

1. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.
2. 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.

ATTACHMENT A – DEFINITIONS

Arithmetic Mean (μ)

Also called the average, is 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

Those substances 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

Pollutants are substances that are known to cause cancer in living organisms.

Coefficient of Variation (CV)

CV is a measure of the data variability and is calculated as the estimated standard deviation divided by the arithmetic mean of the observed values.

Daily Discharge

Daily Discharge is defined as 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 1 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 will be considered as the result for the calendar day in which the 24-hour period ends.

Detected, but Not Quantified (DNQ)

DNQ are those sample results less than the RL, but greater than or equal to the laboratory's MDL.

Dilution Credit

Dilution Credit is the 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 through conducting a mixing zone study or modeling of the discharge and receiving water.

Effluent Concentration Allowance (ECA)

ECA is a value derived from the water quality criterion/objective, dilution credit, and ambient background concentration that is used, in conjunction with the coefficient of variation 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 USEPA guidance (Technical Support Document For Water Quality-based Toxics Control, March 1991, second printing, EPA/505/2-90-001).

Enclosed Bays

Enclosed Bays means indentations along the coast that enclose an area of oceanic water within 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

The estimated chemical concentration that results from the confirmed detection of the substance by the analytical method below the ML value.

Estuaries

Estuaries means 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 shall be considered estuaries. Estuarine waters shall be 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 included, but are not limited to, the Sacramento-San Joaquin Delta, as defined in CWC 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.

Fiscal Year

A fiscal year is defined as the period from 1 July through 30 June.

Inland Surface Waters

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

Instantaneous Maximum Effluent Limitation

The 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

The 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)

The 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

The 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 the $n/2$ and $n/2+1$).

Method Detection Limit (MDL)

MDL is the 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 CFR Part 136, Attachment B, revised as of 3 July 1999.

Minimum Level (ML)

ML is the concentration at which the entire analytical system must give 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

Mixing Zone is a limited volume of receiving water that is 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 which are less than the laboratory's MDL.

Ocean Waters

The territorial marine waters of the State as defined by California law to the extent these waters are outside of enclosed bays, estuaries, and coastal lagoons. Discharges to ocean waters are regulated in accordance with the State Water Board's California Ocean Plan.

Persistent Pollutants

Persistent pollutants are substances for which degradation or decomposition in the environment is nonexistent or very slow.

Pollutant Minimization Program (PMP)

PMP means 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 PMP shall be to reduce all potential sources of a priority pollutant(s) 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. The Regional Water Board may consider cost effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if required pursuant to CWC section 13263.3(d), shall be considered to fulfill the PMP requirements.

Pollution Prevention

Pollution Prevention means 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 or Regional Water Board.

Reporting Level (RL)

RL is the ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the MLs included in this Order. 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 Appendix 4 of the SIP in accordance with section 2.4.2 of the SIP or established in accordance with section 2.4.3 of the SIP. While the discharge is not subject to the regulatory provisions of the SIP, the MLs are used for reporting purposes because they represent the levels reliably detected and quantified using approved analytical methods. 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.

Satellite Collection System

The portion, if any, of a sanitary sewer system owned or operated by a different public agency than the agency that owns and operates the wastewater treatment facility that a sanitary sewer system is tributary to.

Source of Drinking Water

Any water designated as municipal or domestic supply (MUN) in a Regional Water Board Basin Plan.

Standard Deviation (σ)

Standard Deviation is a measure of variability that is 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.

Storm Year

A storm year is defined as the period from 1 October through 30 September.

Toxicity Reduction Evaluation (TRE)

TRE is a 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 chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.)

ATTACHMENT B – MAP



ATTACHMENT D – STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code (CWC) and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. (40 CFR 122.41(a).)
2. The Discharger shall comply with effluent standards or prohibitions established under section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the CWA 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 CFR 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 CFR 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 CFR 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 CFR 122.41(e).)

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 CFR 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 CFR 122.5(c).)

F. Inspection and Entry

The Discharger shall allow the Regional Water Board, State Water Board, United States Environmental Protection Agency (USEPA), 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 (40 CFR 122.41(i); CWC section 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 (40 CFR 122.41(i)(1));
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (40 CFR 122.41(i)(2));
3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (40 CFR 122.41(i)(3)); and
4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the CWC, any substances or parameters at any location. (40 CFR 122.41(i)(4).)

G. Bypass

1. Definitions
 - a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. (40 CFR 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 CFR 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 CFR 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 CFR 122.41(m)(4)(i)):
 - a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 CFR 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 CFR 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 CFR 122.41(m)(4)(i)(C).)
4. 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 CFR 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 CFR 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 CFR 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 CFR 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 CFR 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 CFR 122.41(n)(3)):
 - a. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 CFR 122.41(n)(3)(i));
 - b. The permitted facility was, at the time, being properly operated (40 CFR 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 CFR 122.41(n)(3)(iii)); and
 - d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 CFR 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 CFR 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 CFR 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 CFR 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 CWC. (40 CFR 122.41(l)(3) and 122.61.)

III. STANDARD PROVISIONS – MONITORING

- A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 CFR 122.41(j)(1).)
- B. Monitoring results must be conducted according to test procedures under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503 unless other test procedures have been specified in this Order. (40 CFR 122.41(j)(4) and 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 5 years (or longer as required by 40 CFR 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 CFR 122.41(j)(2).)

B. Records of monitoring information shall include:

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

C. Claims of confidentiality for the following information will be denied (40 CFR 122.7(b)):

- 1. The name and address of any permit applicant or Discharger (40 CFR 122.7(b)(1)); and
- 2. Permit applications and attachments, permits and effluent data. (40 CFR 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 USEPA within a reasonable time, any information which the Regional Water Board, State Water Board, or USEPA 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 USEPA copies of records required to be kept by this Order. (40 CFR 122.41(h); Wat. Code, § 13267.)

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or USEPA 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 CFR 122.41(k).)
2. 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 USEPA). (40 CFR 122.22(a)(3).)
3. All reports required by this Order and other information requested by the Regional Water Board, State Water Board, or USEPA 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 CFR 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 CFR 122.22(b)(2)); and
 - c. The written authorization is submitted to the Regional Water Board and State Water Board. (40 CFR 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 CFR 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 CFR 122.22(d).)

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 CFR 122.22(l)(4).)
2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices. (40 CFR 122.41(l)(4)(i).)
3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Regional Water Board. (40 CFR 122.41(l)(4)(ii).)
4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 CFR 122.41(l)(4)(iii).)

D. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order, shall be submitted no later than 14 days following each schedule date. (40 CFR 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 CFR 122.41(l)(6)(i).)

2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 CFR 122.41(l)(6)(ii)):
 - a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 CFR 122.41(l)(6)(ii)(A).)
 - b. Any upset that exceeds any effluent limitation in this Order. (40 CFR 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 CFR 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 CFR 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 CFR 122.29(b) (40 CFR 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 subject neither to effluent limitations in this Order nor to notification requirements under 40 CFR 122.42(a)(1) (see Additional Provisions—Notification Levels VII.A.1). (40 CFR 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 CFR 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 General Order requirements. (40 CFR 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 CFR 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 USEPA, the Discharger shall promptly submit such facts or information. (40 CFR 122.41(l)(8).)

VI. STANDARD PROVISIONS – ENFORCEMENT

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

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

Table of Contents

I.	General Monitoring Provisions.....	E-2
II.	Monitoring Locations	E-4
III.	Influent Monitoring Requirements.....	E-4
	A. Monitoring Location INF-001.....	E-4
IV.	Effluent Monitoring Requirements	E-5
	A. Monitoring Locations EFF-002, EFF-003, and EFF-006	E-5
	B. Monitoring Locations EFF-004, EFF-005, and EFF-007	E-6
V.	Whole Effluent Toxicity Testing Requirements	E-7
VI.	Land Discharge Monitoring Requirements – Not Applicable	E-8
VII.	Reclamation Monitoring Requirements – Not Applicable.....	E-8
VIII.	Receiving Water Monitoring Requirements – Surface Water and Groundwater.....	E-8
	A. Monitoring Locations RSW-001, RSW-002, RSW-003, and RSW-004.....	E-8
IX.	Other Monitoring Requirements – Not Applicable.....	E-9
X.	Reporting Requirements.....	E-9
	A. General Monitoring and Reporting Requirements.....	E-9
	B. Self Monitoring Reports (SMRs)	E-9
	C. Discharge Monitoring Reports (DMRs)	E-12
	D. Other Reports	E-12

List of Tables

Table E-1.	Monitoring Station Locations.....	E-4
Table E-2.	Influent Monitoring.....	E-5
Table E-3.	Effluent Monitoring (Monitoring Locations EFF-002, EFF-003, and EFF-006)	E-5
Table E-4.	Effluent Monitoring (Monitoring Locations EFF-004, EFF-005, and EFF-007)	E-6
Table E-5.	Receiving Water Monitoring Requirements.....	E-8
Table E-6.	Monitoring Periods and Reporting Schedule.....	E-10

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

Title 40 of the Code of Federal Regulations (CFR), section 122.48 (40 CFR 122.48) requires that all NPDES permits specify monitoring and reporting requirements. California Water Code (CWC) sections 13267 and 13383 also authorize the Regional Water Quality Control Board (Regional Water Board) to require technical and monitoring reports. This Monitoring and Reporting Program establishes monitoring and reporting requirements, which implement the federal and California regulations.

I. GENERAL MONITORING PROVISIONS

- A.** Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring locations specified below and, unless otherwise specified, before the monitored flow joins or is diluted by any other waste stream, body of water, or substance. Monitoring locations shall not be changed without notification to and the approval of this Regional Water Board.
- B.** Effluent samples shall be taken downstream of the last addition of wastes to the treatment or discharge works where a representative sample may be obtained prior to mixing with the receiving waters. Samples shall be collected at such a point and in such a manner to ensure a representative sample of the discharge.
- C.** Chemical, bacteriological, and bioassay analyses of any material required by this Order shall be conducted by a laboratory certified for such analyses by the Department of Public Health (DPH; formerly the Department of Health Services). Laboratories that perform sample analyses must be identified in all monitoring reports submitted to the Regional Water Board.
- D.** The Discharger shall institute a Quality Assurance-Quality Control Program for any onsite field measurements such as pH, turbidity, temperature and residual chlorine. A manual containing the steps followed in this program must be kept onsite and shall be available for inspection by Regional Water Board staff. The Discharger must demonstrate sufficient capability (qualified and trained employees, properly calibrated and maintained field instruments, etc.) to adequately perform these field measurements. The Quality Assurance-Quality Control Program must conform to USEPA guidelines or to procedures approved by the Regional Water Board.
- E.** Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. All monitoring instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary, at least yearly, to ensure their continued accuracy. All flow measurement devices shall be calibrated at least once per year to ensure continued accuracy of the devices.

- F.** Monitoring results, including noncompliance, shall be reported at intervals and in a manner specified in this Monitoring and Reporting Program.
- G.** Laboratories analyzing monitoring samples shall be certified by DPH, in accordance with the provision of CWC section 13176, and must include quality assurance/quality control data with their reports.
- H.** The Discharger shall conduct analysis on any sample provided by USEPA as part of the Discharge Monitoring Quality Assurance (DMQA) program. The results of any such analysis shall be submitted to USEPA's DMQA manager.
- I.** The Discharger shall file with the Regional Water Board technical reports on self-monitoring performed according to the detailed specifications contained in this Monitoring and Reporting Program.
- J.** The results of all monitoring required by this Order shall be reported to the Regional Water Board, and shall be submitted in such a format as to allow direct comparison with the limitations and requirements of this Order. Unless otherwise specified, discharge flows shall be reported in terms of the monthly average and the daily maximum discharge flows.

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 Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description (include Latitude and Longitude when available)
--	INF-001	At a location that is representative of influent to the Pioneer Reservoir and CWTP
002	EFF-002	CWTP effluent downstream from last connection through which wastes can be admitted into the outfall
003	EFF-003	CWTP (Storm Sump 104) effluent downstream from last connection through which wastes can be admitted into the outfall
004	EFF-004	Sump 2/2A Gate #4
005	EFF-005	Sump 2/2A Gate #5
006	EFF-006	Pioneer Reservoir effluent downstream from last connection through which wastes can be admitted into outfall
007	EFF-007	Pioneer Reservoir Combined Sump 1A Bypass
--	RSW-001	Upstream of CSO Discharge Point Nos. 006 and 007, at the Delta King
--	RSW-002	Downstream of Discharge Point Nos. 006 and 007, at Miller Park
--	RSW-003	Downstream of Discharge Point Nos. 004 and 005, at La Rivage
--	RSW-004	Downstream of Discharge Point Nos. 002 and 003, at Wooden Stairs

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Location INF-001

1. The Discharger shall monitor influent to the Facility at INF-001 as described in the following table. Samples shall be collected at approximately the same time as effluent samples (i.e., the same storm event or river discharge event) and should be representative of the influent for the period sampled. If no discharge from the CWTP (Discharge Point Nos. 002 or 003) and/or Pioneer Reservoir (Discharge Point No. 006) is occurring, no influent monitoring is required (and the Discharger shall indicate that no monitoring was required in the monthly self-monitoring reports required in Section X.B. of this Monitoring and Reporting Program).

Table E-2. Influent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	mgd	Meter	Continuous ¹	³
Total Suspended Solids	mg/L	Flow-weighted Composite	1/Discharge Event ²	³
Settleable Solids	ml/L	Grab	1/Discharge Event ²	³

- ¹ Flow monitoring is required continuously during the storm event that resulted in a discharge from Discharge Point Nos. 002, 003 and/or 006.
- ² At least one grab sample is required during the first 4 hours of a discharge from Discharge Point Nos. 002, 003 and/or 006. If the duration of the discharge event is greater than 24 hours, daily samples shall be collected.
- ³ Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136.

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Locations EFF-002, EFF-003, and EFF-006

- The Discharger shall monitor CWTP effluent at Monitoring Locations EFF-002 or EFF-003, and Pioneer Reservoir effluent at Monitoring Location EFF-006, as follows. If no discharge from the CWTP (Discharge Point Nos. 002 or 003) and/or Pioneer Reservoir (Discharge Point No. 006) is occurring, no effluent monitoring is required (and the Discharger shall indicate that no monitoring was required in the monthly self-monitoring reports required in Section X.B. of this Monitoring and Reporting Program).

Table E-3. Effluent Monitoring (Monitoring Locations EFF-002, EFF-003, and EFF-006)

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and (Minimum Level, units), respectively
Flow	mgd	Meter	Continuous ¹	⁴
Total Flow	Million gallons	Meter	Continuous ¹	⁴
Flow Duration	Hours	Calculate	Continuous ¹	⁴
Total Suspended Solids	mg/L	Grab	1/Discharge Event ³	⁴
Total Suspended Solids	% Removal ²	Calculate	1/Discharge Event ³	⁴
Settleable Solids	ml/L	Grab	1/Discharge Event ³	⁴
pH	Standard Units	Grab	1/Discharge Event ³	⁴
Dissolved Oxygen	mg/L	Grab	1/Discharge Event ³	⁴
Fecal Coliform	MPN/100 mL	Grab	1/Discharge Event ³	⁴
Chlorine, Total Residual	mg/L	Grab	1/Discharge Event ³	⁴
Mercury, Total Recoverable	µg/L	Grab	1/Discharge Event ³	^{4,5}
Methylmercury	µg/L	Grab	1/Discharge Event ³	⁴
Chlorpyrifos	µg/L	Grab	1/Discharge Event ³	^{4,6}
Diazinon	µg/L	Grab	1/Discharge Event ³	^{4,6}
Temperature	°F	Grab	1/Discharge Event ³	⁴

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and (Minimum Level, units), respectively
Ammonia Nitrogen, Total (as N)	mg/L	Grab	1/Discharge Event ³	4
Priority Pollutants and Other Constituents of Concern ⁷	µg/L	Grab	1/Year	4,8

- ¹ Flow monitoring is required continuously during the storm event that resulted in a discharge from Discharge Point Nos. 002, 003 and/or 006.
- ² Report removal efficiency (%) for each storm event using influent (INF-001) and effluent values for Discharge Point Nos. 002, 003 and 006.
- ³ At least one grab sample is required during the first 4 hours of a discharge. If the duration of the discharge event is greater than 24 hours, daily samples shall be collected.
- ⁴ Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136.
- ⁵ The analytical methods must meet the lowest minimum levels (MLs) specified in Attachment 4 of the SIP.
- ⁶ Diazinon and chlorpyrifos shall be analyzed using USEPA Method 8141A, USEPA Method 625M or equivalent GC/MS method to reporting limits of 0.020 µg/L and 0.010 µg/L, respectively.
- ⁷ See List of Priority Pollutants and Other Pollutants of Concern in Attachment I. This monitoring will begin in the October 2010 storm year.
- ⁸ In order to verify if bis (2-ethylhexyl) phthalate is truly present in the effluent discharge, the Discharger shall take steps to assure that sample containers, sampling apparatus, and analytical equipment are not sources of the detected pollutant.

B. Monitoring Locations EFF-004, EFF-005, and EFF-007

1. The Discharger shall monitor Sumps 2/2A effluent at Monitoring Location EFF-004 and EFF-005, and Pioneer Reservoir Combined Sump 1A untreated effluent at Monitoring Location EFF-007, as follows. If no discharge from the Discharge Point Nos. 004, 005 and/or 007 is occurring, no effluent monitoring is required (and the Discharger shall indicate that no monitoring was required in the monthly self-monitoring reports required in Section X.B. of this Monitoring and Reporting Program).

Table E-4. Effluent Monitoring (Monitoring Locations EFF-004, EFF-005, and EFF-007)

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and (Minimum Level, units), respectively
Flow	mgd	Meter	Continuous ¹	3
Total Flow	Million gallons	Meter	Continuous ¹	3
Flow Duration	Hours	Calculate	Continuous ¹	3
pH	Standard Units	Grab	1/Discharge Event ²	3
Dissolved Oxygen	mg/L	Grab	1/Discharge Event ²	3
Temperature	°F	Grab	1/Discharge Event ²	3
Total Suspended Solids	mg/L	Grab	1/Discharge Event ²	3
Settleable Solids	mL/L	Grab	1/Discharge Event ²	3
Fecal Coliform	MPN/100 mL	Grab	1/Discharge Event ²	3
Ammonia Nitrogen, Total (as N)	mg/L	Grab	1/Discharge Event ³	3

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and (Minimum Level, units), respectively
Priority Pollutants and Other Constituents of Concern ⁴	µg/L	Grab	1/Year	3,5

¹ Flow monitoring is required continuously during the storm event that resulted in a discharge from Discharge Point Nos. 004, 005 and/or 007.

² At least one grab sample during the first 4 hours of a discharge. If the duration of the discharge event is greater than 24 hours, daily samples shall be collected.

³ Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136.

⁴ See List of Priority Pollutants and Other Pollutants of Concern in Attachment I. This monitoring will begin in the October 2010 storm year.

⁵ In order to verify if bis (2-ethylhexyl) phthalate is truly present in the effluent discharge, the Discharger shall take steps to assure that sample containers, sampling apparatus, and analytical equipment are not sources of the detected pollutant.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Acute Toxicity Testing. Beginning with the October 2010 storm year, the Discharger shall conduct annual acute toxicity testing at Monitoring Locations EFF-002, EFF-003, EFF-004, EFF-005, EFF-006 and EFF-007 in accordance with the following acute toxicity testing requirements:

1. Test Species – Test species shall be fathead minnows (*Pimephales promelas*).
2. Sample Volume – The Discharger shall collect a sample of sufficient volume to ensure adequate volume is available should a re-test be required as described in V.A.4 below.
3. Methods – The acute toxicity testing samples shall be analyzed using EPA-821-R-02-012, Fifth Edition. Temperature, total residual chlorine, and pH shall be recorded at the time of sample collection. No pH adjustment may be made unless approved by the Executive Officer.
4. Test Failure – If an acute toxicity test does not meet all test acceptability criteria, as specified in the test method, the Discharger must re-test as soon as possible, not to exceed 7 days following notification of test failure.

B. WET Testing Reporting Requirements. All toxicity test reports shall include the contracting laboratory's complete report provided to the Discharger and shall be in accordance with the appropriate "Report Preparation and Test Review" sections of the method manuals. At a minimum, whole effluent toxicity monitoring shall be reported as follows:

1. **Acute WET Reporting.** Acute toxicity test results shall be submitted with the monthly discharger self-monitoring reports and reported as percent survival.

- VI. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE**
- VII. RECLAMATION MONITORING REQUIREMENTS – NOT APPLICABLE**
- VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER AND GROUNDWATER**

A. Monitoring Locations RSW-001, RSW-002, RSW-003, and RSW-004

1. The Discharger shall monitor the Sacramento River at Monitoring Locations RSW-001, RSW-002, RSW-003, and RSW-004 as follows. Samples shall be collected at Monitoring Locations RSW-001 and RSW-002 when discharge is occurring at Discharge Point Nos. 006 and/or 007. Samples shall be collected at Monitoring Locations RSW-002 and RSW-003 when discharge is occurring at Discharge Point Nos. 004 and/or 005. Samples shall be collected at Monitoring Locations RSW-003 and RSW-004 when discharge is occurring at Discharge Point Nos. 002 and/or 003.

Table E-5. Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
pH	Standard Units	Grab	1/Discharge Event ¹	2
Temperature	°F (°C)	Grab	1/Discharge Event ¹	2
Dissolved Oxygen	mg/L	Grab	1/Discharge Event ¹	2
Turbidity	NTUs	Grab	1/Discharge Event ¹	2
Fecal Coliform	MPN/100 mL	Grab	1/Discharge Event ¹	2
Ammonia Nitrogen, Total (as N)	mg/L	Grab	1/Discharge Event ¹	2

¹ Within the first 4 hours of beginning of storm causing discharge at any of the Discharge Points (Nos. 002, 003, 004, 005, 006, and/or 007) should safety conditions be satisfied, and daily if the discharge event is greater than 24 hours. Consideration will be given for events lasting less than 2 hours in duration due to the difficulty involved in collecting receiving water samples during short discharge events. For events that last less than 2 hours the Discharger shall make an effort to collect samples.

² Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136.

2. In conducting the receiving water sampling, a log shall be kept, as safety conditions permit, of the receiving water conditions throughout the reach bounded by Monitoring Locations RSW-001 and RSW-004. Attention shall be given to the presence or absence of:
 - a. Floating or suspended matter
 - b. Discoloration
 - c. Bottom deposits
 - d. Aquatic life

- e. Visible films, sheens or coatings
- f. Fungi, slimes, or objectionable growths
- g. Potential nuisance conditions

Notes on receiving water conditions shall be summarized in the monthly self-monitoring report required in Section X.B of this Monitoring and Reporting Program.

IX. OTHER MONITORING REQUIREMENTS – NOT APPLICABLE

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.
2. Upon written request of the Regional Water Board, the Discharger shall submit a summary monitoring report. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous year(s).
3. **Compliance Time Schedules.** For compliance time schedules included in the Order, the Discharger shall submit to the Regional Water Board, on or before each compliance due date, the specified document or a written report detailing compliance or noncompliance with the specific date and task. If noncompliance is reported, the Discharger shall state the reasons for noncompliance and include an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Regional Water Board by letter when it returns to compliance with the compliance time schedule.

B. Self Monitoring Reports (SMRs)

1. At any time during the term of this permit, the State Water Board or the Regional Water Board may notify the Discharger to electronically submit Self-Monitoring Reports (SMRs) using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (<http://www.waterboards.ca.gov/ciwqs/index.html>). Until such notification is given, the Discharger shall submit hard copy SMRs. The CIWQS Web site will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal.
2. The Discharger shall report in the SMR the results for all monitoring specified in this Monitoring and Reporting Program under sections III through IX. The Discharger shall submit monthly SMRs including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.

3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table E-6. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period	SMR and DMR Due Date
1/Year	1 October following (or on) permit effective date	1 October through 30 September	30 January
1/Discharge Event	First discharge event after the effective date of this Order	First day of calendar month through last day of calendar month	First day of second calendar month following month of sampling

4. **Reporting Protocols.** The Discharger shall report with each sample result the applicable reported Minimum Level (ML) and the current Method Detection Limit (MDL), as determined by the procedure in 40 CFR Part 136.

The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

- a. Sample results greater than or equal to the reported ML shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).
- b. Sample results less than the RL, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.

For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ as well as the words "Estimated Concentration" (may be shortened to "Est. Conc."). The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (+ a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

- c. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.
- d. Dischargers are to instruct laboratories to establish calibration standards so that the ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.

5. **Compliance Determination.** Compliance with effluent limitations for priority pollutants shall be determined using sample reporting protocols defined above. For purposes of reporting and administrative enforcement by the Regional Water Board and the State Water Board, the Discharger shall be deemed out of compliance with

effluent limitations if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reporting level (RL).

- 6. Multiple Sample Data.** When determining compliance with an AMEL, AWEL, or MDEL for priority pollutants and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of "Detected, but Not Quantified" (DNQ) or "Not Detected" (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:
- a. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.
 - b. 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.
- 7.** The Discharger shall submit SMRs in accordance with the following requirements:
- a. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations. The Discharger is not required to duplicate the submittal of data that is 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 within the system, the Discharger shall electronically submit the data in a tabular format as an attachment.
 - b. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the WDRs; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.
 - c. SMRs must be submitted to the Regional Water Board, signed and certified as required by the Standard Provisions (Attachment D), to the address listed below:

Regional Water Quality Control Board
Central Valley Region
NPDES Compliance and Enforcement Unit
11020 Sun Center Dr., Suite #200
Rancho Cordova, CA 95670-6114

C. Discharge Monitoring Reports (DMRs)

1. As described in section X.B.1 above, at any time during the term of this permit, the State Water Board or Regional Water Board may notify the Discharger to electronically submit SMRs that will satisfy federal requirements for submittal of Discharge Monitoring Reports (DMRs). Until such notification is given, the Discharger shall submit DMRs in accordance with the requirements described below.
2. DMRs must be signed and certified as required by the standard provisions (Attachment D). The Discharger shall submit the original DMR and one copy of the DMR to the address listed below:

STANDARD MAIL	FEDEX/UPS/ OTHER PRIVATE CARRIERS
State Water Resources Control Board Division of Water Quality c/o DMR Processing Center PO Box 100 Sacramento, CA 95812-1000	State Water Resources Control Board Division of Water Quality c/o DMR Processing Center 1001 I Street, 15 th Floor Sacramento, CA 95814

3. All discharge monitoring results must be reported on the official USEPA pre-printed DMR forms (EPA Form 3320-1). Forms that are self-generated will not be accepted unless they follow the exact same format of EPA Form 3320-1.

D. Other Reports

1. **Combined Sewer System Outflow Reporting.** The Discharger shall comply with all reporting requirements for combined sewer system outflows as described in Attachment G.
2. **Untreated Discharge Evaluation Report.** Following any discharges from Sump 2 Bypass (Discharge Point Nos. 004 and 005) and/or Sump 1A Bypass (Discharge Point No. 007), the Discharger shall prepare and submit a report to the Regional Water Board on or before 30 January each year, that describes the circumstances under which the overflow(s) occurred. As part of this report, the Discharger shall evaluate whether the overflows could have been avoided with operational measures and infrastructure improvements, and propose as necessary any modifications necessary to the Combined Wastewater Control System Plan of Operations.
3. **Nine Minimum Controls Annual Progress Report.** The Discharger shall submit documentation that demonstrates implementation of each of the nine minimum controls that includes the elements contained in Sections X.D.3.a through X.D.3.i below. The Discharger shall submit this documentation to the Regional Water Board on or before 30 January each year. The Discharger may propose a revised format after completion of the Water Quality Assessment.

- a. Proper operation and regular maintenance programs.** The Discharger shall submit:
- i. A list identifying critical combined wastewater collection and treatment system components requiring routine maintenance and operation.
 - ii. An evaluation of operation and maintenance procedures performed during the previous fiscal year.
 - iii. Estimated resources (manpower, equipment, and training) required for maintenance of the CSS and CSO structures during the previous fiscal year.
 - iv. An organizational chart or diagram detailing names and telephone numbers of key personnel, the chain of command, and the relationship among various program components.
 - v. A record of overflows that occurred during the previous storm year, including the date, location, duration, and volume of each overflow.
 - vi. A summary of completed inspections and maintenance performed.
 - vii. A status report on implementation of a FOG control program.
- b. Maximization of the sewer collection system storage.** The Discharger shall submit :
- i. A description of the actions taken to maximize collection system storage during the previous year.
 - ii. Schedules for completing any construction necessary to implement projects the Discharger previously committed to implement, including the current status of projects underway, final completion dates, and dates by which interim steps will be completed.
- c. Review and modify the pretreatment program.** The Discharger shall submit:
- i. Any Discharger-initiated changes to the Sacramento Regional County Sanitation District pretreatment program.
- d. Maximize flow to the POTW Treatment Plant.** The Discharger shall submit:
- i. Rainfall and flow data associated with the discharge event resulting in any discharge from Discharge Point Nos. 002, through 007 during the previous storm year.
 - ii. Documentation that flows were maximized in accordance with the Combined Wastewater Control System Plan of Operations.
- e. Elimination of CSOs during dry weather.** The Discharger shall submit:

- i. A summary of dry weather overflows that have occurred since its last report.
 - ii. The cause of, the estimated volume of, and the corrective actions taken to eliminate, each dry weather overflow that occurred since the last report.
 - iii. Description of the procedures used to detect dry weather overflows and notify the USEPA and the Board within 24 hours of detecting a dry weather overflow
- f. **Control of solid and floatable materials in CSOs.** The Discharger shall submit:
 - i. A description of control measures currently in place for limiting the volume of solid and floatable materials in the CSOs.
 - ii. The status of any recommendations implemented as a result of the CSS Water Quality Assessment as required in Section VI.C.2 of this Order.
- g. **Pollution prevention programs to reduce contaminants in CSOs.** The Discharger shall submit:
 - i. Documentation of pollution prevention program actions taken since its last report.
 - ii. The status of any recommendations implemented as a result of the CSS Water Quality Assessment as required in Section VI.C.2 of this Order.
- h. **Public notification.** The Discharger shall submit:
 - i. Any updated procedures for notifying governmental entities of outflows and CSOs, including the names and titles of the specific officials to be notified, the names and titles of the persons responsible for making the notifications and the timeframes within which the notifications must be made.
 - ii. Documentation that CSO Discharge Point Nos. 002 through 007 are posted with signs informing the public of potential health risks and adverse environmental impacts. If these discharge points are already posted, the Discharger shall submit the language that is on each sign.
 - iii. Any updates to the public notification procedures in the "Standard Operating Procedures for Emergency Response" intended to provide the public with adequate notification of CSOs and CSS outflows, including appropriate warnings regarding potential exposure and public health hazards to be avoided.
- i. **Monitoring to characterize CSO impacts and efficacy of CSO controls.** The Discharger shall submit:

- i. A summary of CSO discharge occurrences during the previous storm year (total number of events and frequency, duration, volume and pollutant loadings of each event).
 - ii. Summary of water quality data collected during the previous storm year for impacted receiving water bodies.
 - iii. Summary of receiving water impacts during the previous storm year (e.g., beach closings, floatable material wash-ups, fish kills) as a result of any discharge from Discharge Point Nos. 002 through 007.
- 4. Annual Long-Term Control Program Progress Reports.** By 30 January of each year, the Discharger shall prepare and submit annual LTCP progress reports. The Discharger may propose a revised format after completion of the Water Quality Assessment. The annual LTCP updates shall include, at a minimum, the following:
 - a. Description of overall progress and proposed schedule for achieving each of the LTCP interim and final goals as described in Section VI.C.4.c. of this Order.
 - b. Status of current on-going CSS improvement and rehabilitation projects initiated in the previous fiscal year or earlier. For each project provide:
 - i. Type of Project
 - ii. Date Approved
 - iii. Date Budgeted
 - iv. Date Started
 - v. Current Status
 - vi. Percentage Completed
 - vii. Current Status of Operational Improvements (e.g., two of three new pumps operational)
 - viii. Original Planned Completion Date
 - ix. Expected Completion Date (if applicable, include explanation for any delays from the original planned completion date)
 - x. Comments for Partially Completed Projects (e.g., trunk line can presently manage an additional 20 MGD rate during wet weather)
 - xi. Comments for Completed Projects (e.g., plant bar screens need modification due to additional wet weather flows and debris)

- c. Planned improvement and rehabilitation projects to be implemented in the upcoming fiscal year. For each project provide:
 - i. Type of Project
 - ii. Date Approved
 - iii. Date Budgeted
 - iv. Planned Start Date
 - v. Planned Completion Date
 - vi. Comments
- 5. **Annual Operations Report.** By **30 January of each year**, the Discharger shall submit a written report to the Executive Officer containing the following (the Discharger may propose a revised format after completion of the Water Quality Assessment):
 - a. The names and general responsibilities of all persons employed at the Facility.
 - b. The names and telephone numbers of persons to contact regarding the plant for emergency and routine situations.
 - c. A statement certifying when the flow meter(s) and other monitoring instruments and devices were last calibrated, including identification of who performed the calibration.
 - d. A statement certifying whether the current operation and maintenance manual, and contingency plan, reflect the wastewater treatment plant as currently constructed and operated, and the dates when these documents were last revised and last reviewed for adequacy.
 - e. The Discharger may also be requested to submit an annual report to the Regional Water Board with both tabular and graphical summaries of the monitoring data obtained during the previous year. Any such request shall be made in writing. The report shall discuss the compliance record. If violations have occurred, the report shall also discuss the corrective actions taken and planned to bring the discharge into full compliance with the waste discharge requirements.

ATTACHMENT F – FACT SHEET

Table of Contents

I.	Permit Information	F-3
II.	Facility Description	F-4
	A. Description of Wastewater and Biosolids Treatment or Controls	F-4
	B. Discharge Points and Receiving Waters	F-7
	C. Summary of Historical Requirements and Self-Monitoring Report (SMR) Data	F-8
	D. Compliance Summary	F-8
	E. Planned Changes	F-12
III.	Applicable Plans, Policies, and Regulations	F-14
	A. Legal Authorities	F-14
	B. California Environmental Quality Act (CEQA)	F-14
	C. State and Federal Regulations, Policies, and Plans	F-14
	D. Impaired Water Bodies on CWA 303(d) List	F-16
	E. Other Plans, Policies and Regulations	F-16
IV.	Rationale For Effluent Limitations and Discharge Specifications	F-17
	A. Discharge Prohibitions	F-18
	B. Technology-Based Effluent Limitations	F-19
	1. Scope and Authority	F-19
	2. Applicable Technology-Based Effluent Limitations	F-20
	C. Water Quality-Based Effluent Limitations (WQBELs)	F-20
	1. Scope and Authority	F-20
	2. Applicable Beneficial Uses and Water Quality Criteria and Objectives	F-21
	3. Determining the Need for WQBELs	F-22
	4. WQBEL Calculations	F-36
	5. Whole Effluent Toxicity (WET)	F-37
	D. Final Effluent Limitations	F-37
	1. Mass-based Effluent Limitations	F-38
	2. Averaging Periods for Effluent Limitations	F-38
	3. Satisfaction of Anti-Backsliding Requirements	F-38
	4. Satisfaction of Antidegradation Policy	F-38
	5. Stringency of Requirements for Individual Pollutants	F-39
	E. Interim Effluent Limitations – Not Applicable	F-39
	F. Land Discharge Specifications – Not Applicable	F-39
	G. Reclamation Specifications – Not Applicable	F-39
V.	Rationale for Receiving Water Limitations	F-39
	A. Surface Water	F-40
	B. Groundwater – Not Applicable	F-40
VI.	Rationale for Monitoring and Reporting Requirements	F-40
	A. Influent Monitoring	F-40
	B. Effluent Monitoring	F-40
	C. Whole Effluent Toxicity Testing Requirements	F-42
	D. Receiving Water Monitoring	F-42
	1. Surface Water	F-42

E. Other Monitoring Requirements – Not Applicable.....	F-42
VII. Rationale for Provisions.....	F-42
A. Standard Provisions.....	F-42
B. Special Provisions.....	F-43
1. Reopener Provisions.....	F-43
2. Special Studies and Additional Monitoring Requirements.....	F-43
3. Best Management Practices and Pollution Prevention – Not Applicable	F-44
4. Construction, Operation, and Maintenance Specifications.....	F-44
5. Special Provisions for Municipal Facilities (POTWs Only)	F-55
6. Other Special Provisions – Not Applicable.....	F-55
7. Compliance Schedules – Not Applicable	F-55
VIII. Public Participation	F-55
A. Notification of Interested Parties	F-55
B. Written Comments	F-55
C. Public Hearing	F-55
D. Waste Discharge Requirements Petitions.....	F-56
E. Information and Copying.....	F-56
F. Register of Interested Persons	F-56
G. Additional Information	F-56

List of Tables

Table F-1. Facility Information	F-3
Table F-2. Historic Effluent Limitations and Monitoring Data	F-8
Table F-3. Summary of Technology-based Effluent Limitations, Discharge Point Nos. 002, 003, and 006	F-20
Table F-4. Basin Plan Beneficial Uses	F-22
Table F-5. Number of CSO Discharges Reported	F-26
Table F-6. Detailed Summary of Reported CSO Discharges as Reported in SMRs.....	F-27
Table F-7. Summary of Toxic Pollutant Monitoring Results for the City of Sacramento CSO Discharges (For Storm Years 2002 through 2008)	F-28
Table F-8. Site-Specific Water Quality Objectives for Diazinon and Chlorpyrifos	F-35
Table F-9. Summary of Final Effluent Limitations for CSO Discharges from Discharge Point Nos. 002, 003, and 006	F-37

ATTACHMENT F – FACT SHEET

As described in the Findings in section II of this Order, this Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

This Order has been prepared under a standardized format to accommodate a broad range of discharge requirements for Dischargers in California. Only those sections or subsections of this Order that are specifically identified as “not applicable” have been determined not to apply to this Discharger. Sections or subsections of this Order not specifically identified as “not applicable” are fully applicable to this Discharger.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the Facility.

Table F-1. Facility Information

WDID	5A340114001
Discharger	City of Sacramento
Name of Facility	Combined Wastewater Collection and Treatment System
Facility Address	1395 35 th Avenue
	Sacramento, CA 95822
	Sacramento County
Facility Contact, Title and Phone	Marty Hanneman, Director Department of Utilities, (916) 808-7508
Authorized Person to Sign and Submit Reports	Marty Hanneman, Director Department of Utilities, (916) 808-7508
Mailing Address	Same as Facility Address
Billing Address	Same as Facility Address
Type of Facility	Combined Sewer System
Major or Minor Facility	Major
Threat to Water Quality	1
Complexity	A
Pretreatment Program	N (Note : The pretreatment program for indirect users that discharge to the City’s combined sewer system is the implemented by the Sacramento Regional County Sanitation District)
Reclamation Requirements	Not Applicable
Facility Permitted Flow	380 million gallons per day (mgd) of treated flow
Facility Design Flow	380 mgd of treated flow
Watershed	Sacramento-San Joaquin River Basin Watershed
Receiving Water	Sacramento River
Receiving Water Type	Inland Surface Water

- A. The City of Sacramento (hereinafter Discharger) is the owner and operator of the combined wastewater collection and treatment system (hereinafter Facility). The Facility includes a Combined Sewer System (CSS) that collects domestic and industrial wastewater and storm runoff.

For the purposes of this Order, references to the “discharger” or “permittee” in applicable federal and state laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

- B. The Facility discharges treated and untreated combined wastewater and storm runoff to the Sacramento River, a water of the United States, and is currently regulated by Order No. 5-01-258 which was adopted on 7 December 2001 and expired on 1 December 2006. The terms and conditions of the current Order have been automatically continued and remain in effect until new Waste Discharge Requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit are adopted pursuant to this Order.
- C. The Discharger filed a report of waste discharge and submitted an application for renewal of its WDRs and NPDES permit on 2 June 2006.

II. FACILITY DESCRIPTION

The Discharger owns and operates a CSS that conveys domestic and commercial wastewater and storm water runoff from 7,510 acres (approximately 334 miles of sewer pipe) in downtown Sacramento, East Sacramento, and Land Park areas. The Discharger also owns and operates a separate sanitary sewer system that conveys domestic and commercial wastewater from 3,690 acres (approximately 566 miles of sewer pipe) from parts of the City surrounding the CSS to the north, east, and south, which is regulated under a separate Order. A portion of the flow from the separate sanitary sewer system flows into the CSS; the remainder flows by gravity or is pumped to the Regional Interceptors to the Sacramento Regional County Sanitation District’s regional wastewater treatment plant (SRWTP). The entire collection system serves approximately 300,000 people.

A. Description of Wastewater and Biosolids Treatment or Controls

The Facility consists of four main complexes to manage the collected combined sewage: Sumps 1/1A, Sumps 2/2A, the Pioneer Reservoir Treatment Plant, and the Combined Wastewater Treatment Plant (CWTP). The CSS conveys domestic and industrial wastewater and storm runoff to Sumps 2/2A, where up to 60 million gallons per day (mgd) of flow is pumped via the Regional Force Main to the SRWTP for secondary treatment prior to discharge to the Sacramento River. When flow to Sumps 2/2A exceeds 60 mgd, flows may be routed through the Pioneer Interceptor to fill available storage in the Pioneer Reservoir (23 million gallons of storage capacity in the reservoir itself and 5 million gallons of storage capacity in the Pioneer Interceptor) or the CWTP. Once available storage in the Pioneer Reservoir is filled, the CWTP is filled maximizing the available storage, flows continue to be sent to the Pioneer Reservoir for primary treatment with disinfection (using sodium hypochlorite) of up to 250 mgd and, after dechlorination (using sodium bisulfite), discharge to the Sacramento River at Discharge Point No. 006 and/or sent via the CWTP Force Main to the CWTP, where an additional 130 mgd of combined wastewater receives primary treatment with disinfection (using sodium hypochlorite) and discharges to the Sacramento River at Discharge Point Nos. 002 or 003. The CWTP basins may also be used for storage of up to 9.2 million

gallons (including the CWTP Interceptor) of flow and diversion of flows back to the SRWTP. During major storms, Sumps 1/1A also pumps up to 120 mgd of flow to Pioneer Reservoir. During extreme high flow conditions, discharges of untreated combined wastewater may occur at Sump 2/2A through Discharge Point Nos. 004 and 005 and at the Sump 1/1A bypass at Discharge Point No. 007. Each of the six permitted combined sewer overflow (CSO) Discharge Points (Nos. 002 through 007) discharge directly to the Sacramento River.

The Facility also includes several remote storage facilities at strategic locations within the combined sewer system to minimize the potential for localized flooding.

In accordance with the Terms of a 1990 Cease and Desist Order (CDO), the Discharger completed several studies that identified cost-effective measures for achieving the objectives of the CDO – eliminating CSS outflows and not increasing CSOs. The Long-Term Control Plan (LTCP) alternative that was ultimately selected was the most feasible alternative in meeting the requirements of the CDO and the U.S. Environmental Protection Agency (USEPA) CSO Control Policy while also providing funding for system rehabilitation. In addition, the LTCP as presented in the 1995 Combined Sewer System Improvement Plan went beyond these goals in also raising the level of protection for flooding within the CSS area to the newly City defined levels.

The first 5 years of the LTCP implementation proposed the completion of projects to bring the CSS into compliance with the CDO and USEPA CSO Control Policy in reducing untreated combined sewer discharges to the Sacramento River. These projects were completed to reduce CSOs and CSS outflows.

The second phase of the 1995 LTCP (beginning after 2000) would complete proposed projects over the next 10 to 15 years (i.e., completion within the 2010 to 2015 timeframe). These projects would achieve interim goals that support the Discharger adopted goals for flooding of the storm drainage system. The flood reduction goals also provide a reduction in outflow potential from the CSS. At the time of the study storm runoff accounted for approximately 65 percent of the volume of overall expected annual flooding, while outflows accounted for approximately 35 percent. The Discharger is currently completing the second phase of the 1995 LTCP.

The 1995 LTCP (entitled the Combined Sewer System Improvement Plan) set the following interim goals to be met as progress is made towards the Discharger's final goal of minimizing street flooding during a 10-year storm event and to prevent structure flooding during the 100-year storm event:

- Obtaining protection from a 5-year storm in the six areas of worst flooding¹,
- Obtaining protection from a 5-year storm throughout the combined sewer system area,

¹These six areas include downtown, north of Capital park; U.C. Medical Center area; immediately south of Highway 80 between Riverside and Freeport; the area northeast of Highway 99 and Highway 80 interchange; the area northwest of Highway 99 and Highway 80 interchange, and the Land Park area).

- Obtaining protection from a 10-year storm in the six areas of worst flooding, and then
- Obtaining the goal of protection from a 10-year storm event throughout the combined sewer system.

The first phase of the 1995 Plan concluded that increasing the pumping capacities of Sumps 1/1A and 2 concurrent with rehabilitation of the CSS and development of local storage projects, was the most cost-effective initial approach for reducing flooding and outflows from the CSS. In accordance with requirements contained in their existing Order (Order No. 5-01-258), the Discharger provided an update to the Plan in March 2002 in accordance with the requirements contained in the existing Order to bring up to date the status of current projects and goals. This update described several efforts being undertaken by the City:

- Continuing assessment of the effectiveness of CSS improvements using the City Storm Water Management Model (SWMM);
- Replacing and increasing the sizes of a network of CSS trunks in the downtown area (in the 7th Street, S Street, and 15th Street areas);
- Constructing an 84-inch interceptor across I-5 to serve as an additional inlet to Sump 1A and provide additional in-line storage;
- Constructing a regional storage facility on the Union Pacific rail yard to relieve flooding in the areas around the rail yard;
- Initiating a pilot program related to the use of Real Time Control (RTC) to operate the regional storage facilities; and
- Continuing efforts to rehabilitate and replace the CSS collection system.

Also in accordance with requirements contained in Order No. 5-01-258, the Discharger provided in May 2003 a performance update as it relates to progress towards meeting the goals outlined in the 1995 Plan. The following summarizes the performance update provided by the Discharger:

- CSS Improvement Projects – Performance was improved based on the completion of a variety of CSS rehabilitation and improvement projects, including local and Regional storage projects).
- CSS Performance over the Previous 2 Years – A reduction in complaint calls within the CSS (registered with the City's Rain Patrol system) as compared to the number of complaints received during previous storms of slightly greater size indicates the effectiveness of the improvement and rehabilitation projects.

The Discharger utilized the City SWMM to analyze the effect of completed projects on system flooding, as well as projected system flooding based on future

CSS projects. The Discharger concluded that significant reductions or elimination of flooding was occurring in the vicinity of the major projects.

The Discharger also reported on field observations by their staff that indicated no outflows onto streets and properties, and out of system manholes.

- Future Plans and System Improvement Needs – Complete construction of an 84-inch interceptor across I-5 to serve as an additional inlet to Sump 1A and provide additional in-line storage; continue pursuing the construction of a regional storage facility on the Union Pacific rail yard to relieve flooding in the areas around the rail yard; and continue efforts to rehabilitate and replace the CSS collection system.

Also in 1995 the Discharger completed and submitted a water quality assessment titled "Effluent and Receiving Water Quality and Toxicity Summary Report in 1995" for the CSS that used the Presumptive Approach to demonstrate compliance with the water quality-based requirements of the Clean Water Act (CWA). In addition, the report used 5 years of extensive monitoring data to characterize CSOs and complete a water quality assessment of receiving water impacts. The analysis concluded that the CSS program provided an adequate level of control to meet the water quality-based requirements of the CWA. The report recommended an ongoing monitoring program that was subsequently accepted by the Regional Water Board and has been implemented by the Discharger.

B. Discharge Points and Receiving Waters

1. The Facility is located in Section 22, T8N, R4E, MDB&M, as shown in Attachment B, a part of this Order.
2. Domestic and industrial wastewater and storm runoff with primary treatment and disinfection is discharged from the CWTP at Discharge Point Nos. 002 (38°31.164' N and 121°31.440' W) or 003 (38°31.397' N and 121°31.424' W) to the Sacramento River, a water of the United States.
3. Untreated domestic and industrial wastewater and storm runoff from Sumps 2 and 2A is discharged at Discharge Point Nos. 004 (38°33.869' N and 121°31.622' W) and 005 (38°32.864' N and 121°31.623' W) to the Sacramento River, a water of the United States.
4. Domestic and industrial wastewater and storm runoff with primary treatment and disinfection is discharged from the Pioneer Reservoir at Discharge Point No. 006 (38°34.308' N and 121°31.800' W) to the Sacramento River, a water of the United States.
5. Untreated domestic and industrial wastewater and storm runoff from Sumps 1 and 1A is discharged at Discharge Point No. 007 (38°34.322' N and 121°30.786' W) to the Sacramento River, a water of the United States.

C. Summary of Historical Requirements and Self-Monitoring Report (SMR) Data

Effluent limitations contained in the existing Order for discharges from Discharge Point No. 002, 003, and 006 (Monitoring Location EFF-002) and representative monitoring data from the term of the previous Order are as follows:

Table F-2. Historic Effluent Limitations and Monitoring Data

Parameter	Units	Effluent Limitation			Monitoring Data (From November 2002 – To January 2009)		
		Storm Year Average ¹	Storm Maximum	Storm Year Median ¹	Highest Average Yearly Discharge	Highest Storm Maximum Discharge	Highest Storm Year Median Discharge
Total Suspended Solids (TSS)	mg/L	100 ^{2,3}	--	--	103	--	--
Settleable Solids	mg/L	--	1.0 ³	--	--	7.1	--
Chlorine Residual	mg/L	--	0.02	--	--	1.8	--
Fecal Coliform Organisms	MPN/100 ml	--	--	200 ^{4,5}	--	--	330

¹ October through 30 September
² In addition, two consecutive samples shall not exceed 150 mg/L
³ Pioneer Reservoir for flows of 250 mgd or less and all flows at the CWTP
⁴ In addition, no three consecutive samples shall exceed 1,000 MPN/100mL
⁵ The Discharger shall continuously operate the chlorination equipment when discharging to the Sacramento River

D. Compliance Summary

1. During the previous permit term, the CSS post construction condition has met the requirements for the Presumptive Approach (see related discussion in section IV.C.3 below) with untreated CSOs averaging less than one per year, and over 90 percent of the CSS flow volume during storm events receiving primary treatment.
2. Data submitted to the Regional Water Board during the previous permit term indicate that the Discharger has infrequently exceeded existing permit limitations for settleable solids and total suspended solids.
3. On 19 September 2004, outflows from the CSS occurred as a result of a significant rainfall event that severely impacted several areas of the City, including Land Park. The Regional Water Board conducted an inspection on 20 September 2004 to observe the Discharger’s cleanup activities relative to the rainfall event. The Regional Water Board and the USEPA Region 9 conducted a compliance evaluation inspection (CEI) of the Discharger’s combined wastewater collection and control system on 29 September 2004 partly in response to the 19 September 2004 event. On 20-21 July 2005 the Regional Water Board and USEPA Region 9 completed the

CEI effort, examining both the combined and separate parts of the City's wastewater collection and control systems. In December 2004, the Regional Water Board issued a Water Code Section 13267 request for additional information subsequent to the receipt and review of the Discharger's 22 October 2004 After Action Report related to the 19 September 2004 rainfall event. The Section 13267 request required the submission of additional information related to the Discharger's response and actions related to the event, as well as additional information identified during the 29 September 2004 CEI. On 11 March 2005, the Discharger provided a partial response to the Section 13267 request.

The following major findings from the CEI, which serve as the basis for several new or expanded provisions in the new Order, were identified in the 13 December 2005 Final Draft of USEPA Region 9 Clean Water Act Compliance Evaluation Report (followed by the Discharger's response to several of USEPA's findings in the inspection):

- The Discharger failed to comply with several of the USEPA CSO Control Policy Nine Minimum Controls, as specified in Attachment C to Order No. 5-01-258. USEPA found deficiencies in the City's programs and practices under control measure #1 (proper operations and maintenance), measure #2 (maximize use of the collection system for storage), measure #3 (pretreatment program), measure #6 (control solid and floatable material), measure #8 (public notification), and measure #9 (measuring the efficacy of CSO controls).

Note that the Discharger was not in agreement with USEPA's concern for the need for additional measures to maximize use of collection system for storage based on the "meaning and intent" of this control; claiming optimal use of "available" facilities to minimize CSS outflows complies with the requirement.

- Phase 1 of the Discharger's Long-Term Control Plan (LTCP), which is now complete, focused on improvements to pump stations and combined wastewater storage and treatment facilities aimed at reducing the volume and improving the quality of combined sewer overflows to the Sacramento River.
- The Discharger had 10 CSO discharge events to the Sacramento River over the last 3 years. In storm year 2002/2003, the City exceeded the total suspended solids effluent limit at CSO Discharge Point No. 006.
- The Discharger is now implementing the second phase of its LTCP that focuses on reducing CSS outflows and street flooding. The Discharger adopted a goal of preventing outflows and flooding in the CSS area from a 10-year storm event. The LTCP includes interim goals of eliminating outflows and flooding from a 5-year storm, first in six priority areas and then, throughout the CSS service area.
- The Discharger has completed a number of off-line storage facilities in the CSS that reduce outflows in parts of the CSS service area.

- The Discharger's hydraulic model estimates that many parts of the CSS service area remain at risk for outflows and flooding from a 10-year storm. It is likely that outflows and flooding will result from smaller storms, but it not known how small of a storm will cause CSS outflows.
 - The Discharger has not adequately documented its progress towards attaining the LTCP goals related to outflows and street flooding. It is not known how many CSS outflows have occurred or if outflows are decreased because the Discharger does not keep records of outflows.
 - Each year, the Discharger identifies additional Phase 2 LTCP projects to be completed in the coming year. Many of these projects have been completed, however, some important projects, including the Union Pacific Railyard storage basin, have been delayed.
 - The Discharger has not identified all of the additional projects needed to meet the interim or final LTCP goals of controlling outflows resulting from 5-year and 10-year storms.
 - On 19 September 2004, the City of Sacramento was hit with an unusually large storm that dropped nearly 2 inches of rain in about one hour. The storm caused street flooding and outflows throughout the downtown, eastern and southern parts of Sacramento. The Land Park and McKinley Park areas were especially hard-hit by CSS outflows. The combined wastewater outflows contained human sewage and left the ground littered with sanitary waste.
 - During the 19 September 2004 storm, the bar screens at the Discharger's main combined wastewater pump station (Sump 2/2A) were obstructed with debris, causing wastewater to backup into the collection system and out onto city streets. Also during the storm, the Discharger was not able to start all of the pumps at Sump 1/1A that may have further contributed to CSS outflows. The Discharger had not provided a complete accounting of the storm-day operations at Sumps 1/1A and 2/2A, how it affected CSS outflows or what will be done to prevent future problems at these stations.
 - Combined wastewater outflows on 19 September 2004 probably exceeded 10 million gallons.
 - To inform the public, the Discharger provided information about the outflows and flooding to the news media on 19 September 2004 and each day of the week following the storm. Other aspects of the Discharger's public notification were slow and inadequate. The Discharger did not cordon-off impacted parks or post warning signs until September 20th. Informational fliers provided to residents did not warn off the hazards associated with raw wastewater.
- In response, the Discharger noted that
- The 19 September 2004 storm was an unprecedented 1-in-50,000 year event that occurred during period of dry weather operation, overwhelming the CSS

and far exceeding the design capacity; and therefore, should not be relevant to compliance status.

- The Curtis Park Regional Storage project will reduce flooding in the vulnerable southeast portion of Land Park. Also the Discharger was in the planning phases to resolve surcharge issues in the McKinley Park area.
 - There was debris in the Sump structures, other than green waste, which was out of the Discharger's control (e.g., leaves, branches and other debris from yards, driveways, rooftops).
 - The Discharger examined alternatives for Sump 2A dry-side pumps only. The Discharger also claimed that even if Sump 1 was mobilized, flooding immediately east of station would not have been significantly reduced due to the size of pipe (84-inch).
 - Revisions to the public notification process have been made subsequent to the storm event. The Discharger also conducted meetings with County Health and County Environmental Health Officials to develop better procedures and staff responsibilities.
 - Contact was made on 20 September with the County Health Officer but the message failed to reach her. The Discharger also claims decisions related to public health measures should be handled by County Health Department.
- The Discharger's spill response plan does not include adequate procedures for many important spill response activities.
 - In fiscal year 2004/2005, the Discharger recorded 102 sewage spills totaling 7,435 gallons (these figures do not include the outflows on September 19, 2004).
 - The Discharger's sewage pump stations are well equipped with backup systems and alarms.
 - The Discharger does not have a program to regulate restaurant grease discharges to the sewer system. The Discharger has not evaluated what impact restaurant grease is having on the Discharger's sewer system.

The Discharger claimed that this finding is incorrect as the City did participate in a regional study that concluded that regulation of restaurants was unnecessary. The Discharger has since implemented an outreach program for the community and restaurants.

- The Discharger lacks data on the condition of its sewers. Fiscal Year 2004/2005, when the Discharger inspected 31 miles of sewer pipes, was the first year that the Discharger had an established procedure for documenting pipe condition findings.

The Discharger claims this finding was incorrect as the Discharger has been performing closed-circuit television inspections for over 20 years.

- The Discharger has rehabilitated or replaced about 3 percent of its collection system over the last 10 to 20 years. At this rate, it will take several hundred years to renew the Discharger's sewer infrastructure compared to a useful life expectancy of about 100 years.
- The Discharger has initiated its sewer infrastructure Replacement and Management Program (RAMP) and is working on a criticality analysis of needed improvement projects.

On 13 January 2006, the Discharger provided a response to USEPA's draft CEI report (dated 13 December 2005). In addition to a number of factual errors identified by the Discharger, a number of issues related to the CEI findings were also raised.

Subsequent to the CEIs, the Discharger has initiated a number of updates to their CSS standard operating and response procedures. The Discharger submitted as part of their ROWD, an updated Plan of Operations, dated 31 May 2006, that describes the general procedures for operation of the CSS. The Discharger is currently preparing an update to the Plan of Operations. In addition, the Discharger developed the Wastewater Collection Standard Operating Procedures (March 2007). The Wastewater Collection Standard Operating Procedures provide the implementation plans for response to CSS outflows and CSOs, and replace the previous Sewer Emergency Response Plan used by the Discharger.

4. On 25 August 2008 the Regional Water Board issued a Record of Violations (ROV) to the Discharger for periodic violations of effluent limitations for chlorine residual, TSS, and pH for the period January 2001 through January 2008. On 10 November 2008 the Regional Water Board issued an Administrative Civil Liability Complaint (R5-2008-0609) based on the ROV.

E. Planned Changes

The most recent City Utilities Capital Improvement Program (CIP) provides the projected expenditures for the CSS Improvement Plan (i.e., the July 1995 Combined Sewer System Improvement Plan) for 2008 through 2013. The CIP acknowledges the total cost for the CSS Improvement Plan is \$132 million; the total budget for sewer programs for 2008/2009 was \$4.1 million (which includes budgets for the combined system; however, it is uncertain what the total funding is specifically for the combined systems). The CIP also described \$63.5 million in additional funding for the CSS Improvement Plan, including \$10.5 million in federal grants and \$53 million in loans from the State Revolving Fund. Finally, the CIP budget includes additional funding for the Combined System Improvement Plan Update. According to recent (10 October 2008) correspondence from the Discharger,

"The Combined System Improvement Plan Update is an ongoing multiyear project comprised of two (2) phases. The City has recently awarded a contract for Phase 1 of this project. Phase 1 will calibrate and update the computer program used to

model flow in the combined system. Phase 1 will also evaluate outflow reduction for six (6) planned mitigation improvement projects. Phase 2 of this project will use the new calibrated computer model (developed in Phase 1) to evaluate future construction projects in the combined system.

Update Effort:

The City's NPDES permit for the combined sewer system requires continuous improvements to the combined system to reduce outflows to City streets. The Combined Sewer System Improvement Plan Update Project (Project) is a program to achieve these reductions over time. There are two phases to this Project. Phase 1 will calibrate and update the computer model that is used to model flow in the combined system and Phase 1 will also evaluate outflow reduction for six (6) current mitigation improvement projects. Phase 2 of the Project will use the new calibrated model developed in Phase 1 to evaluate future construction projects in the combined system that will reduce combined sewer outflows.

On September 2, 2008 the City of Sacramento Department of Utilities awarded a contract in the amount of \$476,274 to Metcalf & Eddy – Boyle/ AECOM for Phase 1 of the Project. The completion of Phase 1 will depend on the occurrence of significant rainfall events during the 2008-09 rain season. Assuming these events occur, it is anticipated that Phase 1 will be completed during the fall of 2009. If significant rainfall events do not occur, then the completion date for Phase 1 will extend beyond the 2009-2010 rain season. The City anticipates awarding a contract for Phase 2 after the completion of Phase 1. The following key tasks are included in the Phase 1 contract:

- From December 2008 to February 2009, collect flow monitoring data throughout the combined system.*
- Concurrent with flow monitoring, evaluate new hydrologic/hydraulic computer models (available from various vendors) and make a decision either to implement a new computer model or retain the existing older one.*
- Calibrate and update the selected combined system model with the flow monitoring data, GIS base maps, new revised storm hydrology and new dry weather sewer flows. The new model will include future sewer projections from development growth for the next 20 years.*
- Using the new calibrated model, evaluate the projected combined sewer outflow reduction for the six (6) current mitigation improvement projects being developed as part of the Long Term Control Plan."*

According to the Discharger, previous efforts to develop a RAMP were never completed. Instead, the CIP is now used to prioritize sewer improvement and development projects. Infrastructure rehabilitation and replacement projects are evaluated utilizing an asset management system that prioritizes projects based on a combination of their relative criticality and condition for both the combined and separate

systems. The Discharger is developing a comprehensive condition assessment program based upon key factors including criticality, age, material, and Computerized Maintenance Management System (CMMS) history (trouble calls, maintenance repairs, etc.).

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in this Order are based on the applicable plans, policies, and regulations identified in the Findings in section II of this Order. The applicable plans, policies, and regulations relevant to the discharge include the following:

A. Legal Authorities

This Order is issued pursuant to regulations in the Clean Water Act (CWA) and the California Water Code (CWC) as specified in the Finding contained at section II.C of this Order.

B. California Environmental Quality Act (CEQA)

This Order meets the requirements of CEQA as specified in the Finding contained at section II.E of this Order.

C. State and Federal Regulations, Policies, and Plans

1. Water Quality Control Plans. This Order implements the following water quality control plans as specified in the Finding contained at section II.H of this Order.

- a. *Water Quality Control Plan, Fourth Edition (Revised October 2007), for the Sacramento and San Joaquin River Basins.* (Basin Plan).
- b. *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California* (Thermal Plan).

The discharge from the Facility is considered an existing elevated temperature waste, as the temperature in the effluent is higher than the natural temperature of the Sacramento River. The specific water quality objectives/requirements for existing discharges to estuaries apply to discharges from the Facility (the Sacramento River within the Sacramento-San Joaquin Delta is considered an estuary for purposes of the thermal plan).

- c. *Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary* (Bay-Delta Plan).
- 2. National Toxics Rule (NTR) and California Toxics Rule (CTR).** This Order implements the NTR and CTR as specified in the Finding contained at section II.I of this Order.
- 3. State Implementation Policy (SIP).** This discharge is not subject to regulation under the SIP as specified in the Finding contained at section II.J of this Order.

4. **Alaska Rule.** This Order is consistent with the Alaska Rule as specified in the Finding contained at section II.L of this Order.
5. **Antidegradation Policy.** As specified in the Finding contained at section II.N of this Order and as discussed in detail in the Fact Sheet (Attachment F, Section IV.D.4.), the discharge is consistent with the antidegradation provisions of 40 CFR section 131.12 and State Water Resources Control Board (State Water Board) Resolution 68-16.
6. **Anti-Backsliding Requirements.** This Order is consistent with anti-backsliding policies as specified in the Finding contained at section II.O of this Order. Compliance with the anti-backsliding requirements is discussed in this Fact Sheet (see Section IV.D.3).
7. **Storm Water Requirements.** USEPA promulgated federal regulations for storm water on 16 November 1990 in 40 CFR Parts 122, 123, and 124. The NPDES Industrial Storm Water Program regulates storm water discharges from wastewater treatment facilities. Wastewater treatment plants are applicable industries under the storm water program and are obligated to comply with the federal regulations. The CSS is subject to portions of the storm water regulations.
8. **Endangered Species Act.** This Order is consistent with the Endangered Species Act as specified in the Finding contained at section II.P of this Order.
9. **Combined Sewer Overflow (CSO) Control Policy.** On 11 April 1994, USEPA adopted the Combined Sewer Overflow (CSO) Control Policy (59 FR 18688-18698). The CSO Control Policy was recently incorporated into the federal CWA by the Wet Weather Water Quality Act of 2000 [House Resolution (H.R.) 828] which is part of H.R. 4577, an omnibus funding bill. The CWA at Section 402(q)(1) now states: "...Each permit...pursuant to this Act...for a discharge from a municipal combined storm and sanitary sewer shall conform to the CSO Control Policy..." The CSO policy establishes a consistent national approach for controlling discharges from CSOs to the nation's water through the NPDES permit program. CSOs are defined as the discharge from the combined sewer system at a point prior to the POTW Treatment Plant (see Federal Register, Vol 59 No. 75, Tuesday, April 19, 1994, Section I.A.). A discharger's long-term CSO control plan includes the design and construction of additional facilities which constitute the CSO controls envisioned by the CSO Control Policy.

The CSO Policy initiates a two-phased process with higher priority given to more environmentally sensitive areas. During the first phase, the Discharger is required to implement the nine minimum controls (NMCs) and develop a long-term control plan. NMCs constitute the technology-based requirements of the CWA as applied to combined sewer facilities: best practicable control technology currently available (BPT), best conventional pollutant control technology, (BCT), and best available technology economically achievable, (BAT) based on the permit writer's best professional judgment. These nine minimum controls can reduce the frequency of CSOs and reduce their effects on receiving water quality. During the second phase,

the Discharger is required to implement a long-term CSO control plan and continue implementation of the NMCs. The long-term CSO control plan includes the design and construction of additional facilities which constitute the CSO controls envisioned by the CSO Control Policy. In addition, the Discharger is required to continue the implementation of the NMCs, properly operate and maintain the completed CSO controls in accordance with the operational plan, and continue to implement the post-construction monitoring program (e.g., CSO monitoring).

D. Impaired Water Bodies on CWA 303(d) List

1. Under section 303(d) of the 1972 CWA, states, territories and authorized tribes are required to develop lists of water quality limited segments. The waters on these lists do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology. On 30 November 2006 USEPA gave final approval to California's 2006 section 303(d) List of Water Quality Limited Segments. The Basin Plan references this list of Water Quality Limited Segments (WQLSs), which are defined as "...those sections of lakes, streams, rivers or other fresh water bodies where water quality does not meet (or is not expected to meet) water quality standards even after the application of appropriate limitations for point sources (40 CFR Part 130, et seq.)." The Basin Plan also states, "Additional treatment beyond minimum federal standards will be imposed on dischargers to [WQLSs]. Dischargers will be assigned or allocated a maximum allowable load of critical pollutants so that water quality objectives can be met in the segment." The listing for the Sacramento River (Delta Waterways - northern portion) includes: chlorpyrifos, DDT, diazinon, exotic species, Group A pesticides, mercury, PCBs (polychlorinated biphenyls), and unknown toxicity. Of these parameters, only chlorpyrifos and diazinon are listed based on urban runoff/storm sewer sources.
2. **Total Maximum Daily Loads (TMDLs).** USEPA requires the Regional Water Board to develop TMDLs for each 303(d) listed pollutant and water body combination. In October 2007, an amendment to the Basin Plan was adopted for the control of diazinon and chlorpyrifos runoff into the Sacramento-San Joaquin Delta.

The Sacramento-San Joaquin Delta Estuary (Delta) is impaired due to elevated levels of mercury in fish tissue. In February 2008, the Regional Water Board staff released a revised TMDL draft technical report and a draft Basin Plan Amendment (BPA) staff report. To date the TMDL has not yet been adopted by the Regional Water Board.
3. The 303(d) listings and TMDLs have been considered in the development of the Order. A pollutant-by-pollutant evaluation of each pollutant of concern is described in section VI.C.3. of this Fact Sheet.

E. Other Plans, Polices and Regulations

1. The discharge authorized herein and the treatment and storage facilities associated with the discharge of treated municipal wastewater, except for discharges of residual

sludge and solid waste, are exempt from the requirements of Title 27, California Code of Regulations (CCR), section 20005 *et seq.* (hereafter Title 27). The exemption, pursuant to Title 27 CCR section 20090(a), is based on the following:

- a. The waste consists primarily of domestic sewage and treated effluent;
- b. The waste discharge requirements are consistent with water quality objectives; and
- c. The treatment and storage facilities described herein are associated with a municipal wastewater treatment plant.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

Effluent limitations and toxic and pretreatment effluent standards established pursuant to sections 301 (Effluent Limitations), 302 (Water Quality Related Effluent Limitations), 304 (Information and Guidelines), 307 (Toxic and Pretreatment Effluent Standards), and 402 (National Pollutant Discharge Elimination System) of the CWA and amendments thereto are applicable to the discharge.

The CWA mandates the implementation of effluent limitations that are as stringent as necessary to meet water quality standards established pursuant to state or federal law [33 U.S.C., §1311(b)(1)(C); 40 CFR 122.44(d)(1)]. NPDES permits must incorporate discharge limits necessary to ensure that water quality standards are met. This requirement applies to narrative criteria as well as to criteria specifying maximum amounts of particular pollutants. Pursuant to federal regulations, 40 CFR 122.44(d)(1)(i), NPDES permits must contain limits that control all pollutants that “*are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any state water quality standard, including state narrative criteria for water quality.*” Federal regulations, 40 CFR 122.44(d)(1)(vi), further provide that “[w]here a state has not established a water quality criterion for a specific chemical pollutant that is present in an effluent at a concentration that causes, has the reasonable potential to cause, or contributes to an excursion above a narrative criterion within an applicable State water quality standard, the permitting authority must establish effluent limits.”

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the 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 in the Code of Federal Regulations: 40 CFR 122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 CFR 122.44(d) requires that permits include WQBELs to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water where numeric water quality objectives have not been established. The Basin Plan at page **IV-17.00** contains an implementation policy, “*Policy for Application of Water Quality Objectives*”, that specifies that the Regional Water Board “*will, on a case-by-case basis, adopt numerical limitations in orders which will implement the narrative objectives.*” This Policy complies with 40 CFR 122.44(d)(1). With respect to narrative objectives, the Regional Water Board must

establish effluent limitations using one or more of three specified sources, including: (1) USEPA's published water quality criteria, (2) a proposed state criterion (i.e., water quality objective) or an explicit state policy interpreting its narrative water quality criteria (i.e., the Regional Water Board's "*Policy for Application of Water Quality Objectives*") (40 CFR 122.44(d)(1)(vi)(A), (B) or (C)), or (3) an indicator parameter.

The Basin Plan includes numeric site-specific water quality objectives and narrative objectives for toxicity, chemical constituents, discoloration, radionuclides, and tastes and odors. The narrative toxicity objective states: "*All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.*" (Basin Plan at III-8.00.) The Basin Plan states that material and relevant information, including numeric criteria, and recommendations from other agencies and scientific literature will be utilized in evaluating compliance with the narrative toxicity objective. The narrative chemical constituents objective states that waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. At a minimum, "*... water designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCLs)*" in Title 22 of CCR. The Basin Plan further states that, to protect all beneficial uses, the Regional Water Board may apply limits more stringent than MCLs. The narrative tastes and odors objective states: "*Water shall not contain taste- or odor-producing substances in concentrations that impart undesirable tastes or odors to domestic or municipal water supplies or to fish flesh or other edible products of aquatic origin, or that cause nuisance, or otherwise adversely affect beneficial uses.*"

As described in more detail in Sections IV.B and IV.C below, the USEPA CSO Control Policy requires the implementation of Nine Minimum Controls and a Long-Term Control Plan as the means to comply with CWA technology- and water quality-based requirements.

A. Discharge Prohibitions

1. As stated in section I.G of Attachment D, Standard Provisions, this Order prohibits bypass from any portion of the treatment facility. Federal regulations, 40 CFR 122.41(m), define "bypass" as the intentional diversion of waste streams from any portion of a treatment facility. This section of the federal regulations, 40 CFR 122.41(m)(4), prohibits bypass unless it is unavoidable to prevent loss of life, personal injury, or severe property damage. In considering the Regional Water Board's prohibition of bypasses, the State Water Board adopted a precedential decision, Order No. WQO 2002-0015, which cites the federal regulations, 40 CFR 122.41(m), as allowing bypass only for essential maintenance to assure efficient operation, provided that the bypass does not cause violation of effluent and/or receiving water limitations. The exception to this Discharge Prohibition is discharges from Discharge Point Nos. 002, 003, 004, 005, 006, and 007 in accordance with Discharge Prohibitions III.D and III.E (as described in IV.A.2 and IV.A.3 below).
2. The discharge prohibition contained in the previous Order allowing discharges from CWTP Discharge Point No. 002 and/or 003 only if a flow of 60 mgd has been sent to the SRWTP has been removed. The delivery of 60 mgd of flow to SRWTP is

dependent on the ability of SRWTP to accept the flow from the Discharger. The Order will, however, continue to require compliance with Nine Minimum Control #4 (maximize flow to the POTW).

3. The discharge prohibition contained in Section III.D.1 of this Order has been amended from the previous Order to require use of the storage capacity of the Pioneer Reservoir (28 million gallons, including the Pioneer Interceptor) and the CWTP (9.2 million gallons including the CWTP interceptor) prior to discharge.

B. Technology-Based Effluent Limitations

1. Scope and Authority

Section 301(b) of the CWA and implementing USEPA permit regulations at 40 CFR 122.44 require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Best Professional Judgment (BPJ) in accordance with 40 CFR 125.3.

The CWA requires that technology-based effluent limitations be established based on several levels of controls:

- a. Best practicable treatment control technology (BPT) represents the average of the best performance by plants within an industrial category or subcategory. BPT standards apply to toxic, conventional, and non-conventional pollutants.
- b. Best available technology economically achievable (BAT) represents the best existing performance of treatment technologies that are economically achievable within an industrial point source category. BAT standards apply to toxic and non-conventional pollutants.
- c. Best conventional pollutant control technology (BCT) represents the control from existing industrial point sources of conventional pollutants including BOD, TSS, fecal coliform, pH, and oil and grease. The BCT standard is established after considering the "cost reasonableness" of the relationship between the cost of attaining a reduction in effluent discharge and the benefits that would result, and also the cost effectiveness of additional industrial treatment beyond BPT.
- d. New source performance standards (NSPS) represent the best available demonstrated control technology standards. The intent of NSPS guidelines is to set limitations that represent state-of-the-art treatment technology for new sources.

The CWA requires USEPA to develop effluent limitations, guidelines and standards (ELGs) representing application of BPT, BAT, BCT, and NSPS. CWA section 402(a)(1) and 40 CFR 125.3 authorize the use of best professional judgment (BPJ)

to derive technology-based effluent limitations on a case-by-case basis where ELGs are not available for certain industrial categories and/or pollutants of concern. Where BPJ is used, the permit writer must consider specific factors outlined in 40 CFR 125.3.

2. Applicable Technology-Based Effluent Limitations

USEPA establishes some technology-based requirements by issuing industry-wide effluent guidelines. For CSOs, no effluent guidelines have been promulgated for BPT, BCT, or BAT. In the absence of effluent guidelines, the permit writer must use Best Professional Judgment (BPJ) to determine the level of treatment that BPT, BCT, and BAT represent.

- a. **Nine Minimum Controls (NMCs).** According to the USEPA CSO Control Policy, all permits for CSOs should require implementation of the NMCs as a minimum BAT/BCT established on a BPJ basis. Implementation of the NMCs will be required as special provisions in this Order. Therefore a discussion of implementation of NMCs by the Discharger to date, as well as the proposed NMC requirements contained in this Order is provided in Section VII.B.4 of this Fact Sheet.
- b. **Effluent Limits to Monitor Performance.** Order Number 5-01-258 contained effluent limitations for total suspended solids that represent reasonable performance of CSS treatment facilities. This Order will continue to apply the same effluent limitations to monitor the performance of the Pioneer Reservoir and CWTP in removing solids prior to discharge to the Sacramento River.

Table F-3. Summary of Technology-based Effluent Limitations, Discharge Point Nos. 002, 003, and 006

Constituent	Units	Storm Year ¹ Average	Storm Maximum	Storm Year ¹ Median
Total Suspended Solids	mg/L	100 ^{2,3}	--	--

¹ 1 October through 30 September

² In addition, two consecutive samples shall not exceed 150 mg/L.

³ Pioneer Reservoir for flows of 250 mgd or less and all flows at the CWTP.

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

Section 301(b) of the CWA and 40 CFR 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

40 CFR 122.44(d)(1)(i) mandates that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the 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 for the pollutant, WQBELs must be established using: (1) USEPA 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 the state's narrative criterion, supplemented with other relevant information, as provided in 40 CFR 122.44(d)(1)(vi).

The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated uses of the receiving water as specified in the Basin Plan, and achieve applicable water quality objectives and criteria that are contained in other state plans and policies, or any applicable water quality criteria contained in the CTR and NTR.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, the Basin Plan 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.

The Basin Plan on page II-1.00 states: "*Protection and enhancement of existing and potential beneficial uses are primary goals of water quality planning...*" and with respect to disposal of wastewaters states that "*...disposal of wastewaters is [not] a prohibited use of waters of the State; it is merely a use which cannot be satisfied to the detriment of beneficial uses.*"

The federal CWA section 101(a)(2), states: "*it is the national goal that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife, and for recreation in and on the water be achieved by July 1, 1983.*" Federal Regulations, developed to implement the requirements of the CWA, create a rebuttable presumption that all waters be designated as fishable and swimmable. Federal Regulations, 40 CFR sections 131.2 and 131.10, require that all waters of the State regulated to protect the beneficial uses of public water supply, protection and propagation of fish, shell fish and wildlife, recreation in and on the water, agricultural, industrial and other purposes including navigation. Section 131.3(e), 40 CFR, defines existing beneficial uses as those uses actually attained after 28 November 1975, whether or not they are included in the water quality standards. Federal Regulation, 40 CFR section 131.10 requires that uses be obtained by implementing effluent limitations, requires that all downstream uses be protected and states that in no case shall a state adopt waste transport or waste assimilation as a beneficial use for any waters of the United States.

a. Receiving Water and Beneficial Uses.

Beneficial uses applicable to the Sacramento River are as follows:

Table F-4. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
002, 003, 004, 005, 006, and 007	Sacramento River	<u>Existing:</u> Municipal and domestic supply (MUN); agricultural supply, including stock watering (AGR); industrial process (PROC) and service supply (IND); water contact recreation (REC-1); non-contact water recreation (REC-2); warm freshwater aquatic habitat (WARM), cold freshwater aquatic habitat (COLD); warm migration, cold migration (MIGR); warm spawning habitat (SPWN), wildlife habitat (WILD); and navigation (NAV).

3. Determining the Need for WQBELs

- a. The State Implementation Policy (SIP) explicitly states that it is not applicable to CSOs. Therefore, a RPA was not performed for the CTR parameters. However, as described further below, the USEPA CSO Control Policy and related guidance suggests the eventual establishment of numeric effluent limitations would be necessary to ensure that CSOs achieve applicable water quality objectives.
- b. USEPA’s CSO Control Policy (59 FR 18688, 19 April 1994) states that “CSO permittees ... develop long-term CSO control plans which evaluate alternatives for attaining compliance with the CWA, including compliance with water quality standards and protection of designated uses.” It further states that, once LTCPs are completed, permittees will be responsible for implementing the plan’s recommendations as soon as practicable.

The USEPA CSO Control Policy also provides that “[d]evelopment of the long-term plan should be coordinated with the review and appropriate revision of water quality standards (WQS) and implementation procedures on CSO-impacted receiving waters to ensure that the long-term controls will be sufficient to meet water quality standards” (59 FR 18694).

c. Long-term Control Plan.

The July 1995 Combined Sewer System Improvement Plan (including the 2002 amendments) constitutes the Discharger’s LTCP. The Discharger’s program is based on the presumption approach. This approach is defined in the CSO Control Policy as a “... program that meets any of the criteria listed below would be presumed to provide an adequate level of control to meet the water quality-based requirements of the CWA, provided the permitting authority determines that such presumption is reasonable in light of the data and analysis conducted in the characterization, monitoring, and modeling of the system and the consideration of sensitive areas described above. These criteria are provided