine is used for disinfection, bioassay tests shall be performed on effluent after chlorination-dechlorination; and

ii. The Discharger shall analyze for total ammonia nitrogen and calculate the amount of un-ionized ammonia whenever test results fail to meet the percent survival specified in the permit.

b. Conditions Triggering Accelerated Monitoring

1) If the results from two consecutive samples of a constituent monitored in a 30-day period exceed the monthly average limit for any parameter (or if the required sampling frequency is once per month and the monthly sample exceeds the monthly average limit), the Discharger shall, within 24 hours after the results are received, increase its sampling frequency to daily until the results from the additional sampling show that the parameter is in compliance with the monthly average limit.

2) If any maximum daily limit is exceeded, the Discharger shall increase its sampling frequency to daily within 24 hours after the results are received that indicate the exceedance of the maximum daily limit until two samples collected on consecutive days show compliance with the maximum daily limit.

3) If final or intermediate results of an acute bioassay test indicate a violation or threatened violation (e.g., the percentage of surviving test organisms of any single acute bioassay test is less than 70 percent), the Discharger shall initiate a new test as soon as practical, and the Discharger shall investigate the cause of the mortalities and report its findings in the next self monitoring report (SMR).

4) The Discharger shall calibrate chlorine residual analyzers against grab samples as frequently as necessary to maintain accurate control and reliable operation. If an effluent violation is detected, the Discharger shall collect grab samples at least every 30 minutes until compliance with the limit is achieved, unless the Discharger monitors chlorine residual continuously. In such cases, the Discharger shall continue to conduct continuous monitoring as required by its permit.

5) When a bypass occurs (except one subject to provision III.A.3.b.6 below), the Discharger shall monitor flows and collect samples on a daily basis for all constituents at affected discharge points that have effluent limits for the duration of the bypass (including acute toxicity using static renewals), except chronic toxicity, unless otherwise stipulated by the MRP.

6) Unless otherwise stipulated by the MRP, when a bypass approved pursuant to Attachment D, Standard Provisions, Sections I.G.2 or I.G.4, occurs, the Discharger shall monitor flows and, using appropriate procedures as specified in the MRP, collect and retain samples for affected discharge points on a daily basis for the duration of the bypass. The Discharger shall analyze for total suspended solids (TSS) using 24-hour composites (or more frequent increments) and for bacteria indicators with effluent limits using grab samples. If TSS exceeds 45 mg/L in any composite sample, the Discharger shall also analyze the retained samples for that discharge for all other constituents that have effluent limits, except oil and grease, mercury, dioxin-

TEQ, and acute and chronic toxicity. Additionally, at least once each year, the Discharger shall analyze the retained samples for one approved bypass discharge event for all other constituents that have effluent limits, except oil and grease, mercury, dioxin-TEQ, and acute and chronic toxicity. This monitoring shall be in addition to the minimum monitoring specified in the MRP.

c. Stormwater Monitoring

The requirements of this section only apply to facilities that are not covered by an NPDES permit for stormwater discharges and where not all site storm drainage from process areas (i.e., areas of the treatment facility where chemicals or wastewater could come in contact with stormwater) is directed to the headworks. For stormwater not directed to the headworks during the wet season (October 1 to April 30), the Discharger shall:

1) Conduct visual observations of the stormwater discharge locations during daylight hours at least once per month during a storm event that produces significant stormwater discharge to observe the presence of floating and suspended materials, oil and grease, discoloration, turbidity, and odor, etc.

2) Measure (or estimate) the total volume of stormwater discharge, collect grab samples of stormwater discharge from at least two storm events that produce significant stormwater discharge, and analyze the samples for oil and grease, pH, TSS, and specific conductance.

   The grab samples shall be taken during the first 30 minutes of the discharge. If collection of the grab samples during the first 30 minutes is impracticable, grab samples may be taken during the first hour of the discharge, and the Discharger shall explain in the Annual Report why the grab sample(s) could not be taken in the first 30 minutes.

3) Testing for the presence of non-stormwater discharges shall be conducted no less than twice during the dry season (May 1 to September 30) at all stormwater discharge locations. Tests may include visual observations of flows, stains, sludges, odors, and other abnormal conditions; dye tests; TV line surveys; or analysis and validation of accurate piping schematics. Records shall be maintained describing the method used, date of testing, locations observed, and test results.

4) Samples shall be collected from all locations where stormwater is discharged. Samples shall represent the quality and quantity of stormwater discharged from the facility. If a facility discharges stormwater at multiple locations, the Discharger may sample a reduced number of locations if it establishes and documents through the monitoring program that stormwater discharges from different locations are substantially identical.

5) Records of all stormwater monitoring information and copies of all reports required by the permit shall be retained for a period of at least three years from the date of sample, observation, or report.

d. Receiving Water Monitoring

The requirements of this section only apply when the MRP requires receiving water sampling.

1) Receiving water samples shall be collected on days coincident with effluent sampling for conventional pollutants.

2) Receiving water samples shall be collected at each station on each sampling day during the period within one hour following low slack water. Where sampling during lower slack water is impractical, sampling shall be performed during higher slack water. Samples shall be collected within the discharge plume and down current of the discharge point so as to be representative, unless otherwise stipulated in the MRP.

3) Samples shall be collected within one foot of the surface of the receiving water, unless otherwise stipulated in the MRP.

B. Biosolids Monitoring – This section supplements III.B of Standard Provisions (Attachment D)

When biosolids are sent to a landfill, sent to a surface disposal site, or applied to land as a soil amendment, they must be monitored as follows:

1. Biosolids Monitoring Frequency

Biosolids disposal must be monitored at the following frequency:

Metric tons biosolids/365 days	Frequency
0-290	Once per year
290-1500	Quarterly
1500-15,000	Six times per year
Over 15,000	Once per month

(Metric tons are on a dry weight basis)

2. Biosolids Pollutants to Monitor

Biosolids shall be monitored for the following constituents:

- Land Application: Arsenic, cadmium, copper, mercury, molybdenum, nickel, lead, selenium, and zinc
- Municipal Landfill: Paint filter test (pursuant to 40 CFR 258)
- Biosolids-only Landfill or Surface Disposal Site (if no liner and leachate system): arsenic, chromium, and nickel

C. Standard Observations – This section is an addition to III of Standard Provisions (Attachment D)

1. Receiving Water Observations

The requirements of this section only apply when the MRP requires standard observations of the receiving water. Standard observations shall include the following:

a. *Floating and suspended materials* (e.g., oil, grease, algae, and other macroscopic particulate matter): presence or absence, source, and size of affected area.

b. *Discoloration and turbidity*: description of color, source, and size of affected area.

c. *Odor*: presence or absence, characterization, source, distance of travel, and wind direction.

d. *Beneficial water use*: presence of water-associated waterfowl or wildlife, fisherpeople, and other recreational activities in the vicinity of each sampling station.

e. *Hydrographic condition*: time and height of corrected high and low tides (corrected to nearest National Oceanic and Atmospheric Administration location for the sampling date and time of sample collection).

f. *Weather conditions*:

1) Air temperature; and

2) Total precipitation during the five days prior to observation.

2. Wastewater Effluent Observations

The requirements of this section only apply when the MRP requires wastewater effluent standard observations. Standard observations shall include the following:

a. *Floating and suspended material of wastewater origin* (e.g., oil, grease, algae, and other macroscopic particulate matter): presence or absence.

b. *Odor*: presence or absence, characterization, source, distance of travel, and wind direction.

3. Beach and Shoreline Observations

The requirements of this section only apply when the MRP requires beach and shoreline standard observations. Standard observations shall include the following:

a. *Material of wastewater origin*: presence or absence, description of material, estimated size of affected area, and source.

b. *Beneficial use*: estimate number of people participating in recreational water contact, non-water contact, or fishing activities.

4. Land Retention or Disposal Area Observations

The requirements of this section only apply to facilities with on-site surface impoundments or disposal areas that are in use. This section applies to both liquid and solid wastes, whether confined or unconfined. The Discharger shall conduct the following for each impoundment:

a. Determine the amount of freeboard at the lowest point of dikes confining liquid wastes.

b. Report evidence of leaching liquid from area of confinement and estimated size of affected area. Show affected area on a sketch and volume of flow (e.g., gallons per minute [gpm]).

c. Regarding odor, describe presence or absence, characterization, source, distance of travel, and wind direction.

d. Estimate number of waterfowl and other water-associated birds in the disposal area and vicinity.

5. Periphery of Waste Treatment and/or Disposal Facilities Observations

The requirements of this section only apply when the MRP specifies periphery standard observations. Standard observations shall include the following:

a. *Odor*: presence or absence, characterization, source, and distance of travel.

b. *Weather conditions*: wind direction and estimated velocity.

IV. STANDARD PROVISIONS – RECORDS

A. Records to be Maintained – This supplements IV.A of Standard Provisions (Attachment D)

The Discharger shall maintain records in a manner and at a location (e.g., wastewater treatment plant or Discharger offices) such that the records are accessible to Regional Water Board staff. The minimum period of retention specified in Section IV, Records, of the Federal Standard Provisions shall be extended during the course of any unresolved litigation regarding the subject discharge, or when requested by the Regional Water Board or Regional Administrator of U.S. EPA, Region IX.

A copy of the permit shall be maintained at the discharge facility and be available at all times to operating personnel.

B. Records of monitoring information shall include – This supplements IV.B of Standard Provision (Attachment D)

1. Analytical Information

Records shall include analytical method detection limits, minimum levels, reporting levels, and related quantification parameters.

2. Flow Monitoring Data

For all required flow monitoring (e.g., influent and effluent flows), the additional records shall include the following, unless otherwise stipulated by the MRP:

a. Total volume for each day; and

b. Maximum, minimum, and average daily flows for each calendar month.

3. Wastewater Treatment Process Solids

a. For each treatment unit process that involves solids removal from the wastewater stream, records shall include the following:

1) Total volume or mass of solids removed from each collection unit (e.g., grit, skimmings, undigested biosolids, or combination) for each calendar month or other time period as appropriate, but not to exceed annually; and

2) Final disposition of such solids (e.g., landfill, other subsequent treatment unit).

b. For final dewatered biosolids from the treatment plant as a whole, records shall include the following:

1) Total volume or mass of dewatered biosolids for each calendar month;

2) Solids content of the dewatered biosolids; and

3) Final disposition of dewatered biosolids (disposal location and disposal method).

4. Disinfection Process

For the disinfection process, these additional records shall be maintained documenting process operation and performance:

a. For bacteriological analyses:

1) Wastewater flow rate at the time of sample collection; and

2) Required statistical parameters for cumulative bacterial values (e.g., moving median or geometric mean for the number of samples or sampling period identified in this Order).

b. For the chlorination process, when chlorine is used for disinfection, at least daily average values for the following:

1) Chlorine residual of treated wastewater as it enters the contact basin (mg/L);

2) Chlorine dosage (kg/day); and

3) Dechlorination chemical dosage (kg/day).

5. Treatment Process Bypasses

A chronological log of all treatment process bypasses, including wet weather blending, shall include the following:

a. Identification of the treatment process bypassed;

b. Dates and times of bypass beginning and end;

c. Total bypass duration;

d. Estimated total bypass volume; and

e. Description of, or reference to other reports describing, the bypass event, the cause, the corrective actions taken (except for wet weather blending that is in compliance with permit conditions), and any additional monitoring conducted.

6. Treatment Facility Overflows

This section applies to records for overflows at the treatment facility. This includes the headworks and all units and appurtenances downstream. The Discharger shall retain a chronological log of overflows at the treatment facility and records supporting the information provided in section V.E.2.

C. Claims of Confidentiality – Not Supplemented

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information – Not Supplemented

B. Signatory and Certification Requirements – Not Supplemented

C. Monitoring Reports – This section supplements V.C of Standard Provisions (Attachment D)

1. Self Monitoring Reports

For each reporting period established in the MRP, the Discharger shall submit an SMR to the Regional Water Board in accordance with the requirements listed in this document and at the frequency the MRP specifies. The purpose of the SMR is to document treatment performance, effluent quality, and compliance with the waste discharge requirements of this Order.

a. Transmittal letter

Each SMR shall be submitted with a transmittal letter. This letter shall include the following:

1) Identification of all violations of effluent limits or other waste discharge requirements found during the reporting period;

2) Details regarding violations: parameters, magnitude, test results, frequency, and dates;

3) Causes of violations;

4) Discussion of corrective actions taken or planned to resolve violations and prevent recurrences, and dates or time schedule of action implementation (if previous reports have been submitted that address corrective actions, reference to the earlier reports is satisfactory);

5) 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 discussion of the

corrective actions taken or planned [with a time schedule for completion] to prevent recurrence of the sampling or measurement problem.);

6) If the Discharger blends, the letter shall describe the duration of blending events and certify whether blended effluent was in compliance with the conditions for blending; and

7) Signature (The transmittal letter shall be signed according to Section V.B of this Order, Attachment D – Standard Provisions.).

b. Compliance evaluation summary

Each report shall include a compliance evaluation summary. This summary shall include each parameter for which the permit specifies effluent limits, the number of samples taken during the monitoring period, and the number of samples that exceed applicable effluent limits.

c. Results of analyses and observations

1) Tabulations of all required analyses and observations, including parameter, date, time, sample station, type of sample, test result, method detection limit, method minimum level, and method reporting level, if applicable, signed by the laboratory director or other responsible official.

2) When determining compliance with an average monthly effluent limitation and more than one sample result is available in a month, 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.

If a sample result, or the arithmetic mean or median of multiple sample results, is below the reporting limit, and there is evidence that the priority pollutant is present in the effluent above an effluent limitation and the Discharger conducts a Pollutant Minimization Program, the Discharger shall not be deemed out of compliance.

3) Dioxin-TEQ Reporting: The Discharger shall report for each dioxin and furan congener the analytical results of effluent monitoring, including the quantifiable limit (reporting level), the method detection limit, and the measured concentration. The Discharger shall report all measured values of individual congeners, including data qualifiers. When calculating dioxin-TEQ, the Discharger shall set congener concentrations below the minimum levels (ML) to zero. The Discharger shall calculate and report dioxin-TEQs using the following formula, where the MLs, toxicity equivalency factors (TEFs), and bioaccumulation equivalency factors (BEFs) are as provided in Table A:

$$\text{Dioxin-TEQ} = \Sigma\ (C_x \times TEF_x \times BEF_x)$$

where: C_x = measured or estimated concentration of congener *x*
TEF_x = toxicity equivalency factor for congener x
BEFx = bioaccumulation equivalency factor for congener *x*

Table A

Minimum Levels, Toxicity Equivalency Factors,
and Bioaccumulation Equivalency Factors

Dioxin or Furan Congener	Minimum Level (pg/L)	1998 Toxicity Equivalency Factor (TEF)	Bioaccumulation Equivalency Factor (BEF)
2,3,7,8-TCDD	10	1.0	1.0
1,2,3,7,8-PeCDD	50	1.0	0.9
1,2,3,4,7,8-HxCDD	50	0.1	0.3
1,2,3,6,7,8-HxCDD	50	0.1	0.1
1,2,3,7,8,9-HxCDD	50	0.1	0.1
1,2,3,4,6,7,8-HpCDD	50	0.01	0.05
OCDD	100	0.0001	0.01
2,3,7,8-TCDF	10	0.1	0.8
1,2,3,7,8-PeCDF	50	0.05	0.2
2,3,4,7,8-PeCDF	50	0.5	1.6
1,2,3,4,7,8-HxCDF	50	0.1	0.08
1,2,3,6,7,8-HxCDF	50	0.1	0.2
1,2,3,7,8,9-HxCDF	50	0.1	0.6
2,3,4,6,7,8-HxCDF	50	0.1	0.7
1,2,3,4,6,7,8-HpCDF	50	0.01	0.01
1,2,3,4,7,8,9-HpCDF	50	0.01	0.4
OCDF	100	0.0001	0.02

d. Data reporting for results not yet available

The Discharger shall make all reasonable efforts to obtain analytical data for required parameter sampling in a timely manner. Certain analyses require additional time to complete analytical processes and report results. For cases where required monitoring parameters require additional time to complete analytical processes and reports, and results are not available in time to be included in the SMR for the subject monitoring period, the Discharger shall describe such circumstances in the SMR and include the data for these parameters and relevant discussions of any observed exceedances in the next SMR due after the results are available.

e. Flow data

The Discharger shall provide flow data tabulation pursuant to Section IV.B.2.

f. Annual self monitoring report requirements

By the date specified in the MRP, the Discharger shall submit an annual report to the Regional Water Board covering the previous calendar year. The report shall contain the following:

1) Annual compliance summary table of treatment plant performance, including documentation of any blending events;

2) Comprehensive discussion of treatment plant performance and compliance with the permit (This discussion shall include any corrective actions taken or planned, such as changes to facility equipment or operation practices that may be needed to achieve compliance, and any other actions taken or planned that are intended to improve performance and reliability of the Discharger's wastewater collection, treatment, or disposal practices.);

3) Both tabular and graphical summaries of the monitoring data for the previous year if parameters are monitored at a frequency of monthly or greater;

4) List of approved analyses, including the following:

(i) List of analyses for which the Discharger is certified;

(ii) List of analyses performed for the Discharger by a separate certified laboratory (copies of reports signed by the laboratory director of that laboratory shall not be submitted but be retained onsite); and

(iii) List of "waived" analyses, as approved;

5) Plan view drawing or map showing the Discharger's facility, flow routing, and sampling and observation station locations;

6) Results of annual facility inspection to verify that all elements of the SWPP Plan are accurate and up to date (only required if the Discharger does not route all stormwater to the headworks of its wastewater treatment plant); and

7) Results of facility report reviews (The Discharger shall regularly review, revise, and update, as necessary, the O&M Manual, the Contingency Plan, the Spill Prevention Plan, and Wastewater Facilities Status Report so that these documents remain useful and relevant to current practices. At a minimum, reviews shall be conducted annually. The Discharger shall include, in each Annual Report, a description or summary of review and evaluation procedures, recommended or planned actions, and an estimated time schedule for implementing these actions. The Discharger shall complete changes to these documents to ensure they are up-to-date.).

g. Report submittal

The Discharger shall submit SMRs to:

California Regional Water Quality Control Board

San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, CA 94612
Attn: NPDES Wastewater Division

h. Reporting data in electronic format

The Discharger has the option to submit all monitoring results in an electronic reporting format approved by the Executive Officer. If the Discharger chooses to submit SMRs electronically, the following shall apply:

1) *Reporting Method*: The Discharger shall submit SMRs electronically via a process approved by the Executive Officer (see, for example, the letter dated December 17, 1999, "Official Implementation of Electronic Reporting System [ERS]" and the progress report letter dated December 17, 2000).

2) *Monthly or Quarterly Reporting Requirements*: For each reporting period (monthly or quarterly as specified in the MRP), the Discharger shall submit an electronic SMR to the Regional Water Board in accordance with the provisions of Section V.C.1.a-e, except for requirements under Section V.C.1.c(1) where ERS does not have fields for dischargers to input certain information (e.g., sample time). However, until U.S. EPA approves the electronic signature or other signature technologies, Dischargers that use ERS shall submit a hard copy of the original transmittal letter, an ERS printout of the data sheet, and a violation report (a receipt of the electronic transmittal shall be retained by the Discharger). This electronic SMR submittal suffices for the signed tabulations specified under Section V.C.1.c(1).

3) *Annual Reporting Requirements*: Dischargers who have submitted data using the ERS for at least one calendar year are exempt from submitting the portion of the annual report required under Section V.C.1.f(1) and (3).

D. Compliance Schedules – Not supplemented

E. Twenty-Four Hour Reporting – This section supplements V.E of Standard Provision (Attachment D)

1. Spill of Oil or Other Hazardous Material Reports

a. Within 24 hours of becoming aware of a spill of oil or other hazardous material that is not contained onsite and completely cleaned up, the Discharger shall report by telephone to the Regional Water Board at (510) 622-2369.

b. The Discharger shall also report such spills to the State Office of Emergency Services [telephone (800) 852-7550] only when the spills are in accordance with applicable reporting quantities for hazardous materials.

c. The Discharger shall submit a written report to the Regional Water Board within five working days following telephone notification unless directed otherwise by Regional Water Board staff. A report submitted electronically is acceptable. The written report shall include the following:

1) Date and time of spill, and duration if known;

2) Location of spill (street address or description of location);

3) Nature of material spilled;

4) Quantity of material involved;

5) Receiving water body affected, if any;

6) Cause of spill;

7) Estimated size of affected area;

8) Observed impacts to receiving waters (e.g., oil sheen, fish kill, water discoloration);

9) Corrective actions taken to contain, minimize, or clean up the spill;

10) Future corrective actions planned to be taken to prevent recurrence, and schedule of implementation; and

11) Persons or agencies notified.

2. Unauthorized Discharges from Municipal Wastewater Treatment Plants[1]

The following requirements apply to municipal wastewater treatment plants that experience an unauthorized discharge at their treatment facilities and are consistent with and supercede requirements imposed on the Discharger by the Executive Officer by letter of May 1, 2008, issued pursuant to California Water Code Section 13383.

a. Two (2)-Hour Notification

For any unauthorized discharges that result in a discharge to a drainage channel or a surface water, the Discharger shall, as soon as possible, but not later than two (2) hours after becoming aware of the discharge, notify the State Office of Emergency Services (telephone 800-852-7550), the local health officers or directors of environmental health with jurisdiction over the affected water bodies, and the Regional Water Board. The notification to the Regional Water Board shall be via the Regional Water Board's online reporting system at www.wbers.net, and shall include the following:

1) Incident description and cause;

2) Location of threatened or involved waterway(s) or storm drains;

3) Date and time the unauthorized discharge started;

4) Estimated quantity and duration of the unauthorized discharge (to the extent known), and the estimated amount recovered;

5) Level of treatment prior to discharge (e.g., raw wastewater, primary treated, undisinfected secondary treated, and so on); and

[1] California Code of Regulations, Title 23, Section 2250(b), defines an unauthorized discharge to be a discharge, not regulated by waste discharge requirements, of treated, partially treated, or untreated wastewater resulting from the intentional or unintentional diversion of wastewater from a collection, treatment or disposal system.

6) Identity of the person reporting the unauthorized discharge.

b. 24-hour Certification

Within 24 hours, the Discharger shall certify to the Regional Water Board, at www.wbers.net, that the State Office of Emergency Services and the local health officers or directors of environmental health with jurisdiction over the affected water bodies have been notified of the unauthorized discharge.

c. 5-Day Written Report

Within five business days, the Discharger shall submit a written report, via the Regional Water Board's online reporting system at www.wbers.net, that includes, in addition to the information required above, the following:

1) Methods used to delineate the geographical extent of the unauthorized discharge within receiving waters;

2) Efforts implemented to minimize public exposure to the unauthorized discharge;

3) Visual observations of the impacts (if any) noted in the receiving waters (e.g., fish kill, discoloration of water) and the extent of sampling if conducted;

4) Corrective measures taken to minimize the impact of the unauthorized discharge;

5) Measures to be taken to minimize the chances of a similar unauthorized discharge occurring in the future;

6) Summary of Spill Prevention Plan or O&M Manual modifications to be made, if necessary, to minimize the chances of future unauthorized discharges; and

7) Quantity and duration of the unauthorized discharge, and the amount recovered.

d. Communication Protocol

To clarify the multiple levels of notification, certification, and reporting, the current communication requirements for unauthorized discharges from municipal wastewater treatment plants are summarized in Table B that follows.

Table B

Summary of Communication Requirements for Unauthorized Discharges[1] from Municipal Wastewater Treatment Plants

Discharger is required to:	Agency Receiving Information	Time frame	Method for Contact
1. Notify	California Emergency Management Agency (Cal EMA)	As soon as possible, but not later than **2 hours** after becoming aware of the unauthorized discharge.	Telephone – (800) 852-7550 (obtain a control number from Cal EMA)
	Local health department	As soon as possible, but not later than **2 hours** after becoming aware of the unauthorized discharge.	Depends on local health department
	Regional Water Board	As soon as possible, but not later than **2 hours** after becoming aware of the unauthorized discharge.	Electronic[2] www.wbers.net
2. Certify	Regional Water Board	As soon as possible, but not later than **24 hours** after becoming aware of the unauthorized discharge.	Electronic[3] www.wbers.net
3. Report	Regional Water Board	Within **5 business days** of becoming aware of the unauthorized discharge.	Electronic[4] www.wbers.net

[1] California Code of Regulations, Title 23, Section 2250(b), defines an unauthorized discharge to be a discharge, not regulated by waste discharge requirements, of treated, partially treated, or untreated wastewater resulting from the intentional or unintentional diversion of wastewater from a collection, treatment or disposal system.

[2] In the event that the Discharger is unable to provide online notification within 2 hours of becoming aware of an unauthorized discharge, it shall phone the Regional Water Board's spill hotline at (510) 622-2369 and convey the same information contained in the notification form. In addition, within 3 business days of becoming aware of the unauthorized discharge, the Discharger shall enter the notification information into the Regional Water Board's online system in electronic format.

[3] In most instances, the 2-hour notification will also satisfy 24-hour certification requirements. This is because the notification form includes fields for documenting that OES and the local health department have been contacted. In other words, if the Discharger is able to complete all the fields in the notification form within 2 hours, certification requirements are also satisfied. In the event that the Discharger is unable to provide online certification within 24 hours of becoming aware of an unauthorized discharge, it shall phone the Regional Water Board's spill hotline at (510) 622-2369 and convey the same information contained in the certification form. In addition, within 3 business days of becoming aware of the unauthorized discharge, the Discharger shall enter the certification information into the Regional Water Board's online system in electronic format.

[4] If the Discharger cannot satisfy the 5-day reporting requirements via the Regional Water Board's online reporting system, it shall submit a written report (preferably electronically in pdf) to the appropriate Regional Water Board case manager. In cases where the Discharger cannot satisfy the 5-day reporting requirements via the online reporting system, it must still complete the Regional Water Board's online reporting requirements within 15 calendar days of becoming aware of the unauthorized discharge.

F. Planned Changes – Not supplemented

G. Anticipated Noncompliance – Not supplemented

H. Other Noncompliance – Not supplemented

I. Other Information – Not supplemented

VI. STANDARD PROVISION – ENFORCEMENT – Not Supplemented

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS – Not Supplemented

VIII. DEFINITIONS – This section is an addition to Standard Provisions (Attachment D)

More definitions can be found in Attachment A of this NPDES Permit.

1. Arithmetic Calculations

   a. Geometric mean is the antilog of the log mean or the back-transformed mean of the logarithmically transformed variables, which is equivalent to the multiplication of the antilogarithms. The geometric mean can be calculated with either of the following equations:

$$\text{Geometric Mean} = Anti\log\left(\frac{1}{N}\sum_{i=1}^{N} Log(C_i)\right)$$

   or

$$\text{Geometric Mean} = (C_1 * C_2 * \ldots * C_N)^{1/N}$$

   Where "N" is the number of data points for the period analyzed and "C" is the concentration for each of the "N" data points.

   b. Mass emission rate is obtained from the following calculation for any calendar day:

$$\text{Mass emission rate (lb/day)} = \frac{8.345}{N}\sum_{i=1}^{N} Q_i C_i$$

$$\text{Mass emission rate (kg/day)} = \frac{3.785}{N}\sum_{i=1}^{N} Q_i C_i$$

   In which "N" is the number of samples analyzed in any calendar day and "Q_i" and "C_i" are the flow rate (MGD) and the constituent concentration (mg/L) associated with each of the "N" grab samples that may be taken in any calendar day. If a composite sample is taken, "C_i" is the concentration measured in the composite sample and "Q_i" is the average flow rate occurring during the period over which the samples are composited. The daily concentration of a constituent measured over any calendar day shall be determined from the flow-weighted average of the same constituent in the combined waste streams as follows:

Cd = Average daily concentration = $\frac{1}{Q_t}\sum_{i=1}^{N} Q_i C_i$

In which "N" is the number of component waste streams and "Q" and "C" are the flow rate (MGD) and the constituent concentration (mg/L) associated with each of the "N" waste streams. "Q_t" is the total flow rate of the combined waste streams.

c. Maximum allowable mass emission rate, whether for a 24-hour, weekly 7-day, monthly 30-day, or 6-month period, is a limitation expressed as a daily rate determined with the formulas in the paragraph above, using the effluent concentration limit specified in the permit for the period and the specified allowable flow.

d. POTW removal efficiency is the ratio of pollutants removed by the treatment facilities to pollutants entering the treatment facilities (expressed as a percentage). The Discharger shall determine removal efficiencies using monthly averages (by calendar month unless otherwise specified) of pollutant concentration of influent and effluent samples collected at about the same time and using the following equation (or its equivalent):

Removal Efficiency (%) = 100 × [1-(Effluent Concentration/Influent Concentration)]

2. Biosolids means the solids, semi-liquid suspensions of solids, residues, screenings, grit, scum, and precipitates separated from or created in wastewater by the unit processes of a treatment system. It also includes, but is not limited to, all supernatant, filtrate, centrate, decantate, and thickener overflow and underflow in the solids handling parts of the wastewater treatment system.

3. Blending is the practice of recombining wastewater that has been biologically treated with wastewater that has bypassed around biological treatment units.

4. Bottom sediment sample is (1) a separate grab sample taken at each sampling station for the determination of selected physical-chemical parameters, or (2) four grab samples collected from different locations in the immediate vicinity of a sampling station while the boat is anchored and analyzed separately for macroinvertebrates.

5. Composite sample is a sample composed of individual grab samples collected manually or by an automatic sampling device on the basis of time or flow as specified in the MRP. For flow-based composites, the proportion of each grab sample included in the composite sample shall be within plus or minus five percent (+/-5%) of the representative flow rate of the waste stream being measured at the time of grab sample collection. Alternatively, equal volume grab samples may be individually analyzed with the flow-weighted average calculated by averaging flow-weighted ratios of each grab sample analytical result. Grab samples comprising time-based composite samples shall be collected at intervals not greater than those specified in the MRP. The quantity of each grab sample comprising a time-based composite sample shall be a set of flow proportional volumes as specified in the MRP. If a particular time-based or flow-based composite sampling protocol is not specified in the MRP, the Discharger shall determine and implement the most representative sampling protocol for the given parameter subject to Executive Officer approval.

6. Depth-integrated sample is defined as a water or waste sample collected by allowing a sampling device to fill during a vertical traverse in the waste or receiving water body being sampled. The Discharger shall collect depth-integrated samples in such a manner that the collected sample will be representative of the waste or water body at that sampling point.

7. Flow sample is an accurate measurement of the average daily flow volume using a properly calibrated and maintained flow measuring device.

8. Grab sample is an individual sample collected in a short period of time not exceeding 15 minutes. Grab samples represent only the condition that exists at the time the wastewater is collected.

9. Initial dilution is the process that results in the rapid and irreversible turbulent mixing of wastewater with receiving water around the point of discharge.

10. Overflow is the intentional or unintentional spilling or forcing out of untreated or partially treated wastes from a transport system (e.g., through manholes, at pump stations, and at collection points) upstream from the treatment plant headworks or from any part of a treatment plant facility.

11. Priority pollutants are those constituents referred to in 40 CFR Part 122 as promulgated in the Federal Register, Vol. 65, No. 97, Thursday, May 18, 2000, also known as the California Toxics Rule, the presence or discharge of which could reasonably be expected to interfere with maintaining designated uses.

12. Stormwater means stormwater runoff, snow melt runoff, and surface runoff and drainage. It excludes infiltration and runoff from agricultural land.

13. Toxic pollutant means any pollutant listed as toxic under federal Clean Water Act section 307(a)(1) or under 40 CFR 401.15.

14. Untreated waste is raw wastewater.

15. Waste, waste discharge, discharge of waste, and discharge are used interchangeably in the permit. The requirements of the permit apply to the entire volume of water, and the material therein, that is disposed of to surface and ground waters of the State of California.

Table C

List of Monitoring Parameters and Analytical Methods

CTR No.	Pollutant/Parameter	Analytical Method[1]	Minimum Levels[2] (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
1.	Antimony	204.2					10	5	50	0.5	5	0.5		1000
2.	Arsenic	206.3				20		2	10	2	2	1		1000
3.	Beryllium						20	0.5	2	0.5	1			1000
4.	Cadmium	200 or 213					10	0.5	10	0.25	0.5			1000
5a.	Chromium (III)	SM 3500												
5b.	Chromium (VI)	SM 3500				10	5							1000
	Chromium (total)[3]	SM 3500					50	2	10	0.5	1			1000
6.	Copper	200.9					25	5	10	0.5	2			1000
7.	Lead	200.9					20	5	5	0.5	2			10,000
8.	Mercury	1631 (note)[4]												
9.	Nickel	249.2					50	5	20	1	5			1000
10.	Selenium	200.8 or SM 3114B or C						5	10	2	5	1		1000
11.	Silver	272.2					10	1	10	0.25	2			1000
12.	Thallium	279.2					10	2	10	1	5			1000
13.	Zinc	200 or 289					20		20	1	10			
14.	Cyanide	SM 4500 CN^- C or I				5								
15.	Asbestos (only required for dischargers to MUN waters)[5]	0100.2 [6]												
17.	Acrolein	603	2.0	5										
18.	Acrylonitrile	603	2.0	2										
19.	Benzene	602	0.5	2										
33.	Ethylbenzene	602	0.5	2										
39.	Toluene	602	0.5	2										
20.	Bromoform	601	0.5	2										
21.	Carbon Tetrachloride	601	0.5	2										
22.	Chlorobenzene	601	0.5	2										
23.	Chlorodibromomethane	601	0.5	2										
24.	Chloroethane	601	0.5	2										
25.	2-Chloroethylvinyl Ether	601	1	1										
26.	Chloroform	601	0.5	2										
75.	1,2-Dichlorobenzene	601	0.5	2										
76.	1,3-Dichlorobenzene	601	0.5	2										
77.	1,4-Dichlorobenzene	601	0.5	2										

[1] 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 Discharger has the discretion to use any standard method.

[2] Minimum levels are from the *State Implementation Policy*. They are the concentration of the lowest calibration standard for that technique based on a survey of contract laboratories. Laboratory techniques are defined as follows: GC = Gas Chromatography; GCMS = Gas Chromatography/Mass Spectrometry; LC = High Pressure Liquid Chromatography; Color = Colorimetric; FAA = Flame Atomic Absorption; GFAA = Graphite Furnace Atomic Absorption; ICP = Inductively Coupled Plasma; ICPMS = Inductively Coupled Plasma/Mass Spectrometry; SPGFAA = Stabilized Platform Graphite Furnace Atomic Absorption (i.e., U.S. EPA 200.9); Hydride = Gaseous Hydride Atomic Absorption; CVAA = Cold Vapor Atomic Absorption; DCP = Direct Current Plasma.

[3] 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 ug/l).

[4] The Discharger shall use ultra-clean sampling (U.S. EPA Method 1669) and ultra-clean analytical methods (U.S. EPA Method 1631) for mercury monitoring. The minimum level for mercury is 2 ng/l (or 0.002 ug/l).

[5] MUN = Municipal and Domestic Supply. This designation, if applicable, is in the Findings of the permit.

[6] Determination of Asbestos Structures over 10 [micrometers] in Length in Drinking Water Using MCE Filters, U.S. EPA 600/R-94-134, June 1994.

CTR No.	Pollutant/Parameter	Analytical Method[1]	Minimum Levels[2] (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
27.	Dichlorobromomethane	601	0.5	2										
28.	1,1-Dichloroethane	601	0.5	1										
29.	1,2-Dichloroethane	601	0.5	2										
30.	1,1-Dichloroethylene or 1,1-Dichloroethene	601	0.5	2										
31.	1,2-Dichloropropane	601	0.5	1										
32.	1,3-Dichloropropylene or 1,3-Dichloropropene	601	0.5	2										
34.	Methyl Bromide or Bromomethane	601	1.0	2										
35.	Methyl Chloride or Chloromethane	601	0.5	2										
36.	Methylene Chloride or Dichlorormethane	601	0.5	2										
37.	1,1,2,2-Tetrachloroethane	601	0.5	1										
38.	Tetrachloroethylene	601	0.5	2										
40.	1,2-Trans-Dichloroethylene	601	0.5	1										
41.	1,1,1-Trichloroethane	601	0.5	2										
42.	1,1,2-Trichloroethane	601	0.5	2										
43.	Trichloroethene	601	0.5	2										
44.	Vinyl Chloride	601	0.5	2										
45.	2-Chlorophenol	604	2	5										
46.	2,4-Dichlorophenol	604	1	5										
47.	2,4-Dimethylphenol	604	1	2										
48.	2-Methyl-4,6-Dinitrophenol or Dinitro-2-methylphenol	604	10	5										
49.	2,4-Dinitrophenol	604	5	5										
50.	2-Nitrophenol	604		10										
51.	4-Nitrophenol	604	5	10										
52.	3-Methyl-4-Chlorophenol	604	5	1										
53.	Pentachlorophenol	604	1	5										
54.	Phenol	604	1	1		50								
55.	2,4,6-Trichlorophenol	604	10	10										
56.	Acenaphthene	610 HPLC	1	1	0.5									
57.	Acenaphthylene	610 HPLC		10	0.2									
58.	Anthracene	610 HPLC		10	2									
60.	Benzo(a)Anthracene or 1,2 Benzanthracene	610 HPLC	10	5										
61.	Benzo(a)Pyrene	610 HPLC		10	2									
62.	Benzo(b)Fluoranthene or 3,4 Benzofluoranthene	610 HPLC		10	10									
63.	Benzo(ghi)Perylene	610 HPLC		5	0.1									
64.	Benzo(k)Fluoranthene	610 HPLC		10	2									
74.	Dibenzo(a,h)Anthracene	610 HPLC		10	0.1									
86.	Fluoranthene	610 HPLC	10	1	0.05									
87.	Fluorene	610 HPLC		10	0.1									
92.	Indeno(1,2,3-cd) Pyrene	610 HPLC		10	0.05									
100.	Pyrene	610 HPLC		10	0.05									
68.	Bis(2-Ethylhexyl)Phthalate	606 or 625	10	5										
70.	Butylbenzyl Phthalate	606 or 625	10	10										
79.	Diethyl Phthalate	606 or 625	10	2										
80.	Dimethyl Phthalate	606 or 625	10	2										
81.	Di-n-Butyl Phthalate	606 or 625		10										
84.	Di-n-Octyl Phthalate	606 or 625		10										
59.	Benzidine	625		5										

CTR No.	Pollutant/Parameter	Analytical Method[1]	Minimum Levels[2] (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
65.	Bis(2-Chloroethoxy)Methane	625		5										
66.	Bis(2-Chloroethyl)Ether	625	10	1										
67.	Bis(2-Chloroisopropyl)Ether	625	10	2										
69.	4-Bromophenyl Phenyl Ether	625	10	5										
71.	2-Chloronaphthalene	625		10										
72.	4-Chlorophenyl Phenyl Ether	625		5										
73.	Chrysene	625		10	5									
78.	3,3'-Dichlorobenzidine	625		5										
82.	2,4-Dinitrotoluene	625	10	5										
83.	2,6-Dinitrotoluene	625		5										
85.	1,2-Diphenylhydrazine (note)[7]	625		1										
88.	Hexachlorobenzene	625	5	1										
89.	Hexachlorobutadiene	625	5	1										
90.	Hexachlorocyclopentadiene	625	5	5										
91.	Hexachloroethane	625	5	1										
93.	Isophorone	625	10	1										
94.	Naphthalene	625	10	1	0.2									
95.	Nitrobenzene	625	10	1										
96.	N-Nitrosodimethylamine	625	10	5										
97.	N-Nitrosodi-n-Propylamine	625	10	5										
98.	N-Nitrosodiphenylamine	625	10	1										
99.	Phenanthrene	625		5	0.05									
101.	1,2,4-Trichlorobenzene	625	1	5										
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											
117.	Heptachlor	608	0.01											
118.	Heptachlor Epoxide	608	0.01											
119-125	PCBs: Aroclors 1016, 1221, 1232, 1242, 1248, 1254, 1260	608	0.5											
126.	Toxaphene	608	0.5											

[7] Measurement for 1,2-Diphenylhydrazine may use azobenzene as a screen: if azobenzene is measured at >1 ug/l, then the Discharger shall analyze for 1,2-Diphenylhydrazine.