CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION
1515 Clay Street, Suite 1400, Oakland, California 94612
waterboards.ca.gov/sanfranciscobay

ORDER R2-2024-0007
NPDES PERMIT CA0005053

The following Discharger is subject to the waste discharge requirements (WDRs) set forth in this Order:

Discharger	**Phillips 66 Company**
Name of Facility	**Rodeo Renewable Energy Complex (formerly San Francisco Refinery)**
Facility Address	**1380 San Pablo Avenue Rodeo, CA 94572 Contra Costa County**

Table 1. Discharge Locations

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
002	Refinery process wastewaters, boiler blowdown, cooling tower blowdown, sanitary wastewater, sour water stripper bottoms, groundwater, stormwater runoff from refinery process areas, and remediation wastewater	38.056111	-122.261430	San Pablo Bay
003	Once-through non-contact cooling water, neutralized demineralizer water, and stormwater	38.045339	-122.262374	San Pablo Bay
004	Stormwater runoff from the Marine Terminal Complex, including wharf and access road causeway	38.056447	-122.261628	San Pablo Bay

This Order was adopted on:	**June 12, 2024**
This Order shall become effective on:	**August 1, 2024**
This Order shall expire on:	**July 31, 2029**
CIWQS regulatory measure number:	**457270**

The Discharger shall file a Report of Waste Discharge as an application for updated WDRs in accordance with title 23, California Code of Regulations, and an application for reissuance of a National Pollutant Discharge Elimination System (NPDES) permit no later than **November 1, 2028.** The U.S. Environmental Protection Agency (U.S. EPA) and the California Regional Water Quality Control Board, San Francisco Bay Region (Regional Water Board) have classified this discharge as "**major**."

I hereby certify that this Order with all attachments is a full, true, and correct copy of the Order adopted by the Regional Water Board on the date indicated above.

Eileen White

Digitally signed by Eileen White
Date: 2024.06.17 08:37:24 -07'00'

Water Boards

Eileen M. White, P.E., Executive Officer

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TABLES

ATTACHMENTS

1. FACILITY INFORMATION

Information describing the Phillips 66 Rodeo Renewable Energy Complex (Facility), formerly the San Francisco Refinery at Rodeo is summarized on the cover page and in Fact Sheet (Attachment F) sections 1 and 2. Fact Sheet section 1 also includes information regarding the permit application.

2. FINDINGS

The Regional Water Board finds the following:

2.1. Legal Authorities. This Order serves as WDRs pursuant to California Water Code article 4, chapter 4, division 7 (commencing with § 13260). This Order is also issued pursuant to federal Clean Water Act (CWA) section 402 and implementing regulations adopted by U.S. EPA and Water Code chapter 5.5, division 7 (commencing with § 13370). It shall serve as an NPDES permit authorizing the Discharger to discharge into waters of the United States as described in Table 1 subject to the WDRs in this Order.

2.2. Background and Rationale for Requirements. The Regional Water Board developed the requirements in this Order based on information the Discharger submitted as part of its application, information obtained through monitoring and reporting programs, and other available information. The Fact Sheet contains background information and rationale for the requirements in this Order and is hereby incorporated into and constitutes findings for this Order. Attachments A through E, G, and S are also incorporated into this Order.

2.3. Notification of Interested Parties. The Regional Water Board notified the Discharger and interested agencies and persons of its intent to prescribe these WDRs and has provided an opportunity to submit written comments and recommendations. Fact Sheet section 8.1 provides details regarding the notification.

2.4. Consideration of Public Comment. The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Fact Sheet section 8.3 provides details regarding the public hearing.

THEREFORE, IT IS HEREBY ORDERED that Order R2-2016-0044 (previous order) is rescinded upon the effective date of this Order, except for enforcement purposes, and, in order to meet the provisions contained in Water Code division 7 (commencing with § 13000) and regulations adopted thereunder and the provisions of the CWA and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order. This action in no way prevents the Regional Water Board from taking enforcement action for violations of the previous order.

3. DISCHARGE PROHIBITIONS

3.1. Discharge of treated or partially-treated wastewater, stormwater, or cooling water at a location or in a manner different than described in this Order is prohibited.

3.2. Discharge at Discharge Point 002 is prohibited when treated wastewater does not receive an initial dilution of at least 35:1, as modeled. Compliance shall be achieved by proper operation and maintenance of the discharge outfall to ensure that it (or its replacement, in whole or part) is in good working order and is consistent with or can achieve better mixing than that described in Fact Sheet section 4.3.4.2.1. The Discharger shall describe measures taken to ensure this in its application for permit reissuance.

3.3. Bypass of untreated or partially-treated wastewater to waters of the United States is prohibited, except as provided for in Attachment D section 1.7 of this Order.

4. EFFLUENT LIMITATIONS

4.1. Discharge Point 002

4.1.1 **Effluent Limitations.** The discharge at Discharge Point 002 shall meet the following effluent limitations, with compliance measured at Monitoring Location EFF-002 as described in the Monitoring and Reporting Program (MRP, Attachment E):

Table 2. Effluent Limitations – Monitoring Location EFF-002

Parameter	Units	Average Monthly	Average Weekly	Maximum Daily	Instantaneous
Biochemical Oxygen Demand 5-day @ 20°C (BOD_5)	mg/L	30	45	—	—
Total Suspended Solids (TSS)	mg/L	30	45	—	—
Oil and Grease	mg/L	10	—	20	—
Chlorine, Total Residual	mg/L	—	—	—	0.0 [1]
pH [2]	standard units	—	—	—	6.0 – 9.0
Ammonia, Total	mg/L as N	11	—	56	—
Chlorodibromomethane	µg/L	340	—	680	—
Copper, Total Recoverable	µg/L	42	—	120	—
Cyanide, Total	µg/L	19	—	41	—
Dioxin—TEQ	µg/L	1.4×10^{-8}	—	2.8×10^{-8}	—
Nickel	µg/L	220	—	440	—
Selenium [3]	kg/day	0.47	—	—	—

Footnotes:

[1] The total residual chlorine limit is an instantaneous maximum.

[2] If the Discharger monitors pH continuously, pursuant to 40 C.F.R. section 401.17 the Discharger shall be in compliance with this pH limitation provided that both of the following conditions are satisfied: (1) the total time during which the pH is outside the required range shall not exceed 7 hours and 26 minutes in any calendar month; and (2) no individual excursion from the required pH range shall exceed 60 minutes.

[3] Compliance shall be evaluated by calculating the arithmetic mean of daily selenium mass discharges for each day of the calendar month. Daily mass discharges shall be calculated based on the total daily flow and the corresponding selenium concentration for each day that selenium is measured.

4.1.2. **Chronic Toxicity.** The discharge at Discharge Point 002 shall meet the following maximum daily effluent limit (MDEL) and median monthly effluent limit (MMEL) at Monitoring Location EFF-002, with compliance measured using the instream waste concentration (IWC) of 10 percent effluent, the most sensitive species as described in the MRP, and the Test of Significant Toxicity:

- MDEL: No chronic aquatic toxicity test result of "fail" for any sub-lethal endpoint and no percent effect greater than or equal to 50 percent for the survival endpoint (if the most sensitive species has a survival endpoint) or greater than or equal to 50 percent for any sub-lethal endpoint (if the most sensitive species has no survival endpoint).

- MMEL: No more than one chronic aquatic toxicity test result of "fail" in a calendar month for any endpoint.

4.1.3. **Acute Toxicity.** The discharge at Discharge Point 002 shall meet the following acute toxicity effluent limitations, with compliance measured at Monitoring Location EFF-002, as described in the MRP. If the Discharger can demonstrate that toxicity exceeding these acute toxicity limits is caused solely by ammonia and that the ammonia in the discharge complies with the ammonia effluent limits in Table 2 of this Order, then such toxicity shall not constitute a violation of these acute toxicity limits.

4.1.3.1. The 11-sample median shall not exhibit less than 90 percent survival (i.e., a bioassay test showing survival of less than 90 percent shall represent a violation of this effluent limit if five or more of the past ten or fewer bioassay tests show less than 90 percent survival).

4.1.3.2. The 11-sample 90th percentile shall not exhibit less than 70 percent survival (i.e., a bioassay test showing survival of less than 70 percent shall represent a violation of this effluent limit if one or more of the past ten or fewer bioassay tests also show less than 70 percent survival).

4.1.4. ***Enterococcus* Bacteria.** The discharge shall meet the following *Enterococcus* effluent limitations, with compliance measured at Monitoring Location EFF-002 as described in the MRP:

4.1.4.1. The six-week rolling geometric mean of *Enterococcus* bacteria shall not exceed 75 colony forming units per 100 milliliters (CFU/100 mL). Compliance with this limit shall be determined weekly by calculating the geometric mean of all *Enterococcus* sample results from the past six weeks.

4.1.4.2. No more than 10 percent of all *Enterococcus* bacteria samples collected in a calendar month shall exceed 875 CFU/100 mL. Compliance with this limit shall be determined based on measured sample results. The Discharger shall not report interpolated results. If the Discharger has nine or fewer sample results in a calendar month, compliance shall be based on the

highest result. If the Discharger has 10 to 19 sample results, compliance shall be based on the second highest result, and so on.

4.1.5. **Total Coliform Bacteria.** The discharge shall meet the following total coliform bacteria effluent limitations, with compliance measured at Monitoring Location EFF-002, as described in the MRP:

4.1.5.1. The median of five consecutive samples shall not have total coliform organisms exceeding 240 most probable number per 100 milliliters (MPN/100 mL); and

4.1.5.2. Any single sample shall not exceed 10,000 MPN/100 mL.

4.1.6. **Effluent Limitation Adjustments for Recycled Water Use.** If the Discharger replaces raw water used in its operations with recycled water and complies with Provision 6.3.4.6, an additional allocation shall be added to the concentration-based effluent limitations by calculating adjustments as described below and adding them to the effluent limitations in Table 2. All calculations supporting such limitation adjustments shall be described in applicable self-monitoring reports.

The adjustment for a concentration based effluent limitation shall be the difference between its recycled water influent mass and raw water influent mass, divided by the effluent volume for the applicable monitoring interval (e.g., seven days for a constituent monitored weekly) and shall be calculated according to the following example in which constituent B is monitored weekly and the lag time is Y days:

Step 1: Influent mass of B = [(Influent recycled water concentration of B) – (Influent raw water concentration of B)] x (Influent recycled water volume)

Step 2: Effluent volume for monitoring period = Effluent volume at Monitoring Location EFF-002 for the one-week period beginning Y days after influent mass determined

Step 3: Effluent limitation adjustment for B = (Influent mass of B) / (Effluent volume at Monitoring Location EFF-002 for monitoring period)

4.2. Discharge Point 003

4.2.1 The Discharger shall comply with the following effluent limitations at Discharge Point 003, with compliance measured at Monitoring Locations EFF-003A and EFF-003B, as described in the MRP:

Table 3. Effluent Limitations – Monitoring Locations EFF-003A and -003B

Parameter	Units	Average Monthly	Maximum Daily	Instantaneous
Total Organic Carbon (TOC)	mg/L	5.0	—	—

Parameter	Units	Average Monthly	Maximum Daily	Instantaneous
Chlorine, Total Residual	mg/L	—	—	0.0 [1]
pH	s.u.	—	—	6. 5 – 8.5 [2]
Temperature	°F	110	—	—

Footnotes:

[1] Instantaneous maximum, applies only when facility chlorinates once-through cooling water.

[2] pH limits are an instantaneous minimum of 6.5 and an instantaneous maximum of 8.5.

4.3. Discharge Point 004

4.3.1 The Discharger shall comply with the following effluent limitations at Discharge Point 004, with compliance measured at Monitoring Location EFF-004, as described in the MRP:

Table 4. Effluent Limitations – Monitoring Location EFF-004

Parameter	Units	Maximum Daily Limit	Instantaneous
TOC	mg/L	110	—
Oil and Grease	mg/L	15	—
pH	s.u.	—	6.5 – 8.5
Visible Oil	—	—	None observed
Visible Color	—	—	None observed

4.3.2. If a TOC or oil and grease effluent limitation in Table 4 is exceeded at Monitoring Location EFF-004, the Discharger shall also comply with the following effluent limitations at Monitoring Location EFF-004, as described in the MRP:

Table 5. Supplemental Effluent Limitations – Monitoring Location EFF-004

Pollutant	Units	Maximum Daily Limit	Average Monthly Limit [1]
BOD_5	mg/L	48	26
TSS [2]	mg/L	33	21
COD	mg/L	360	180
Oil and Grease	mg/L	15	8.0
Phenolic Compounds	mg/L	0.35	0.17
Total Chromium	mg/L	0.60	0.21
Hexavalent Chromium	mg/L	0.062	0.028

Footnote:

[1] These limitations shall not apply unless there is sufficient runoff for sampling on at least three days during the month.

5. RECEIVING WATER LIMITATIONS

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

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

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

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

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

5.1.5. Alteration of temperature beyond present natural background levels unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect beneficial uses;

5.1.6. Changes in turbidity that cause nuisance or adversely affect beneficial uses, or increases from normal background light penetration or turbidity greater than 10 percent in areas where natural turbidity is greater than 50 nephelometric turbidity units, or above 55 nephelometric turbidity units in areas where natural turbidity is less than or equal to 50 nephelometric turbidity units;

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

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

5.1.9. Toxic or other deleterious substances in concentrations or quantities that cause deleterious effects on wildlife, waterfowl, or other aquatic biota, or render any of these unfit for human consumption, either at levels created in the receiving waters or as a result of biological concentration.

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

5.2.1. Dissolved Oxygen — 5.0 mg/L, minimum

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

5.2.2. Dissolved Sulfide — Natural background levels

5.2.3.	pH	The pH shall not be depressed below 6.5 nor raised above 8.5. The discharge shall not cause changes greater than 0.5 pH units in normal ambient pH levels.
5.2.4.	Nutrients	Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses.

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

6. PROVISIONS

6.1. Standard Provisions

6.1.1. The Discharger shall comply with all “Standard Provisions” in Attachment D.

6.1.2. The Discharger shall comply with all applicable provisions of the “Regional Standard Provisions, and Monitoring and Reporting Requirements for NPDES Wastewater Discharge Permits” in Attachment G.

6.1.3. For discharges from Discharge Point 004, the Discharger shall comply with the applicable provisions of the “Stormwater Provisions, Monitoring, and Reporting Requirements” in Attachment S.

6.1.4. If there is any conflict, duplication, or overlap between provisions in this Order, the more stringent provision shall apply.

6.2. Monitoring and Reporting Provisions

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

6.3. Special Provisions

6.3.1. **Reopener Provisions.** The Regional Water Board may modify or reopen this Order prior to its expiration date in any of the following circumstances as allowed by law or as otherwise authorized by law. The Discharger may request a permit modification based on any of these circumstances. With any such request, the Discharger shall include antidegradation and anti-backsliding analyses as necessary.

6.3.1.1. If present or future investigations demonstrate that the discharges governed by this Order have or will have a reasonable potential to cause or contribute to adverse impacts on water quality or beneficial uses of the receiving waters;

6.3.1.2. If new or revised water quality objectives or total maximum daily loads (TMDLs) come into effect for San Francisco Bay or contiguous water bodies (whether statewide, regional, or site-specific). In such cases, effluent limitations in this Order may be modified as necessary to reflect the updated water quality objectives or wasteload allocations. Adoption of the effluent limitations in this Order is not intended to restrict in any way future modifications based on legally-adopted water quality objectives or TMDLs or as otherwise permitted under federal regulations governing NPDES permit modifications;

6.3.1.3. If translator, dilution, or other water quality studies provide a basis for determining that a permit condition should be modified;

6.3.1.4. If a State Water Board precedential decision, new policy, new law, or new regulation is adopted;

6.3.1.5. If an administrative or judicial decision on a separate NPDES permit or WDRs addresses requirements similar to this discharge; or

6.3.2. **Effluent Characterization Study and Report**

6.3.2.1. **Study Elements.** The Discharger shall characterize and evaluate the discharge from Discharge Points 002 and 003 as required by the MRP to verify that the reasonable potential analysis conclusions of this Order remain valid and to inform the next permit reissuance. The Discharger shall evaluate on an annual basis if concentrations of any of the priority pollutants listed in Attachment G, Table B, significantly increase over past performance. The Discharger shall investigate the cause of any such increase. The investigation may include, but need not be limited to, an increase in monitoring frequency, monitoring of internal process streams, and monitoring of influent sources. The Discharger shall establish remedial measures addressing any increase resulting in reasonable potential to cause or contribute to an exceedance of applicable water quality objectives. This requirement may be satisfied through identification of the constituent as a “pollutant of concern” in the Discharger’s Pollutant Minimization Program, described in Provision 6.3.3.

6.3.2.2. **Reporting Requirements**

6.3.2.2.1. **Routine Reporting.** The Discharger shall report the pollutants detected at or above applicable water quality objectives (see Fact Sheet Tables F-11 and F-12 for the objectives) in the transmittal letter for the self-monitoring report associated with the month in which samples were collected. This

requirement does not apply to pollutants with effluent limitations (see Table 2 of this Order).

6.3.2.2.2. **Annual Reporting.** The Discharger shall summarize the annual data evaluation and source investigation in the annual self-monitoring report.

6.3.3. **Pollutant Minimization Program**

6.3.3.1. The Discharger shall continue to improve its existing Pollutant Minimization Program to promote minimization of pollutant loadings to the treatment plant and therefore to the receiving waters.

6.3.3.2. The Discharger shall submit an annual report no later than February 28 of each calendar year. Each annual report shall include at least the following information:

6.3.3.2.1. **Brief description of treatment plant.** The description shall include the service area and treatment plant processes.

6.3.3.2.2. **Discussion of current pollutants of concern.** Periodically, the Discharger shall analyze its circumstances to determine which pollutants are currently a problem and which pollutants may be potential future problems. This discussion shall include the reasons for choosing the pollutants.

6.3.3.2.3. **Identification of sources for pollutants of concern.** This discussion shall include how the Discharger intends to estimate and identify pollutant sources. The Discharger shall include sources or potential sources not directly within the ability or authority of the Discharger to control, such as pollutants in the potable water supply and air deposition.

6.3.3.2.4. **Identification of tasks to reduce the sources of pollutants of concern.** This discussion shall identify and prioritize tasks to address the Discharger's pollutants of concern. The Discharger may implement the tasks by itself or participate in group, regional, or national tasks that address its pollutants of concern. The Discharger is strongly encouraged to participate in group, regional, or national tasks that address its pollutants of concern whenever it is efficient and appropriate to do so. An implementation timeline shall be included for each task.

6.3.3.2.5. **Outreach to employees.** The Discharger shall inform employees about the pollutants of concern, potential sources, and how they might be able to help reduce the discharge of these pollutants of concern into the Facility. The Discharger may provide a forum for employees to provide input.

6.3.3.2.6. **Discussion of criteria used to measure Pollutant Minimization Program and task effectiveness.** The Discharger shall establish criteria to evaluate the effectiveness of its Pollutant Minimization Program. This

discussion shall identify the specific criteria used to measure the effectiveness of each task in Provisions 6.3.3.2.3, 6.3.3.2.4, and 6.3.3.2.5.

6.3.3.2.7. **Documentation of efforts and progress.** This discussion shall detail all of the Discharger's Pollutant Minimization Program activities during the reporting year.

6.3.3.2.8. **Evaluation of Pollutant Minimization Program and task effectiveness.** The Discharger shall use the criteria established in Provision 6.3.3.2.6 to evaluate the program and task effectiveness.

6.3.3.2.9. **Identification of specific tasks and timelines for future efforts.** Based on the evaluation, the Discharger shall explain how it intends to continue or change its tasks to more effectively reduce the amount of pollutants flowing to the treatment plant, and subsequently in its effluent.

6.3.3.3. The Discharger shall develop and conduct a Pollutant Minimization Program as described below when there is evidence that a priority pollutant is present in the effluent above an effluent limitation (e.g., sample results reported as detected but not quantified [DNQ] when the effluent limitation is less than the method detection limit [MDL], sample results from analytical methods more sensitive than those methods required by this Order, presence of whole effluent toxicity, health advisories for fish consumption, or results of benthic or aquatic organism tissue sampling) and either:

6.3.3.3.1. A sample result is reported as DNQ and the effluent limitation is less than the Reporting Level (RL); or

6.3.3.3.2. A sample result is reported as not detected (ND) and the effluent limitation is less than the MDL, using definitions described in Attachment A and reporting protocols described in the MRP.

6.3.3.4. If triggered for a reason set forth in Provision 6.3.3.3, above, the Discharger's Pollutant Minimization Program shall include, but not be limited to, the following actions and submittals:

6.3.3.4.1. An annual review and semi-annual monitoring of potential sources of the reportable priority pollutants, which may include fish tissue monitoring and other bio-uptake sampling, or alternative measures when source monitoring is unlikely to produce useful analytical data;

6.3.3.4.2. Quarterly monitoring for the reportable priority pollutants in the influent to the wastewater treatment system. The Executive Officer may approve alternative measures when influent monitoring is unlikely to produce useful analytical data;

6.3.3.4.3. Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable priority pollutants in the effluent at or below the effluent limitation;

6.3.3.4.4. Implementation of appropriate cost-effective control measures for the reportable priority pollutants, consistent with the control strategy; and

6.3.3.4.5. Inclusion of the following specific items within the annual report required by Provision 6.3.3.2, above:

6.3.3.4.5.1. All Pollutant Minimization Program monitoring results for the previous year;

6.3.3.4.5.2. List of potential sources of the reportable priority pollutants;

6.3.3.4.5.3. Summary of all actions undertaken pursuant to the control strategy; and

6.3.3.4.5.4. Description of actions to be taken in the following year.

6.3.4. Other Special Provisions

6.3.4.1. Once-Through Cooling Water Intake Structure

6.3.4.1.1. The Discharger shall properly operate the once-through cooling water intake structure in accordance with its Maintenance Procedure Manual to minimize impingement and entrainment of fish, shellfish, and other organisms. The intake structure is designed to maintain a maximum approach velocity no greater than 0.50 feet per second, measured 3 inches from the screenface, as required by 40 C.F.R. section 125.94(c)(2).

6.3.4.1.2. The Discharger shall prepare and submit an annual report that (a) certifies the proper operation and maintenance of the once-through cooling water intake structure, identifying any operational problems or necessary changes to the Maintenance Procedure Manual and (b) identifies work planned or completed beyond routine maintenance. The Discharger shall submit this status report regarding compliance with this provision with its annual self-monitoring report (SMR).

6.3.4.2. Stormwater Requirements

6.3.4.2.1. **Stormwater Pollution Prevention Plan (SWPPP).** By October 1, 2024, the Discharger shall submit and implement an updated SWPPP. The SWPPP shall contain the elements listed in Attachment S section 1.1.

6.3.4.2.2. **Stormwater Best Management Practices (BMP) Plan.** The Discharger shall maintain a BMPs plan for Discharge Point 004 that is consistent with

the guidance provided in U.S. EPA *Guidance Manual for Developing Best Management Practices* (October 1993, EPA 833-B-93-004).

6.3.4.2.2.1 The BMPs plan shall be available for reference and use by all applicable personnel. The BMPs plan shall address periodic discharges from the Marine Terminal causeway area directly to San Pablo Bay, including:

- fire equipment monitoring and fire hydrant testing water;
- boom boat wash-off water;
- steam condensate drips from lines at the Marine Terminal causeway;
- algae removal water from the boat launch ramp; and
- wash water used to remove bird feces from the open paved areas of the Marine Terminal causeway.

The BMPs plan shall be developed and implemented to minimize the potential impact of these periodic discharges on San Pablo Bay, to prevent the accidental release of toxic or hazardous substances into the environment, and to minimize and mitigate the effects of such releases using equipment and techniques available and practical for such use.

6.3.4.2.2.2. The Discharger shall regularly review, revise, or update, as necessary, the BMPs plan to ensure that it remains useful and relevant to current equipment and operation practices. Reviews shall be conducted annually and revisions or updates shall be completed as necessary. Applicable revisions of the BMPs plan shall be completed within 90 days of any significant changes being made in facility equipment or operational practices.

6.3.4.2.2.3. The Discharger shall provide the Executive Officer a report describing the status of its BMPs plan, including any recommended or planned actions and an estimated time schedule for these actions, upon request.

6.3.4.2.2.4. The Discharger shall include a description of summary of review and evaluation procedures and applicable changes to its BMPs plan in each annual SMR.

6.3.4.2.3. **Annual Stormwater Report.** The Discharger shall submit an annual stormwater report by July 30 of each year covering data for the previous wet weather season. The annual stormwater report shall, at a minimum, include the elements listed in Attachment S section 3.1 and the following:

- Tabulated summary of all sampling results and visual observations for all stormwater discharge points;
- Comprehensive discussion of attainment of stormwater action levels (Attachment S, section 1.7), compliance with effluent limitations and

other requirements of this Order and any corrective actions taken or planned; and

- Summary of best management practice changes implemented the previous year or planned for the following year.

6.3.4.3. **Copper Action Plan.** The Discharger shall implement pretreatment, source control, and pollution prevention for copper in accordance with the following tasks and time schedule:

Table 6. Copper Action Plan

Task No.	Task	Deadline
1	**Review Potential Copper Sources.** Submit an up-to-date inventory of potential copper sources.	With annual pollution minimization program report due February 28, 2025
2	**Implement Copper Control Program.** Continue to minimize copper sources, as identified in Discharger's Pollutant Prevention and Minimization Plan. Incorporate additional measures as appropriate to address newly identified potential copper sources.	Implementation shall be ongoing
3	**Implement Additional Actions.** If the Regional Water Board notifies the Discharger that the three-year rolling mean dissolved copper concentration in San Pablo Bay exceeds 3.0 µg/L, then within 90 days of the notification, evaluate the effluent copper concentration trend and, if it is increasing, develop and begin implementation of additional measures to control copper discharges. Report the conclusion of the trend analysis and provide a schedule for any new actions to be taken within the next 12 months.	With next annual pollution minimization program report due February 28 (at least 90 days following notification)
4	**Report Status.** Submit an annual report documenting copper control program implementation that evaluates the effectiveness of the actions taken, including any additional actions required by Task 2 above, and provides a schedule for actions to be taken within the next 12 months.	With annual pollution minimization program report due February 28 each year

6.3.4.4. **Cyanide Action Plan.** The Discharger shall implement monitoring and surveillance, pretreatment, source control, and pollution prevention for cyanide in accordance with the following tasks and time schedule:

Table 7. Cyanide Action Plan

Task No.	Task	Deadline
1	**Review Potential Cyanide Sources.** Submit an up-to-date inventory of potential cyanide sources.	With annual pollution minimization program report due February 28, 2025
2	**Implement Cyanide Control Program.** Continue to minimize cyanide sources, as identified in Discharger's Pollutant Prevention and Minimization Plan consisting, at a minimum, of the following elements: a. Inspect each potential source to assess the need to include that source in the control program.	Implementation shall be ongoing.

Task No.	Task	Deadline
	b. Maintain an emergency monitoring and response plan to be implemented if a significant cyanide discharge occurs.	
3	**Implement Additional Measures.** If the Regional Water Board notifies the Discharger that ambient monitoring shows cyanide concentrations are 1.0 µg/L or higher in the main body of San Francisco Bay, then within 90 days of the notification, commence actions to identify and abate cyanide sources responsible for the elevated ambient concentrations, report on the progress and effectiveness of the actions taken, and provide a schedule for actions to be taken within the next 12 months.	With next annual pollution minimization program report due February 28 (at least 90 days following notification)
4	**Report Status of Cyanide Control Program.** Submit an annual report documenting cyanide control program implementation and addressing the effectiveness of actions taken, including any additional cyanide controls required by Task 3, above, and provide a schedule for actions to be taken within the next 12 months.	With annual pollution minimization program report due February 28 each year

6.3.4.5. **Average Annual Selenium Load.** The Discharger shall report the average annual selenium load from Discharge Point 002 in its application for permit reissuance. The average annual load shall be the arithmetic mean of the annual mass discharges for the previous five calendar years. Annual mass emissions shall be computed as follows:

Annual Mass emission rate (kg/day) = $(3.785/N) \sum Q_i C_i$

Where:

N = number of samples in a year
Q_i = flow rate (MGD) associated with the i^{th} sample, valid until a new sample is collected
C_i = selenium concentration (mg/L) associated with the i^{th} sample, valid until a new sample is collected

When calculating selenium loads, the Discharger shall use estimated values and assume data reported below the method detection limit equal half of the detection limit.

6.3.4.6. **Conditions for Recycled Water Use Effluent Limitations Adjustment.** Prior to any allocation of recycled water use adjustments to mass-based or concentration-based effluent limitations (see Table 2), the Discharger shall satisfy all of the following conditions:

6.3.4.6.1. The Discharger shall sample and analyze influent recycled water for any constituents for which it seeks adjustments at Monitoring Location INF-002 at least as frequently as the MRP requires for effluent monitoring at Monitoring Location EFF-002.

6.3.4.6.2. The Discharger shall sample and analyze influent raw water for any constituents for which it seeks adjustments at Monitoring Location INF-002

at least once per year. The annual average concentration may be used in the calculations described in section 4.1.6 of this Order.

6.3.4.6.3. The Discharger shall determine the interval between the introduction of a limited constituent in recycled water and the appearance of that constituent in the final effluent.

6.3.4.6.4. The Discharger shall submit a technical report demonstrating that the proposed adjustments will not impair beneficial uses in the vicinity of the discharge (such as by creating a zone acutely toxic to aquatic organisms). At a minimum, the report shall assess toxicity testing results and compare the effluent concentrations projected when using recycled water to the proposed adjusted effluent limitations.

6.3.4.6.5. The Discharger shall submit one or more examples of how influent recycled and raw water concentrations, lag time, and effluent limitation adjustments will be calculated in accordance with section 4.1.6 of this Order.

6.3.4.6.6. The Discharger shall obtain written concurrence from the Executive Officer stating that these conditions have been met.

6.3.4.7. **Conditions for Selenium Removal Plant Shutdown.** For a period of at least six months, the Discharger shall collect influent samples to, and effluent samples from, the Selenium Removal Plant, and final effluent samples at Discharge Point 002, as shown in Table 8.

Table 8. Selenium Monitoring Requirements

Parameter	Unit	Sample Type	Minimum Sample Frequency
Total Selenium	µg/L	24-hour composite or Grab	2/week
Dissolved Selenium	µg/L	24-hour composite or Grab	2/week
Selenite	µg/L	Grab	2/month
Selenate	µg/L	Grab	2/month
Selenocyanate	µg/L	Grab	2/month

Before routing wastewater around the Selenium Removal Plant, the Discharger shall submit a technical report that analyzes this selenium data and demonstrates that the Selenium Removal Plant is not expected to significantly reduce selenium loads to the Bay because (1) influent selenium levels have been substantially reduced, and (2) the Selenium Removal Plant is not designed to remove the form of selenium associated with the renewable feedstock. Prior to routing wastewater around the Selenium Removal Plant, the Discharger shall receive written concurrence from the Executive Officer.

When the Discharger routes wastewater around the Selenium Removal Plant, it shall monitor final effluent for at least six months at Discharge Point 002 as shown in Table 8. Within 60 days of completing this monitoring, the Discharger shall submit a technical report that analyzes the selenium data and demonstrates that no statistically significant change in selenium loads occurred. Then the Discharger may decommission the Selenium Removal Plant. Prior to decommissioning the Selenium Removal Plant, the Discharger shall receive written concurrence from the Executive Officer.

6.3.4.8. **Conditions for Ceasing Powdered Activated Carbon Addition.** At least 30 days prior to ceasing addition of powdered activated carbon to the wastewater treatment plant's aeration tanks, the Discharger shall submit a technical report demonstrating that low levels of toxic pollutants in the Facility's wastewater no longer require treatment by powdered activated carbon addition to the aeration tanks to comply with permit requirements.

6.3.4.9. **Updated Thermal Plume Monitoring Study – Discharge Point 003.** The Discharger shall implement a thermal plume monitoring study, as described in the table below, to update its previous thermal plume studies to reflect current conditions, particularly with respect to the delta smelt (*Hypomesus transpacificus*) and longfin smelt (*Spirinchus thaleichthys*).

The Discharger shall revise deliverables required by the table below to incorporate comments the Executive Officer may make to ensure that the deliverables comply with this Provision's requirements set forth in the table below. In submitting deliverables, the Discharger shall also send copies to the National Marine Fisheries Service and U.S. Fish and Wildlife Service (the Services). Deliverables shall also incorporate any comments provided by the Services.

If requested by the Discharger, the Executive Officer may modify the deadlines for the following tasks and schedule by no more than 3 years if good cause exists, such as data collection delays, sample collection or laboratory quality control problems, analytical turnaround times, third party reports, or other factors outside the Discharger's control. Any requests for modifications must be in writing with necessary justification. Any approval must be in writing.

Table 9. Thermal Plume Monitoring Study and Tasks

Task No.	Tasks	Compliance Date
1	The Discharger shall prepare and submit a thermal plume study plan and schedule. The study plan shall specifically address potential impacts to delta smelt (*Hypomesus transpacificus*) and longfin smelt (*Spirinchus thaleichthys*). The study plan shall also include determination of minimum and maximum plume temperatures, duration of plume temperatures, and plume size.	November 1, 2024

Task No.	Tasks	Compliance Date
2	The Discharger shall commence the thermal plume study in accordance with the study plan and schedule, incorporating any changes the Executive Officer may provide to the Discharger.	January 15, 2025
3	The Discharger shall complete the thermal plume study and submit a final report containing its findings, conclusions, and recommendations, including: a. potential impacts to delta smelt (*H. transpacificus*) and longfin smelt (*S. thaleichthys*), b. delineation of minimum and maximum plume size, temperature, and duration, c. any measures necessary to ensure the protection of beneficial uses identified in this Order (see Attachment F, Table F-8) and a schedule to implement those measures.	January 15, 2027
4	The Discharger shall commence to implement measures identified in Table 9, Task 3, incorporating any changes the Executive Officer or Services may provide to the Discharger.	In accordance with the schedule set forth in the final report.
5	The Discharger shall report on its progress toward implementing Table 9, Task 4.	Annually on February 1, with annual self-monitoring reports

ATTACHMENT A – DEFINITIONS AND ABBREVIATIONS

DEFINITIONS

Alternative Hypothesis
Statement used to propose a statistically significant relationship in a set of given observations. Under the TST approach, when the Null Hypothesis is rejected, the Alternative Hypothesis is accepted in its place, indicating a relationship between variables and an acceptable level of toxicity.

Arithmetic Mean (µ)
Also called the average, 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)
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)
Highest allowable average of daily discharges over a calendar week (Sunday through Saturday), calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

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

Calendar Month(s)
Period from the first day of a month through the last day of a month (e.g., January 1 to January 31). For toxicity monitoring, the period is from the first day of a routine monitoring test to the day before the corresponding day of the next month (e.g., from June 15 to July 14), or to the last day of the next month if there is no corresponding day (e.g., January 31 to February 28).

Carcinogenic
Known to cause cancer in living organisms.

Coefficient of Variation (CV)
Measure of data variability calculated as the estimated standard deviation divided by the arithmetic mean of the observed values.

Daily Discharge
Either: (1) the total mass of a constituent discharged over a calendar day (12:00 a.m. through 11:59 p.m.) 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 a constituent over a day for a constituent with limitations expressed in other units of measurement (e.g., concentration).

The daily discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day or other 24-hour period defined as a day) or by the arithmetic mean of analytical results from one or more grab samples taken over the course of the day.

For composite sampling, if 1 day is defined as a 24-hour period other than a calendar day, the analytical result for the 24-hour period is considered the result for the calendar day in which the 24-hour period ends.

Detected, but Not Quantified (DNQ)
Sample results less than the RL, but greater than or equal to the laboratory's MDL. Sample results reported as DNQ are estimated concentrations.

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

Effective Concentration (EC)
The EC is a point estimate of the toxicant concentration that would cause an adverse effect on a quantal, "all or nothing," response (such as death, immobilization, or serious incapacitation) in a given percent of the test organisms. If the effect is death or immobility, the term lethal concentration (LC) may be used. EC values may be calculated using point estimation techniques such as probit, logit, and Spearman-Karber. EC25 is the concentration of toxicant (in percent effluent) that causes a response in 25 percent of the test organisms.

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

Enclosed Bays
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
Concentration that results from the confirmed detection of a substance below the ML by the analytical method.

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

Inhibition Concentration (IC)
The IC is a point estimate of the toxicant concentration that would cause a given percent reduction in a nonlethal, nonquantal biological measurement, such as growth. For example, an IC25 is the estimated concentration of toxicant that would cause a 25 percent reduction in average young per female or growth. IC values may be calculated using a linear interpolation method such as U.S. EPA's Bootstrap Procedure.

Inland Surface Waters
All surface waters of the state that are not the ocean, enclosed bays, or estuaries.

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

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

Instream Waste Concentration (IWC)
Concentration of effluent in the receiving water after any dilution credit is applied. The IWC is the inverse of 1 plus the dilution credit, D, or IWC = 1/(1+D), expressed as a percentage (e.g., if D = 9, the IWC is 10 percent). If no dilution credit is granted, the IWC is 100 percent.

Maximum Daily Effluent Limitation (MDEL)
Highest allowable daily discharge of a pollutant, over a calendar day (or 24-hour

period). For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For toxicity, the MDEL is based on the outcome of the TST and the percent effect at the IWC (applied to the results of any single bioassay). 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.

Maximum Daily Effluent Target (MDET)
Target based on a single independent toxicity test using the TST used to determine whether a TRE should be conducted. Not meeting the MDET is not a violation of an effluent limitation. The MDET only applies to discharges with no numeric toxicity limits.

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

Median Monthly Effluent Limitation (MMEL)
Highest allowable median of daily discharges over a calendar month, calculated as the median of all daily discharges measured during a calendar month. For aquatic toxicity, the MMEL is an effluent limitation based on a maximum of three independent toxicity tests analyzed using the TST during a calendar month.

Median Monthly Effluent Target (MMET)
Target based on a maximum of three independent toxicity tests using the TST during a calendar month used to determine whether a TRE should be conducted. Not meeting a MMET is not a violation of an effluent limitation. The MMET only applies to discharges with no numeric toxicity limits or to testing with *Ceriodaphnia dubia* prior to January 1, 2024.

Method Detection Limit (MDL)
Minimum concentration of a substance that can be reported with 99 percent confidence that the measured concentration is distinguishable from method blank results, as defined in 40 C.F.R. part 136, Appendix B.

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

MMEL Compliance Test
For chronic toxicity monitoring, one of up to two tests used in addition to a routine monitoring test to determine compliance with the chronic toxicity MMEL and MDEL.

MMET Test
For chronic toxicity monitoring, one of up to two tests used in addition to a routine monitoring test to evaluate if the discharge meets the chronic toxicity MMET and MDET.

No Observed Effect Concentration (NOEC).
The NOEC is the highest tested concentration of an effluent or a toxicant at which no adverse effects are observed on the aquatic test organisms at a specific time of observation. It is determined using hypothesis testing.

No Observed Effect level (NOEL).
For compliance determination, the NOEL is equal to IC25 or EC25. If the IC25 or EC25 cannot be statistically determined, the NOEL shall be equal to the NOEC derived using hypothesis testing.

Not Detected (ND)
Sample results less than the laboratory's MDL.

Null Hypothesis
Statement used in statistical testing that has been put forward either because it is believed to be true or because it is to be used as a basis for argument, but has not been proved.

Percent Effect
Value that denotes the difference in response between a test concentration and a control, divided by the mean control response and multiplied by 100.

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

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

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

Regulatory Management Decision (RMD)
Decision that represents the maximum allowable error rates and thresholds for toxicity and non-toxicity that would result in an acceptable risk to aquatic life.

Reporting Level (RL)
ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the MLs included in this Order, including an additional factor if applicable as discussed herein. For priority pollutants, 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 State Implementation Plan (SIP) Appendix 4 in accordance with SIP section 2.4.2 or established in accordance with SIP section 2.4.3. The ML is based on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the ML depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are matrix-effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied to the ML in the computation of the RL.

Response
Measured biological effect (e.g., on survival, reproduction, growth) of exposure to a stimulus.

Routine Monitoring
Regular chronic toxicity monitoring required during the permit term. Routine monitoring results may trigger MMEL compliance tests. If a violation of the MDEL or MMEL occurs, Routine monitoring also includes one sample collected during the following month (regardless of the regular monitoring frequency), which is used to determine if a TRE is necessary. Routine monitoring does not include surveillance monitoring.

Source of Drinking Water
Any water designated as municipal or domestic supply (MUN) beneficial use.

Standard Deviation (σ)
Measure of variability calculated as follows:

$$\text{Standard deviation} = \sigma = (\Sigma[(x - \mu)^2]/(n - 1))^{0.5}$$

where: x is the observed value
μ is the arithmetic mean of the observed values
n is the number of samples

Surveillance Monitoring
Chronic toxicity monitoring performed using the most sensitive species at an effluent concentration at least double the IWC. Surveillance monitoring results are not for assessing compliance with the chronic toxicity MMEL or MDEL.

Test of Significant Toxicity (TST)
Statistical approach used to analyze aquatic toxicity test data, as described in section III.B.3 of *State Water Board's State Policy for Water Quality Control: Toxicity Provisions*.

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

ABBREVIATIONS

°F	degrees Fahrenheit
°C	degrees Celsius
%	Percent
µg/L	Micrograms per liter
1/Blending Event	Once per blending event
1/Discharge	Once per discharge
1/Day	Once per day
1/Month	Once per month
1/Quarter	Once per quarter
1/Week	Once per week
1/Year	Once per year
2/Month	Two times per month
2/Week	Twice per week
2/Year	Twice per year

3/Week	Three times per week
4/Week	Four times per week
5/Week	Five times per week
AMEL	Average monthly effluent limitation
AWEL	Average weekly effluent limitation
B	Background concentration
bpd	Barrels per day
C	Water quality criterion or objective
C-24	24-hour composite
CFU/100 mL	Colony forming units per 100 milliliters
CIWQS	California Integrated Water Quality System
Continuous	Measured continuously
Continuous/D	Measured continuously, and recorded and reported daily
Continuous/H	Measured continuously, and recorded and reported hourly
CTR	California Toxics Rule
CV	Coefficient of Variation
DMR	Discharge Monitoring Report
DNQ	Detected, but not quantified
DL	Detection level
ECA	Effluent Concentration Allowance
gpm	Gallons per minute
Grab	Grab sample
IWC	Instream Waste Concentration
MDEL	Maximum Daily Effluent Limitation
MDET	Maximum Daily Effluent Target
MDL	Method detection limit
MEC	Maximum effluent concentration
MG	Million gallons
mg/L	Milligrams per liter
mg/L as N	Milligrams per liter as nitrogen
MGD	Million gallons per day
ML	Minimum level
MMEL	Median Monthly Effluent Limitation

MMET	Median Monthly Effluent Target
MPN/100 mL	Most probable number per 100 milliliters
MRP	Monitoring and Reporting Program (Attachment E)
ND	Not detected
NTR	National Toxics Rule
NTU	Nephelometric turbidity units
ppt	Parts per thousand
RL	Reporting level
RPA	Reasonable potential analysis
SIP	*Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy)
SMR	Self-Monitoring Report
s.u.	Standard pH units
TIE	Toxicity identification evaluation
TRE	Toxicity reduction evaluation
TST	Test of Significant Toxicity
WDRs	Waste discharge requirements
WQBEL	Water quality-based effluent limitation

ATTACHMENT B – MAPS

Figure B-1. Facility Location Map

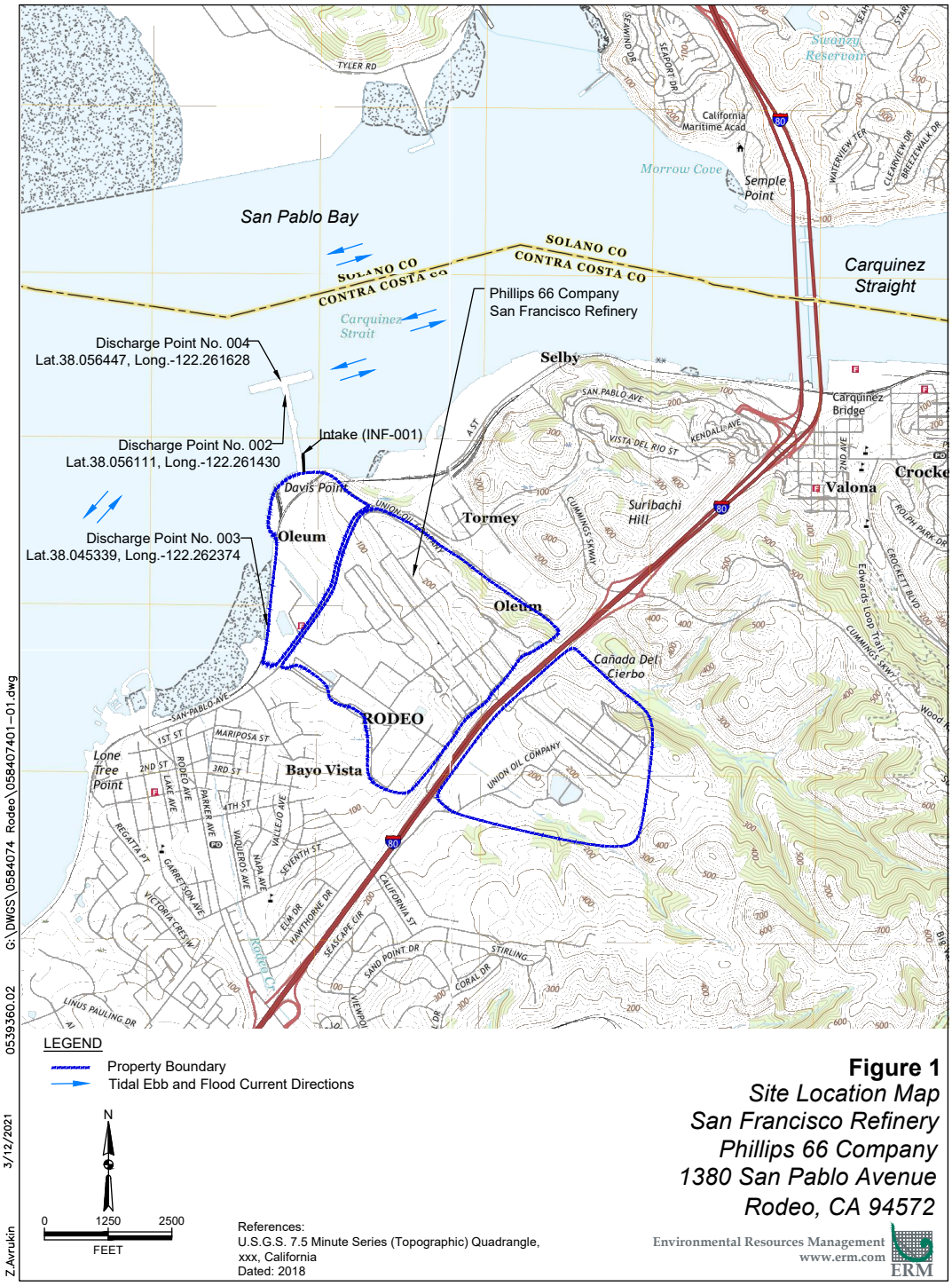
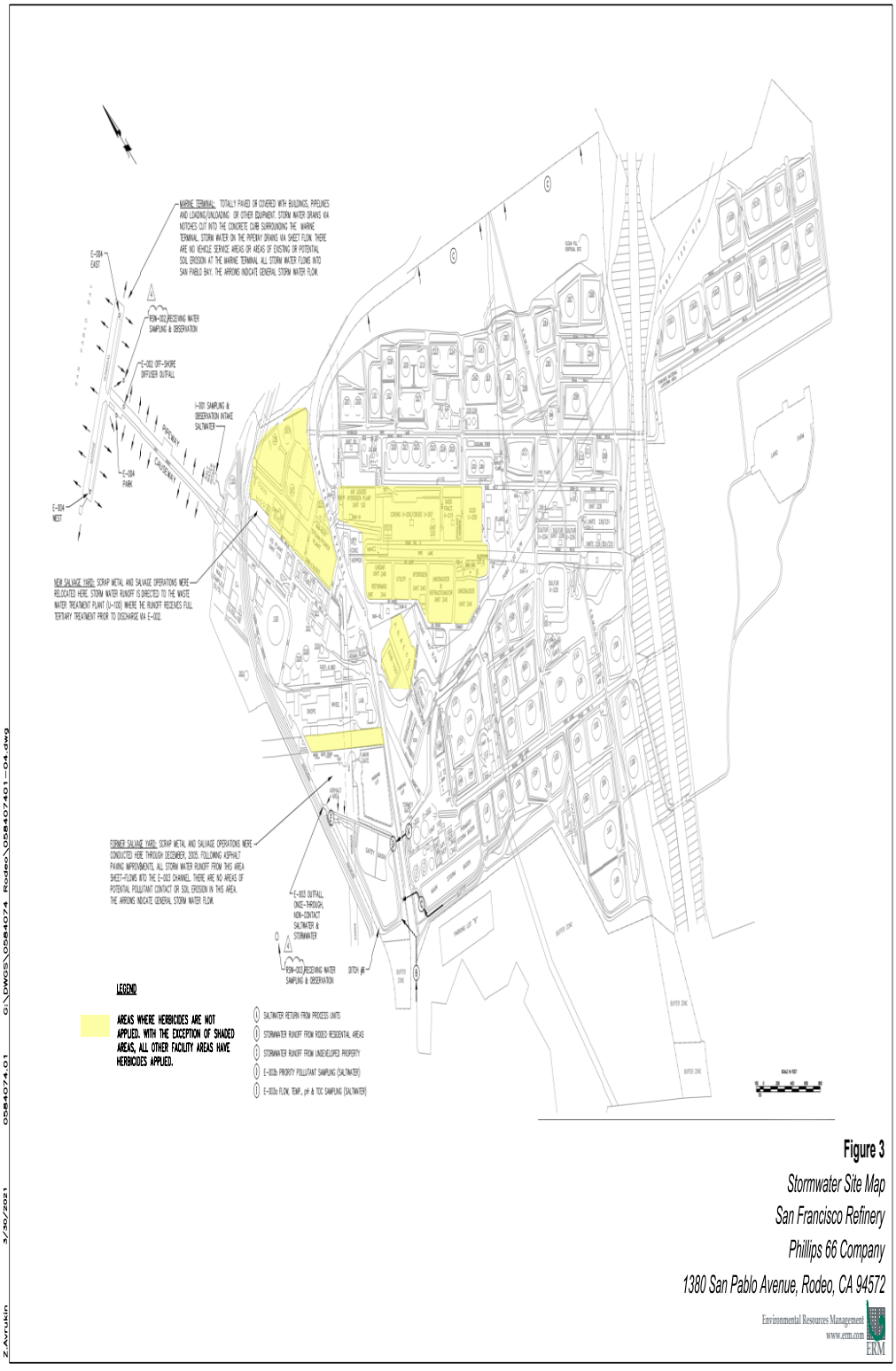


Figure B-2. Site Map and Discharge Locations



ATTACHMENT C – PROCESS FLOW DIAGRAMS

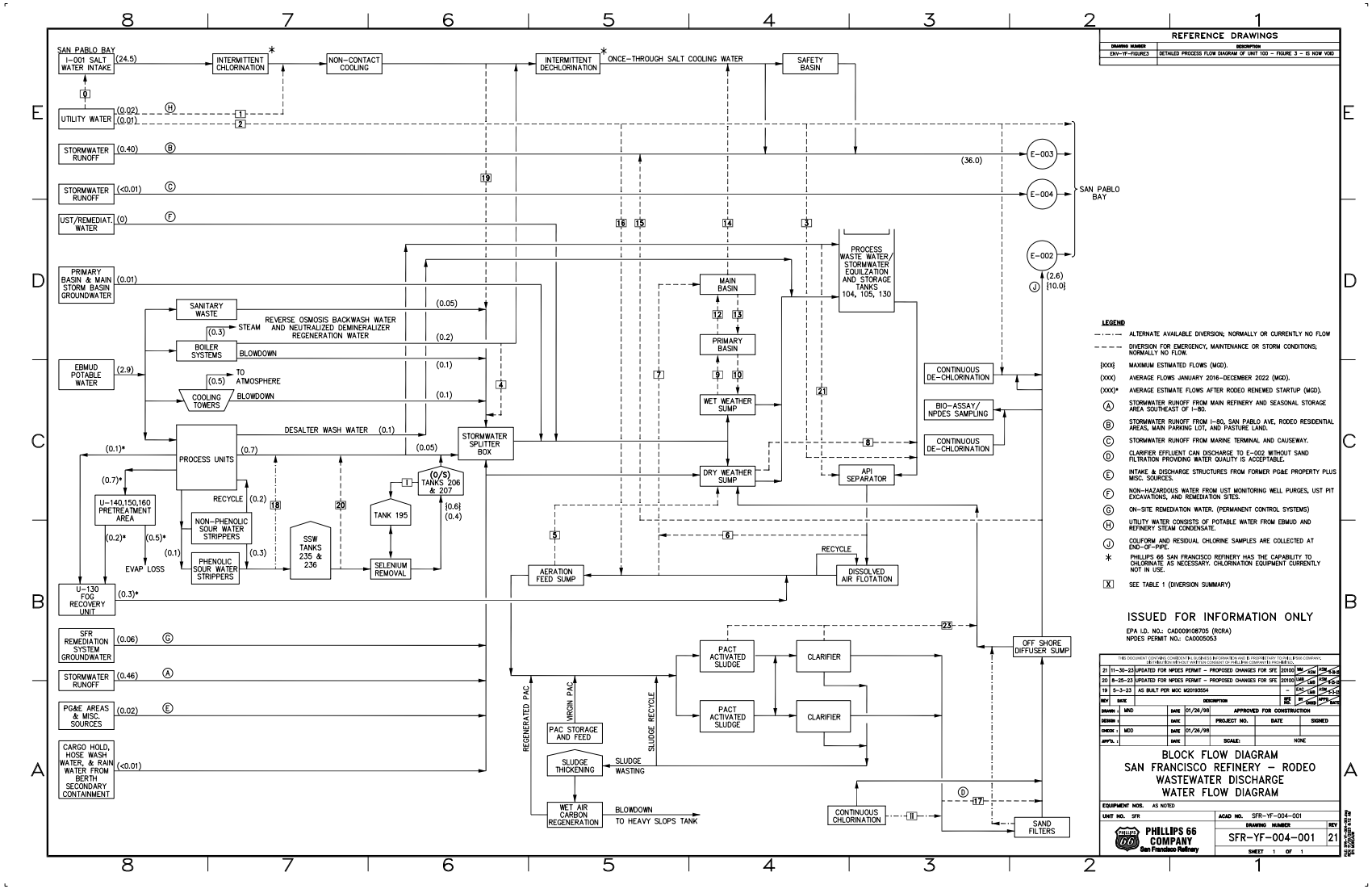


TABLE 1: DIVERSION SUMMARY FOR EMERGENCY, MAINTENANCE OR STORM CONDITIONS

Diversion for emergency, maintenance or storm conditions – normally no flow – flow data in gallons per minute (GPM)

	From	Conditions	Annual Freq.	Est. Flow	Design Flow	To
0	Utility Water System	Periodic cleaning of SWIS screens	52	50	none	San Pablo Bay
1		Saltwater pump failure or maintenance (supplemental cooling)	3 - 5	250-750	varies	E-003
NA		Process Area fire monitor / hydrant flow testing (all locations)	240	500	none	DWS
2		MTC fire monitor / hydrant flow testing (10 locations)	40	500	none	
2		Wash off boom boat	0 - 50	25	none	San Pablo Bay
2		Steam condensate drips from lines @ MTC	ongoing	0.005	none	
2		Algae removal from boat launch ramp	0 - 2	10	none	
3	Utility Water	Utility Carrier Water for pH control	Continuous	30-50	none	API inlet
4	Neut. demin. backwash	Line plugged, valve/pump failure @ U240 / SPP, or salt water outage	0 - 1	250 - 270	none	Sewer System
5	Aeration feed sump	AFS pump failure or HC contamination (recirculation)	0 - 4	~2,000	~7,500	DWS
6	API out	DAF Failure	Never used	~2,000	~7,500	Main Basin
7	DAF out	Equalization Tanks full with no discharge to the Bay	Never used	~2,000	~7,500	Main Basin
8	DWS	Line to equalization tanks is not available / out of service	Never used	~2,000	3,600	API In
9	WWS	EQ tanks full, rainfall > pumping capacity, power outage or WWS pump / level control failure	0 - 1	~100,000	~100,000	Primary Basin
10	Primary Basin	Drain Primary Basin after diversion (gravity flow)	0 - 1	15-72,000	72,000	WWS
12		Primary Basin is full – overflow to Main Basin	1/10	~100,000	~100,000	Main Basin
13	Main Basin	Drain Main Basin after diversion (gravity drain)	1/ 10	0-1,600	1,600	Primary Basin
14		Main Basin is full – overflowing to safety Basin	1/25	~100,000	~100,000	Safety Basin
15	OSD Line	OSD Line failure – U100 discharge bypassed to E-003	Never used	~2,000	~7,500	E003
16	Utility Water	Hi-temperature control to prevent Bio-plant failure	0 - 3	500	none	Aeration Sump
17	Clarifier out	Providing water quality is acceptable (locked/closed)	Never used	~5,000	~7500	OSD sump
18	SW Strippers	Wastewater does not require treatment @ SRP	Never used	0 - 150	none	Sewer System
19	Saltwater dist. system	Maintenance or equipment failure	0 - 5	0 - 100	none	Sewer System
20	Tanks 235 / 236	Wastewater does not require treatment @ SRP	Never used	0 - 150	none	Sewer System
21	Desalter (BWON)	Equalization tank maintenance - brine to API	Never used	0 - 50	50	API
NA	Utility Water	Mutual Aid Fire Training *	12-15	1,000-5,000	none	Vegetated areas

* Details available in SWPPP, Section IV.M.

Alternate available diversion - normally or currently no flow

	From	Conditions	Annual Freq.	Est. Flow	Design Flow	To
i	Tanks 206 / 207	Off spec proving tank (Se or Cu)	0 - 2	500	500	Tank 195
ii	Metered hypochlorite	Degrease / clean media	0 - 4	metered	65	Media filters

Updated March 2021

ATTACHMENT D– STANDARD PROVISIONS

CONTENTS

ATTACHMENT D – STANDARD PROVISIONS

1. STANDARD PROVISIONS – PERMIT COMPLIANCE

1.1. Duty to Comply

1.1.1. The Discharger must comply with all of the terms, requirements, and conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action; permit termination, revocation and reissuance, or modification; denial of a permit renewal application; or a combination thereof. (40 C.F.R. § 122.41(a); Wat. Code, §§ 13261, 13263, 13265, 13268, 13000, 13001, 13304, 13350, 13385.)

1.1.2. The Discharger shall comply with effluent standards or prohibitions established under CWA section 307(a) for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 C.F.R. § 122.41(a)(1).)

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

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

1.4. 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) that are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a Discharger only when necessary to achieve compliance with the conditions of this Order. (40 C.F.R. § 122.41(e).)

1.5. Property Rights

1.5.1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 C.F.R. § 122.41(g).)

1.5.2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations. (40 C.F.R. § 122.5(c).)

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

1.6.1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (33 U.S.C. § 1318(a)(4)(B)(i); 40 C.F.R. § 122.41(i)(1); Wat. Code, §§ 13267, 13383);

1.6.2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (33 U.S.C. § 1318(a)(4)(B)(ii); 40 C.F.R. § 122.41(i)(2); Wat. Code, §§ 13267, 13383);

1.6.3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (33 U.S.C. § 1318(a)(4)(B)(ii); 40 C.F.R. § 122.41(i)(3); Wat. Code, §§ 13267, 13383); and

1.6.4. Sample or monitor, at reasonable times, for the purposes of ensuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (33 U.S.C. § 1318(a)(4)(B); 40 C.F.R. § 122.41(i)(4); Wat. Code, §§ 13267, 13383.)

1.7. Bypass

1.7.1. **Definitions**

1.7.1.1. “Bypass” means the intentional diversion of waste streams from any portion of a treatment facility. (40 C.F.R. § 122.41(m)(1)(i).)

1.7.1.2. “Severe property damage” means substantial physical damage to property; damage to the treatment facilities, which causes them to become inoperable; or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 C.F.R. § 122.41(m)(1)(ii).)

1.7.2. **Bypass not exceeding limitations.** The Discharger may allow any bypass to occur that does not cause exceedances of effluent limitations, but only if it is for essential maintenance to ensure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance sections 1.7.3, 1.7.4, and 1.7.5 below. (40 C.F.R. § 122.41(m)(2).)

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

1.7.3.1. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 C.F.R. § 122.41(m)(4)(i)(A));

1.7.3.2. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 C.F.R. § 122.41(m)(4)(i)(B)); and

1.7.3.3. The Discharger submitted notice to the Regional Water Board as required under Standard Provisions – Permit Compliance section 1.7.5 below. (40 C.F.R. § 122.41(m)(4)(i)(C).)

1.7.4. **Approval.** The Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance section 1.7.3 above. (40 C.F.R. § 122.41(m)(4)(ii).)

1.7.5. **Notice**

1.7.5.1. **Anticipated bypass.** If the Discharger knows in advance of the need for a bypass, it shall submit prior notice, if possible, at least 10 days before the date of the bypass. The notice shall be sent to the Regional Water Board. As of December 21, 2025, a notice shall also be submitted electronically to the initial recipient defined in Standard Provisions – Reporting section 5.10 below. Notices shall comply with 40 C.F.R. part 3, 40 C.F.R. section 122.22, and 40 C.F.R. part 127. (40 C.F.R. § 122.41(m)(3)(i).)

1.7.5.2. **Unanticipated bypass.** The Discharger shall submit a notice of an unanticipated bypass as required in Standard Provisions – Reporting section 5.5 below (24-hour notice). The notice shall be sent to the Regional Water Board. As of December 21, 2025, a notice shall also be submitted electronically to the initial recipient defined in Standard Provisions – Reporting section 5.10 below. Notices shall comply with 40 C.F.R. part 3, 40 C.F.R. section 122.22, and 40 C.F.R. part 127. (40 C.F.R. § 122.41(m)(3)(ii).)

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

1.8.1. **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 section 1.8.2 below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 C.F.R. § 122.41(n)(2).)

1.8.2. **Conditions necessary for a demonstration of upset.** A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that (40 C.F.R. § 122.41(n)(3)):

1.8.2.1. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 C.F.R. § 122.41(n)(3)(i));

1.8.2.2. The permitted facility was, at the time, being properly operated (40 C.F.R. § 122.41(n)(3)(ii));

1.8.2.3. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting section 5.5.2.2 below (24-hour notice) (40 C.F.R. § 122.41(n)(3)(iii)); and

1.8.2.4. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance section 1.3 above. (40 C.F.R. § 122.41(n)(3)(iv).)

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

2. STANDARD PROVISIONS – PERMIT ACTION

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

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

2.3. 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 Water Code. (40 C.F.R. §§ 122.41(l)(3), 122.61.)

3. STANDARD PROVISIONS – MONITORING

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

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

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

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

In the case of pollutants or pollutant parameters for which there are no approved methods under 40 C.F.R. part 136 or otherwise required under 40 C.F.R. chapter 1, subchapter N, monitoring must be conducted according to a test procedure specified in this Order for such pollutants or pollutant parameters. (40 C.F.R. §§ 122.21(e)(3), 122.41(j)(4), 122.44(i)(1)(iv).)

4. STANDARD PROVISIONS – RECORDS

4.1. The Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report, or application. This period may be extended by request of the Regional Water Board Executive Officer at any time. (40 C.F.R. § 122.41(j)(2).)

4.2. Records of monitoring information shall include:

4.2.1. The date, exact place, and time of sampling or measurements (40 C.F.R. § 122.41(j)(3)(i));

4.2.2. The individual(s) who performed the sampling or measurements (40 C.F.R. § 122.41(j)(3)(ii));

4.2.3. The date(s) analyses were performed (40 C.F.R. § 122.41(j)(3)(iii));

4.2.4. The individual(s) who performed the analyses (40 C.F.R. § 122.41(j)(3)(iv));

4.2.5. The analytical techniques or methods used (40 C.F.R. § 122.41(j)(3)(v)); and

4.2.6. The results of such analyses. (40 C.F.R. § 122.41(j)(3)(vi).)

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

4.3.1. The name and address of any permit applicant or Discharger (40 C.F.R. § 122.7(b)(1)); and

4.3.2. Permit applications and attachments, permits, and effluent data. (40 C.F.R. § 122.7(b)(2).)

5. STANDARD PROVISIONS – REPORTING

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

5.2. Signatory and Certification Requirements

5.2.1. All applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or U.S. EPA shall be signed and certified in accordance with Standard Provisions – Reporting sections 5.2.2, 5.2.3, 5.2.4, 5.2.5, and 5.2.6 below. (40 C.F.R. § 122.41(k).)

5.2.2. For a corporation, all permit applications shall be signed by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (1) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (2) the manager of one or more manufacturing, production, or operating facilities, provided the manager is authorized to make management decisions that govern the operation of the regulated facility, including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to ensure long term environmental

compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. (40 C.F.R. § 122.22(a)(1).)

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

For a municipal, state, federal, or other public agency, all permit applications shall be signed by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes (1) the chief executive officer of the agency, or (2) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of U.S. EPA). (40 C.F.R. § 122.22(a)(3).).

5.2.3. All reports required by this Order and other information requested by the Regional Water Board, State Water Board, or U.S. EPA shall be signed by a person described in Standard Provisions – Reporting section 5.2.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

5.2.3.1. The authorization is made in writing by a person described in Standard Provisions – Reporting section 5.2.2 above (40 C.F.R. § 122.22(b)(1));

5.2.3.2. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 C.F.R. § 122.22(b)(2)); and

5.2.3.3. The written authorization is submitted to the Regional Water Board and State Water Board. (40 C.F.R. § 122.22(b)(3).)

5.2.4. If an authorization under Standard Provisions – Reporting section 5.2.3 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 section 5.2.3 above must be submitted to the Regional Water Board and State Water Board prior to or together with any reports, information, or applications to be signed by an authorized representative. (40 C.F.R. § 122.22(c).)

5.2.5. Any person signing a document under Standard Provisions – Reporting section 5.2.2 or 5.2.3 above shall make the following certification:

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

5.2.6. Any person providing the electronic signature for documents described in Standard Provisions – Reporting sections 5.2.1, 5.2.2, or 5.2.3 that are submitted electronically shall meet all relevant requirements of Standard Provisions – Reporting section 5.2, and shall ensure that all relevant requirements of 40 C.F.R. part 3 (Cross-Media Electronic Reporting) and 40 C.F.R. part 127 (NPDES Electronic Reporting Requirements) are met for that submission. (40 C.F.R § 122.22(e).)

5.3. Monitoring Reports

5.3.1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 C.F.R. § 122.41(l)(4).)

5.3.2. 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. All reports and forms must be submitted electronically to the initial recipient defined in Standard Provisions – Reporting section 5.10 and comply with 40 C.F.R. part 3, 40 C.F.R. section 122.22, and 40 C.F.R. part 127. (40 C.F.R. § 122.41(l)(4)(i).)

5.3.3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under 40 C.F.R. part 136, or another method required for an industry-specific waste stream under 40 C.F.R. chapter 1, subchapter N, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR or reporting form specified by the Regional Water Board or State Water Board. (40 C.F.R. § 122.41(l)(4)(ii).)

5.3.4. Calculations for all limitations that require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this Order. (40 C.F.R. § 122.41(l)(4)(iii).)

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

5.5. Twenty-Four Hour Reporting

5.5.1. 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 report shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The report 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.

For noncompliance related to combined sewer overflows, sanitary sewer overflows, or bypass events, these reports must include the data described above (with the exception of time of discovery) as well as the type of event (i.e., combined sewer overflow, sanitary sewer overflow, or bypass event), type of overflow structure (e.g., manhole, combined sewer overflow outfall), discharge volume untreated by the treatment works treating domestic sewage, types of human health and environmental impacts of the event, and whether the noncompliance was related to wet weather.

As of December 21, 2025, all reports related to combined sewer overflows, sanitary sewer overflows, or bypass events must be submitted to the Regional Water Board and must be submitted electronically to the initial recipient defined in Standard Provisions – Reporting section 5.10 The reports shall comply with 40 C.F.R. part 3, 40 C.F.R. section 122.22, and 40 C.F.R. part 127. The Regional Water Board may also require the Discharger to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section. (40 C.F.R. § 122.41(l)(6)(i).)

5.5.2. The following shall be included as information that must be reported within 24 hours:

5.5.2.1. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(A).)

5.5.2.2. Any upset that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(B).)

5.5.3. The Regional Water Board may waive the above required written report on a case-by-case basis if an oral report has been received within 24 hours. (40 C.F.R. § 122.41(l)(6)(ii)(B).)

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

5.6.1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 C.F.R. section 122.29(b) (40 C.F.R. § 122.41(l)(1)(i)); or

5.6.2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this Order unless the discharge is an existing manufacturing, commercial, mining, or silvicultural discharge as referenced in 40 C.F.R. section 122.42(a). (40 C.F.R. § 122.41(l)(1)(ii).) If the discharge is an existing manufacturing, commercial, mining, or silvicultural discharge as referenced in 40 C.F.R. section 122.42(a), this notification applies to pollutants that are subject neither to effluent limitations in this Order nor to notification requirements under 40 C.F.R. section 122.42(a)(1) (see Additional Provisions – Notification Levels section 7.1.1). (40 C.F.R. § 122.41(l)(1)(ii).)

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

5.8. Other Noncompliance. The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting sections 5.3, 5.4, and 5.5 above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting section 5.5 above. For noncompliance related to combined sewer overflows, sanitary sewer overflows, or bypass events, these reports shall contain the information described in Standard Provision – Reporting section 5.5 and the applicable required data in appendix A to 40 C.F.R. part 127. The Regional Water Board may also require the Discharger to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section. (40 C.F.R. § 122.41(l)(7).)

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

5.10. Initial Recipient for Electronic Reporting Data. The owner, operator, or duly authorized representative is required to electronically submit NPDES information specified in appendix A to 40 C.F.R. part 127 to the initial recipient defined in 40 C.F.R. section 127.2(b). U.S. EPA will identify and publish the list of initial recipients on its website and in the Federal Register, by state and by NPDES data group [see 40 C.F.R. section 127.2(c)]. U.S. EPA will update and maintain this list. (40 C.F.R. § 122.41(l)(9).)

6. STANDARD PROVISIONS – ENFORCEMENT

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

7. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

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

7.1.1. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following “notification levels” (40 C.F.R. § 122.42(a)(1)):

7.1.1.1. 100 micrograms per liter (µg/L) (40 C.F.R. § 122.42(a)(1)(i));

7.1.1.2. 200 µg/L for acrolein and acrylonitrile; 500 µg/L for 2,4 dinitrophenol and 2-methyl 4,6 dinitrophenol; and 1 milligram per liter (mg/L) for antimony (40 C.F.R. § 122.42(a)(1)(ii));

7.1.1.3. Five (5) times the maximum concentration reported for that pollutant in the Report of Waste Discharge (40 C.F.R. § 122.42(a)(1)(iii)); or

7.1.1.4. The level established by the Regional Water Board in accordance with 40 C.F.R. section 122.44(f). (40 C.F.R. § 122.42(a)(1)(iv).)

7.1.2. That any activity has occurred or will occur that would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following “notification levels" (40 C.F.R. § 122.42(a)(2)):

7.1.2.1. 500 micrograms per liter (µg/L) (40 C.F.R. § 122.42(a)(2)(i));

7.1.2.2. 1 milligram per liter (mg/L) for antimony (40 C.F.R. § 122.42(a)(2)(ii));

7.1.2.3. Ten (10) times the maximum concentration reported for that pollutant in the Report of Waste Discharge (40 C.F.R. § 122.42(a)(2)(iii)); or

7.1.2.4. The level established by the Regional Water Board in accordance with 40 C.F.R. section 122.44(f). (40 C.F.R. § 122.42(a)(2)(iv).)

7.2 Publicly Owned Treatment Works (POTWs)

7.2.1. All POTWs shall provide adequate notice to the Regional Water Board of any new introduction of pollutants into the POTW from an indirect discharger that

would be subject to CWA sections 301 or 306 if it were directly discharging those pollutants (40 C.F.R. § 122.42(b)(1)).

7.2.2. All POTWs shall provide adequate notice to the Regional Water Board of any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of adoption of this Order. (40 C.F.R. § 122.42(b)(2).)

7.2.3. Adequate notice shall include information on the quality and quantity of effluent introduced into the POTW as well as any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW. (40 C.F.R. § 122.42(b)(3).)

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

CONTENTS

TABLES

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

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

1. GENERAL MONITORING PROVISIONS

1.1. The Discharger shall comply with this MRP. The Executive Officer may amend this MRP pursuant to 40 C.F.R. section 122.63. If any discrepancies exist between this MRP and the “Regional Standard Provisions, and Monitoring and Reporting Requirements (Supplement to Attachment D) for NPDES Wastewater Discharge Permits” (Attachment G), this MRP shall prevail.

1.2. The Discharger shall conduct all monitoring in accordance with Attachment D section 3, as supplemented by Attachment G. Equivalent test methods must be more sensitive than those specified in 40 C.F.R. section 136 and must be specified in this permit.

1.3. For the analysis of monitoring samples, the Discharger shall use laboratories certified by the State Water Resources Control Board (State Water Board) in accordance with Water Code section 13176 and shall obtain quality assurance/quality control data with laboratory reports. For any onsite field tests (e.g., turbidity, pH, temperature, dissolved oxygen, conductivity, disinfectant residual) analyzed by a noncertified laboratory, the Discharger shall implement a Quality Assurance-Quality Control Program. The Discharger shall keep a manual onsite containing the steps followed in this program and shall demonstrate sufficient capability to adequately perform these field tests (e.g., qualified and trained employees, properly calibrated and maintained field instruments). The program shall conform to U.S. EPA guidelines or other approved procedures.

1.4. The Discharger shall ensure that the results of the Discharge Monitoring Report-Quality Assurance (DMR-QA) Study or most recent Water Pollution Performance Evaluation Study are submitted annually to the State Water Board electronically to the DMR-QA Officer via email.

2. MONITORING LOCATIONS

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

Table E-1. Monitoring Locations

Discharge Point	Monitoring Location	Monitoring Location Description
Influent	INF-001	Any point in the Facility's San Pablo Bay intake prior to any treatment or use for cooling or processing.
Influent	INF-002	Any point in the Facility's recycled water supply pipe upstream of any water treatment unit, blending point, or point of use.
Effluent	EFF-002	Any point in the outfall to Discharge Point 002 where all wastewaters tributary thereto are present.
Effluent	EFF-003A	Any point in the outfall to Discharge Point 003 where all once-through cooling water, neutralized demineralizer water, and stormwater tributary thereto are present.
Effluent	EFF-003B	Any point in the outfall to Discharge Point 003 where once-through cooling water and neutralized demineralizer water are present, but stormwater runoff is not (i.e., representative of once-through cooling water and neutralized demineralizer water discharge only).
Effluent	EFF-004	A "location" reflecting three different areas discharging stormwater from the Marine Terminal Complex (collectively Discharge Point 004). Samples from the three areas shall be composited. Each sample shall be collected not more than 5 feet from where discharge occurs (to be determined at the time of sampling).
Receiving Water	RSW-002	A point in San Pablo Bay within a 200-foot radius of the location defined by projecting the geometric center of Discharge Point 002's deepwater diffuser to the surface of San Pablo Bay.
Receiving Water	RSW-003	A point in San Pablo Bay no more than 1,000 feet west of Discharge Point 003 that is representative of ambient temperature and receiving water quality.
Precipitation	R-1	The nearest official National Weather Service rainfall station, the Discharger's Laboratory rain gauge, or a comparable station (with Executive Officer concurrence).

3. INFLUENT MONITORING

3.1. Once-Through Cooling Water Intake Monitoring. The Discharger shall monitor the once-through cooling water intake at Monitoring Location INF-001 as follows:

Table E-2. Influent Monitoring Location INF-001

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow [1]	MG/MGD	Continuous	1/Day

Footnote:

[1] For influent recycled water flows, the following information shall also be monitored and reported in the monthly self-monitoring reports (SMRs):

a. Daily Total Flow Volume (MG)
b. Average Daily Flow (MGD)

3.2 Recycled Water Intake Monitoring. The Discharger shall monitor recycled water intake at Monitoring Location INF-002 as follows if the Discharger begins a wastewater recycling program and seeks effluent limit adjustments. The Discharger need monitor only those parameters for which it seeks effluent limit adjustments; monitoring others is optional:

Table E-3. Influent Monitoring Location INF-002

Parameter	Unit	Sample Type	Minimum Sampling Frequency
Recycled Water Flow [1]	MGD	Continuous	Continuous
Biochemical Oxygen Demand (BOD_5) (5-day @ 20 degrees Celsius)	mg/L	C-24	1/Month
Total Suspended Solids (TSS)	mg/L	C-24	1/Week
Oil and Grease	mg/L	Grab	1/Month
Ammonia	mg/L as N	C-24	1/Month
Copper, Total Recoverable	µg/L	C-24	1/Month
Chlorodibromomethane	µg/L	Grab	1/Month
Cyanide, Total [2]	µg/L	Grab	1/Month
Nickel	µg/L	C-24	1/Month
Selenium, Total Recoverable [3]	µg/L	C-24	1/Week
Dioxin-TEQ [4]	ρg/L	C-24	2/Year

Footnotes:

[1] For influent recycled water flows, the following information shall also be monitored and reported in the monthly SMRs:

a. Daily Total Flow Volume (MG)
b. Average Daily Flow (MGD)

[2] The Discharger may, at its option, analyze for cyanide as weak acid dissociable cyanide using protocols specified in 40 C.F.R. Part 136, or an equivalent method in the latest Standard Method edition.

[3] Selenium shall be analyzed using methods described in U.S. EPA Method No. 200.8 or Standard Method No. 3114B or 3114C.

[4] Chlorinated dibenzodioxins and chlorinated dibenzofurans shall be analyzed using the latest version of U.S. EPA Method 1613. The Discharger shall collect 4-liter samples to lower the detection limits to the greatest extent practicable. Alternative methods of analysis must meet the requirements of 40 C.F.R. § 136 and be approved by the Executive Officer.

4. EFFLUENT MONITORING

4.1. Monitoring Location EFF-002. The Discharger shall monitor treatment plant effluent at Monitoring Location EFF-002 as follows:

Table E-4. Effluent Monitoring Location EFF-002

Parameter	Unit	Sample Type	Minimum Sampling Frequency
Flow [1]	MGD	Continuous	Continuous/D
BOD_5	mg/L	C-24	1/Week
TSS	mg/L	C-24	1/Week

Parameter	Unit	Sample Type	Minimum Sampling Frequency
Oil and Grease	mg/L	Grab	1/Month
Chlorine, Total Residual	mg/L	Grab	1/Day
pH [2]	standard units	Continuous	Continuous
Ammonia, Total	mg/L as N	C-24	1/Month
Chlorodibromomethane	µg/L	Grab	1/Month
Copper, Total Recoverable	µg/L	C-24	1/Month
Cyanide, Total [3]	µg/L	Grab	1/Month
Dioxin-TEQ [4]	µg/L	C-24	2/Year
Nickel, Total Recoverable	µg/L	C-24	1/Month
Nitrate-nitrite	mg/L as N	C-24	1/Month
Phosphorus, Total	µg/L	C-24	1/Month
Selenium, Total Recoverable [5]	µg/L	C-24	1/Week
Acute Toxicity [6]	% survival	C-24	1/Week
Chronic Toxicity [7]	”pass” or “fail“ and % effect [8]	C-24	1/Quarter
Enterococcus Bacteria	MPN/100 mL [9]	Grab	1/Week [10]
Total Coliform Bacteria	MPN/100 mL [9]	Grab	1/Week [10]
Temperature	ºF	Continuous	Continuous
Other Priority Pollutants [11]	µg/L	Grab	2/Year

Footnotes:

[1] For effluent flows, the following information shall also be monitored and reported in the monthly SMRs:
   a. Daily Total Flow Volume (MG)
   b. Average Daily Flow (MGD)

[2] If pH is monitored continuously, the minimum and maximum pH values for each day shall be reported in self-monitoring reports.

[3] The Discharger may, at its option, analyze for cyanide as weak acid dissociable cyanide using protocols specified in 40 C.F.R. Part 136, or an equivalent method in the latest Standard Method edition.

[4] Chlorinated dibenzodioxins and chlorinated dibenzofurans shall be analyzed using the latest version of U.S. EPA Method 1613. The Discharger shall collect 4-liter samples to lower the detection limits to the greatest extent practicable. Alternative methods of analysis must meet the requirements of 40 C.F.R. § 136 and be approved by the Executive Officer.

[5] Selenium shall be analyzed using methods described in U.S. EPA Method No. 200.8 or Standard Method No. 3114B or 3114C.

[6] Acute bioassay tests shall be performed in accordance with MRP section 5.1.

[7] Chronic bioassay tests shall be performed in accordance with MRP section 5.2. If the Discharger fails to comply with the chronic toxicity requirements of the Order and this MRP or has a chronic toxicity test result of “fail” at the IWC, the routine monitoring frequency will revert to once per month.

[8] Chronic toxicity monitoring results shall be reported as “pass” or “fail” and percent effect, as defined in Toxicity Provisions sections III.B.3 and III.B.4.

[9] Results may be reported as Colony Forming Units (CFU)/100 mL if the laboratory method used provides results in CFU/100 mL.

[10] Grab samples shall be collected on the same day as composite samples for parameters with effluent limits.

[11] The Discharger shall monitor for the pollutants listed in Attachment G, Table B. The Discharger shall collect C-24 samples for metals.

4.2. Monitoring Locations EFF-003A and EFF-003B. The Discharger shall monitor treated wastewater at Monitoring Locations EFF-003A and EFF-003B as follows:

Table E-5. Effluent Monitoring Location EFF-003A

Parameter	Unit	Sample Type	Minimum Sampling Frequency
Flow Rate [1]	MG/MGD	Continuous	1/Day
Chlorine, Total Residual	mg/L	Grab	[2]
pH [3]	s.u.	Grab	1/Month
Temperature	°F	Continuous	Continuous
Standard Observations [4]	--	--	1/Month

Footnotes:

[1] For effluent flows, the following information shall also be monitored and reported in the monthly SMRs:
a. Daily Total Flow Volume (MG)
b. Average Daily Flow (MGD)

[2] The Discharger shall monitor for total residual chlorine at Monitoring Location EFF-003A every 2 hours if intake chlorination occurs or if potable water is used as a substitute for once-through cooling water. If potable water is used to supplement once-through cooling water, the Discharger shall monitor for total residual chlorine daily. Total residual chlorine need not be monitored if neither intake chlorination nor potable water use is occurring.

[3] If pH is monitored continuously, the Discharger shall report minimum and maximum pH values for each day in monthly SMRs.

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

Table E-6. Monitoring Location EFF-003B

Parameter	Units	Sample Type	Minimum Sampling Frequency
Total Organic Carbon (TOC)	mg/L	Grab or C-24	1/Month
Other Priority Pollutants	µg/L	Grab	1/Year

Footnote:

[1] Selenium shall be analyzed using methods described in U.S. EPA Method No. 200.8 or Standard Method No. 3114B or 3114C.

4.3. Monitoring Location EFF-004. The Discharger shall monitor stormwater discharges at Monitoring Location EFF-004 as follows:

Table E-7. Monitoring Location EFF-004

Parameter	Unit	Sample Type	Minimum Sampling Frequency
TOC	mg/L	Grab [2]	2/Year [1]
Oil and Grease	mg/L	Grab [2]	2/Year [1,2]
pH	s.u.	Grab [2]	2/Year [1]
Visible Oil	—	—	2/Year [1]
Visible Color	—	—	2/Year [1]
BOD_5	mg/L	Grab [2]	1/Day during storm [3]
TSS	mg/L	Grab [2]	1/Day during storm [3]
COD	mg/L	Grab [2]	1/Day during storm [3]
Phenolic Compounds	mg/L	Grab [2]	1/Day during storm [3]
Total Chromium	µg/L	Grab [2]	1/Day during storm [3]

Parameter	Unit	Sample Type	Minimum Sampling Frequency
Hexavalent Chromium	µg/L	Grab [2]	1/Day during storm [3]

Footnotes:

[1] As soon as the Discharger becomes aware of a violation of an oil and grease or TOC effluent limitation in Table 4 of this Order, the Discharger shall increase the monitoring frequency for this parameter at the affected outfalls to daily during each daylight storm until two consecutive samples show compliance with oil and grease and TOC effluent limitations. The Discharger shall also monitor the affected outfalls at least once during the first daylight storm of the following wet season (commencing October 1).

[2] The Discharger shall analyze oil and grease using U.S. EPA method 1644A.

[3] Monitoring for this parameter is not required until the Discharger becomes aware of a violation of an oil and grease or TOC effluent limitation in Table 4 of this Order. Then, the Discharger shall begin monitoring for this parameter at the affected outfalls during each daylight storm until two consecutive samples show compliance with oil and grease and TOC effluent limitations in Table 6a.

5. TOXICITY MONITORING

5.1. Acute Toxicity

5.1.1. Compliance with the acute toxicity effluent limitations shall be evaluated at Monitoring Location EFF-002 by measuring survival of test organisms exposed to 96-hour continuous flow-through bioassays.

5.1.2. Test organisms shall be rainbow trout (*Onchorhynchus mykiss*). Alternatively, the Executive Officer may specify a more sensitive organism or, if testing a particular organism proves unworkable, the most sensitive organism available.

5.1.3. All bioassays shall be performed according to the most up-to-date protocols in 40 C.F.R. part 136, currently *Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms*, 5th Edition (EPA-821-R-02-012). If these protocols prove unworkable, the Executive Officer and the Environmental Laboratory Accreditation Program may grant exceptions in writing upon the Discharger's request with justification.

5.1.4. If the Discharger demonstrates that specific identifiable substances in the discharge are rapidly rendered harmless upon discharge to the receiving water, compliance with the acute toxicity limit may be determined after test samples are adjusted to remove the influence of those substances. Written acknowledgement that the Executive Officer concurs with the Discharger's demonstration and that the adjustment will not remove the influence of other substances must be obtained prior to any such adjustment. The Discharger may adjust the pH of acute toxicity samples to minimize ammonia toxicity interference.

5.1.5. Bioassay monitoring shall include, on a daily basis, pH, dissolved oxygen, ammonia (if toxicity is observed), temperature, hardness, and alkalinity. These results shall be reported. If final or intermediate results of an acute bioassay test indicate a violation or threatened violation (e.g., the percentage of surviving test organisms is less than 70 percent), the Discharger shall initiate a new test as soon as practical and shall investigate the cause of the mortalities and report

its findings in the next self-monitoring report. The Discharger shall repeat the test until a test fish survival rate of 90 percent or greater is observed. If the control fish survival rate is less than 90 percent, the bioassay test shall be restarted with new fish and shall continue as soon as practical until an acceptable test is completed (i.e., control fish survival rate is 90 percent or greater).

5.2. Chronic Toxicity

5.2.1. Compliance Monitoring

5.2.1.1. **Sampling.** The Discharger shall collect 24-hour composite effluent samples at Monitoring Location EFF-002 for critical life stage toxicity testing as indicated below. For toxicity tests requiring renewals, the Discharger shall collect 24-hour composite samples on consecutive or alternating days.

5.2.1.2. **Test Species.** The test species shall be fathead minnow (*Pimephales promelas*) unless a more sensitive species is identified in accordance with MRP, Appendix E-1. The Discharger shall conduct chronic toxicity species sensitivity screening as required in Appendix E-1. Upon completion of the chronic toxicity screening, the most sensitive species shall be the species that exhibits the highest percent effect. The Executive Officer may temporarily designate the next most sensitive species available of those listed in MRP Tables AE-1 and AE-2 as the “most sensitive species” if testing a particular species proves unworkable (e.g., the discharger encounters unresolvable test interference or cannot secure a reliable supply of test organisms). The Executive Officer will specify a temporary designation of the most sensitive species in writing.

5.2.1.3. **Frequency.** The Discharger shall monitor chronic toxicity as specified below:

5.2.1.3.1. **Routine Monitoring.** The Discharger shall conduct routine monitoring once per quarter at the Instream Waste Concentration (IWC) set forth in section 4.1.2 of the Order. If the Discharger fails to comply with the chronic toxicity requirements of the Order and this MRP or has a chronic toxicity test result of “fail” at the IWC, the routine monitoring frequency shall revert to once per month. The Discharger shall continue routine monitoring during any Toxicity Reduction Evaluation (TRE) consistent with MRP section 5.2.3.7.

5.2.1.3.2 **MMEL Compliance Tests and TRE Determination.** If any routine monitoring test result is “fail,” the Discharger shall conduct at least one and at most two MMEL compliance tests. The results of these tests shall be used to determine if a TRE is necessary according to the process shown in Appendix E-3. The Discharger shall initiate these tests within the same calendar month as the failed routine monitoring test. (For the purposes of MMEL compliance tests, the “calendar month” shall begin on

the calendar day that the failed routine monitoring test was initiated. The "calendar month" shall end on the day before the corresponding day of the following month, or on the last day of the following month if it has no corresponding day [e.g., January 31 through February 28]).

5.2.1.3.2.1. If the first MMEL compliance test result is "pass," then the Discharger shall conduct a second MMEL compliance test. If the first MMEL compliance test result is "fail," that result constitutes an MMEL violation and a second MMEL compliance test is not required. If any of the failed tests were also an MDEL violation, the discharger shall conduct a TRE (see MRP § 5.2.3).

5.2.1.3.2.2. If the second MMEL compliance test result is "pass," then the Discharger shall return to routine monitoring as described in MRP section 5.2.1.3.1. (See Appendix E-5, Toxicity Reduction Evaluation Process Flowchart.) If the second MMEL compliance Test result is "fail," that result constitutes an MMEL violation. If any of the failed tests were also an MDEL violation, the discharger shall conduct a TRE (see MRP § 5.2.3).

5.2.1.3.2.3. If the Discharger cannot conduct an MMEL compliance test because not enough effluent is available to test, the Discharger shall return to routine monitoring as soon as enough effluent is available.

5.2.1.4. **Methodology.** Sample collection, handling, and preservation shall be in accordance with U.S. EPA protocols. Bioassays shall be conducted in compliance with the most recently promulgated test methods, as shown in Appendix E-2. These are *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms*, currently 1st edition (EPA/600/R-95/136); *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms*, currently 3rd edition (EPA-821-R-02-014); and *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, currently 4th edition (EPA-821-R-02-013). If these protocols prove unworkable, the Executive Officer and the Environmental Laboratory Accreditation Program may grant exceptions in writing upon the Discharger's request with justification.

Chronic toxicity shall be evaluated using the Test of Significant Toxicity (TST) as described in Toxicity Provisions section III.B.3. The selected test concentrations shall include the IWC. The TST shall be conducted using the IWC sample and a control as described in Toxicity Provisions section III.B.3. Test sample pH may be controlled to the level of the effluent sample as received by the laboratory prior to being salted up. A result of "fail" indicates toxicity at the IWC.

If the Discharger demonstrates that specific identifiable substances in the discharge are rapidly rendered harmless upon discharge to the receiving water, compliance with the chronic toxicity limit may be determined after test samples are adjusted to remove the influence of those substances. The adjustment shall not remove the influence of other substances. Written acknowledgement that the Executive Officer concurs with the Discharger's demonstration must be obtained prior to any such adjustment.

5.2.2. **Reporting.** The Discharger shall provide toxicity test results with self-monitoring reports and shall include the following, at a minimum, for each test:

5.2.2.1. Sample date.

5.2.2.2. Test initiation date.

5.2.2.3. Test species.

5.2.2.4. End point values for the control and IWC sample (e.g., number of young, growth rate, percent survival). For routine monitoring and MMEL compliance tests, the Discharger shall report the results as either "pass" or "fail," and the percent effect at the IWC for each endpoint.

5.2.2.5. End point values for each replicate of the control and IWC sample (e.g., number of young, growth rate, percent survival).

5.2.2.6. Available water quality measurements for each test (e.g., pH, dissolved oxygen, temperature, conductivity, hardness, salinity, ammonia).

5.2.3. **Toxicity Reduction Evaluation (TRE)**

5.2.3.1. The Discharger shall prepare a generic TRE work plan within 90 days of the effective date of this Order to be ready to respond to toxicity events. The Discharger shall review and update the generic work plan as necessary so it remains current and applicable to the discharge and discharge facilities.

5.2.3.2. Within 30 days of the following circumstances, the Discharger shall submit a TRE work plan that shall be the generic work plan revised as appropriate for the particular toxicity observed. The circumstances triggering a TRE are as follows:

5.2.3.2.1. The Discharger has any combination of two or more MDEL or MMEL violations within a single calendar month or two successive calendar months; or

5.2.3.2.2. The Discharger violates the MDEL or MMEL during a calendar month, there is no effluent available to test in the following calendar month, and the Executive Officer requires a TRE;

5.2.3.3. Within 30 days of submitting the TRE work plan, the Discharger shall initiate a TRE in accordance with the TRE work plan. The TRE shall be specific to the discharge and be in accordance with current technical guidance and reference materials, including U.S. EPA guidance materials. The Discharger shall conduct the TRE as a tiered evaluation as summarized below:

5.2.3.3.1. Tier 1 shall consist of basic data collection (routine monitoring, additional routine monitoring, and MMEL compliance tests);

5.2.3.3.2. Tier 2 shall consist of evaluating treatment processes, including operational practices and process chemicals;

5.2.3.3.3. Tier 3 shall consist of a toxicity identification evaluation (TIE) to identify the substance or combination of substances causing the observed toxicity. The Discharger shall employ all reasonable efforts using currently available TIE methodologies;

5.2.3.3.4. Tier 4 shall consist of a toxicity source evaluation;

5.2.3.3.5. Tier 5 shall consist of a toxicity control evaluation that considers alternative strategies, including treatment process modifications, to reduce or eliminate the toxic substances from the discharge; and

5.2.3.3.6. Tier 6 shall consist of implementing all reasonable toxicity control measures, and follow-up monitoring and confirmation of implementation success.

5.2.3.4. The Discharger may end the TRE at any stage if monitoring finds there is no longer consistent toxicity (i.e., two consecutive test results of “pass”).

5.2.3.5. The Executive Officer may authorize the Discharger to end a TRE if the Discharger documents that it has exhausted all reasonable efforts to identify the cause of the toxicity.

5.2.3.6. Many recommended TRE elements parallel required or recommended efforts related to source control, pollution prevention, and stormwater control programs. TRE efforts should be coordinated with such efforts. To prevent duplication of efforts, evidence of complying with requirements or recommended efforts of such programs may be acceptable to demonstrate compliance with TRE requirements.

5.2.3.7. The routine monitoring frequency shall be a minimum of two tests per calendar year at the IWC when the Discharger is conducting toxicity testing as part of a TRE during that calendar year. The Discharger must return to the routine monitoring frequency specified in MRP section 5.2.1.3.1 at the conclusion of the TRE or one year after the initiation of the TRE, whichever occurs sooner. TRE triggers are set forth below.

Table E-8. Toxicity Reduction Evaluation (TRE) Triggers

Monitoring Type and Frequency	Triggers	TRE Required?
Routine and MMEL compliance monitoring, less than monthly frequency	Violation of MDEL or MMEL in a calendar month, AND No discharge during the following calendar month	EO may require TRE
Routine and MMEL compliance monitoring	Any combination of two or more MDEL or MMEL violations in a single calendar month or successive calendar months	TRE is required

6. RECEIVING WATER MONITORING

The Discharger shall continue to participate in the Regional Monitoring Program, which collects data on pollutants and toxicity in San Francisco Bay water, sediment, and biota. The Discharger shall also monitor receiving water at Monitoring Locations RSW-002 and RSW-003 as follows:

Table E-9. Receiving Water Monitoring Locations RSW-002 and RSW-003

Parameter	Units	Sample Type	Minimum Sampling Frequency
pH	s.u	Grab	1/Quarter
Temperature	°F	Grab	1/Quarter
Dissolved Oxygen	mg/L	Grab	1/Quarter
Sulfides	mg/L	Grab	1/Quarter
Total Ammonia, as N	mg/L	Grab	1/Quarter
Un-ionized Ammonia	mg/L	Grab	1/Quarter
Salinity	ppt	Grab	1/Quarter
Hardness	mg/L	Grab	1/Quarter
Standard Observations [1]	—	—	1/Quarter

Footnote:

[1] Standard observations are listed in Attachment G section III.C.1. Precipitation shall be monitored at Monitoring Location R-1 once per day during storms and reported in units of inches.

7. REPORTING REQUIREMENTS

7.1. General Monitoring and Reporting Requirements. The Discharger shall comply with all Standard Provisions (Attachments D, G, and S) related to monitoring, reporting, and recordkeeping.

7.2. Self-Monitoring Reports (SMRs)

7.2.1. **SMR Format.** The Discharger shall electronically submit SMRs using the State Water Board's California Integrated Water Quality System (CIWQS) Program website (waterboards.ca.gov/water_issues/programs/ciwqs). The CIWQS

website will provide additional information for SMR submittal in the event of a planned service interruption for electronic submittal.

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

7.2.2.1. **Monthly SMRs** — Monthly SMRs shall be due the first day of the second month after the monthly monitoring period. Each SMR shall contain the applicable items described in Provision 6.3.2 (Effluent Characterization Study and Report) of this Order, Attachment D section 5.2, and Attachment G section 5.3. Each SMR shall include all new monitoring results obtained since the last SMR was submitted. If the Discharger monitors any pollutant more frequently than required by this Order, the Discharger shall include the results of such monitoring in the calculations and reporting for the SMR.

7.2.2.2. **Annual SMR** — Annual SMRs shall be due February 1 each year, covering the previous calendar year. The annual SMR shall contain the applicable items described in Provisions 6.3.2 (Effluent Characterization Study and Report) and 6.3.4.5 (Annual Selenium Load) of this Order, and Attachment G section 5.3.1.6.

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

Table E-10. CIWQS Reporting

Parameter	Method of Reporting: EDF/CDF data upload	Parameter
All parameters identified in influent, effluent, and receiving water monitoring tables (except Dissolved Oxygen and Temperature)	Required for all results	—
Dissolved Oxygen, Temperature	Required for monthly maximum and minimum results only [1]	Discharger may use this method for all results or keep records
Antimony, Arsenic, Beryllium, Cadmium, Chromium, Copper, Cyanide, Lead, Mercury, Nickel, Selenium, Silver, Thallium, Zinc, Dioxins & Furans (by U.S. EPA Method 1613), Other Pollutants (by U.S. EPA Methods 601, 602, 608, 610, 614, 624, and 625)	Required for all results [2]	—
Analytical Method	Not required (Discharger may select “data unavailable”) [1]	—
Collection Time, Analysis Time	Not required	—

Footnotes:

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

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

The Discharger shall arrange all reported data in a tabular format and summarize data to clearly illustrate whether the Facility is operating in compliance with effluent limitations. The Discharger is not required to duplicate the submittal of data entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format, the Discharger shall electronically submit the data in a tabular format as an attachment.

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

Table E-11. Monitoring Periods

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period
Continuous/D	Order effective date	All times
1/Day	Order effective date	Any 24-hour period that reasonably represents a calendar day for sampling purposes (e.g., beginning at midnight and continuing through 11:59 p.m.)
1/Week	First Sunday following or on Order effective date	Sunday through Saturday
1/Month	First day of calendar month following or on Order effective date	First day of calendar month through last day of calendar month
1/Quarter	Closest January 1, April 1, July 1, or October 1 before or after Order effective date [1]	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31
1/Year	Closest January 1 before or after Order effective date [1]	January 1 through December 31
2/Year	Closest May 1 or November 1 before or after Order effective date [1]	November 1 through April 30 (typical wet season) May 1 through October 31 (typical dry season)

Footnote:

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

7.2.5. **RL and MDL Reporting.** The Discharger shall report with each sample result the Reporting Level (RL) and Method Detection Limit (MDL) as determined by the procedure in 40 C.F.R. part 136. The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

7.2.5.1. Sample results greater than or equal to the RL shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).

7.2.5.2. Sample results less than the RL, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.

For purposes of data collection, the Discharger shall require the laboratory to write the estimated chemical concentration next to DNQ. The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (± a percentage of the reported value), numerical ranges (low to high), or any other means the laboratory considers appropriate.

7.2.5.3. Sample results less than the laboratory's MDL shall be reported as "Not Detected", or ND.

7.2.5.4. The Discharger shall instruct laboratories to establish calibration standards so that the minimum level (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.

7.2.6. **Compliance Determination.** Compliance with effluent limitations shall be determined using sample reporting protocols defined above, in the Fact Sheet, and in Attachments A, D, and G. For purposes of reporting and administrative enforcement by the Regional Water Board and State Water Board, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of the pollutant in the monitoring sample is greater than the effluent limitation and, if applicable, greater than or equal to the RL.

7.3. Discharge Monitoring Reports (DMRs). DMRs are U.S. EPA reporting requirements. The Discharger shall electronically certify and submit DMRs together with SMRs using Electronic Self-Monitoring Reports module eSMR 2.5 or the latest upgraded version. Electronic DMR submittal shall be in addition to electronic SMR submittal. Information about electronic DMR submittal is available at the DMR website (waterboards.ca.gov/water_issues/programs/discharge_monitoring).

APPENDIX E-1

CHRONIC TOXICITY DEFINITION OF TERMS AND SCREENING PHASE REQUIREMENTS

1. Definition of Terms

1.1. Continuous Discharger. Discharger that discharges without interruption throughout its operating hours, except for infrequent shutdowns for maintenance, process changes, or other similar activities, and that discharges throughout the calendar year.

1.2. Non-Continuous Discharger. Discharger that does not discharge in a continuous manner or does not discharge throughout the calendar year (e.g., intermittent and seasonal dischargers).

2. Chronic Toxicity Species Sensitivity Screening

2.1. The Discharger shall perform species sensitivity screening as specified in Toxicity Provisions section III.C.2:

2.1.1. The Discharger shall conduct species sensitivity screening and submit a technical report that identifies the most sensitive test species within 18 months of the effective date of this Order, whichever is latest, if the Discharger has not previously conducted a species sensitivity screening as specified in Toxicity Provisions section III.C.2.

2.1.2. The Discharger shall conduct a species sensitivity screening and submit a technical report that identifies the most sensitive test species with the application for permit reissuance. Alternatively, the Discharger may provide species sensitivity screening results from a previous sensitive species screening conducted within the 15 years before the expiration date of this Order if that sensitive species screening was conducted as specified in Toxicity Provisions section III.C.2.

2.1.3. The Discharger shall conduct species sensitivity screening and submit a technical report that identifies the most sensitive test species no later than 18 months after any significant change in the nature of the effluent discharged due to changes in sources or treatment, except those changes resulting from reductions in pollutant concentrations attributable to source control efforts.

2.2. Species sensitivity screening shall, at a minimum, reflect the following elements:

2.2.1 Test species specified in Appendix E-2, attached, and protocols referenced in those tables. Test species shall be Tier I unless those species are unavailable. In such cases, the Executive Officer may approve a Tier II test species.

2.2.2. Continuous Dischargers: four sets of tests, one in each calendar quarter of a calendar year.

Non-continuous Dischargers: at least two sets of tests, one in each calendar quarter with at least 15 days of discharge, unless the Discharger discharges in only one quarter of a calendar year; in that case, both sets of testing shall occur during the same calendar quarter. Testing in a specific species sensitivity screening can be conducted using effluent that is not discharged into surface waters (e.g., effluent discharged onto land because of a summer prohibition on discharges into surface waters) as long as the effluent tested is representative of the effluent that will be discharged to surface waters.

2.2.3. Appropriate controls as required by the applicable U.S. EPA test method for the selected test species.

2.2.4. Tests conducted at a waste concentration of 10 percent or the IWC, whichever represents a higher concentration of effluent. Alternatively, the Executive Officer may specify a higher waste concentration if needed to increase the likelihood that potential effects might be observed.

2.3. The Discharger shall submit a species sensitivity screening proposal at least 30 days prior to initiating any species sensitivity screening. The proposal shall address each of the elements listed above.

2.4. The most sensitive species shall be the species exhibiting the highest percent effect.

APPENDIX E-2: SUMMARY OF TOXICITY TEST SPECIES REQUIREMENTS

Table AE-1. West Coast Marine Chronic Toxicity Test Species and Methods

Species	Scientific Name	Tier	Effect	Test Duration	Reference
Giant kelp	*Macrocystis pyrifera*	I	Percent germination; germ tube length	48 hours	1
Red Abalone	*Haliotis rufescens*	I	Larval development	48 hours	1
Oyster Mussel	*Crassostrea gigas* *Mytilus sp.*	I	Larval development	48 hours	1
Purple Urchin Sand dollar	*Strongylocentrotus purpuratus* *Dendraster excentricus*	I	Percent fertilization or larval development	1 hour or 72 hours	1
Shrimp	*Americamysis bahia*	II	Percent survival; growth	7 days	2
Topsmelt	*Atherinops affinis*	I	Percent survival; growth	7 days	1
Silverside	*Menidia beryllina*	II	Larval growth rate; percent survival	7 days	2

Toxicity Test References:

1. Short-term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to West Coast Marine and Estuarine Organisms. EPA/600/R-95/136. August 1995.
2 Short-term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to Marine and Estuarine Organisms. EPA/821/R-02/014. October 2002.

Table AE-2. Freshwater Chronic Toxicity Test Species and Method

Species	Scientific Name	Tier	Effect	Test Duration	Reference
Fathead minnow	*Pimephales promelas*	I	Survival; growth rate	7 days	1
Water flea	*Ceriodaphnia dubia*	I	Survival; number of young	7 days	1
Green Alga	*Selenastrum capricornutum*	I	Final cell density	4 days	1

Toxicity Test Reference:

1. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, fourth Edition Chronic manual (EPA-821-R-02-013, October 2002).

Table AE-3. Toxicity Test Requirements for Species Sensitivity Screening

Requirements	Discharges to Marine or Estuarine Water (San Francisco Bay) [1]	Discharges to Freshwater [1]
Taxonomic diversity	1 plant 1 invertebrate 1 fish	1 plant 1 invertebrate 1 fish
Screening Requirement	A total of 3 Marine and/or Freshwater species from Table AE-1 and Table AE-2	3 Freshwater species from Table AE-2[2]

Footnotes:

[1] (a) "Marine" refers to receiving water salinities greater than 1.0 parts per thousand (ppt) at least 95 percent of the time during a normal water year.

(b) "Freshwater" refers to receiving water with salinities less than 1.0 ppt at least 95 percent of the time during a normal water year.

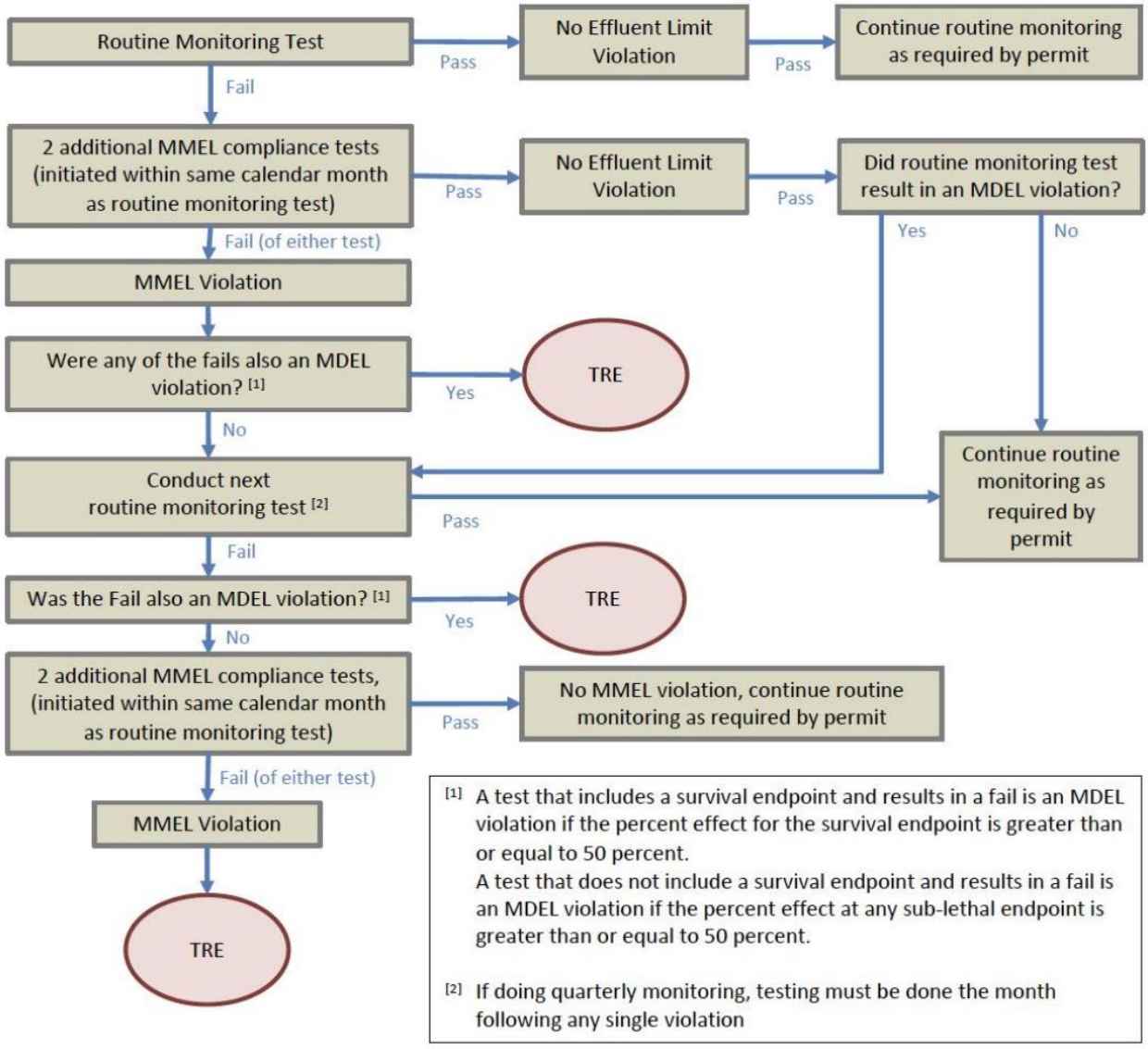
(c) "Estuarine" refers to all other cases (i.e., when receiving water salinity is above 1.0 less than 95 percent of the time and below 1.0 less than 95% of the time).

[2] The freshwater species may be substituted with a marine species if:

(a) The salinity of the effluent is above 1 ppt greater than 95 percent of the time, or

(b) The ionic strength (TDS or conductivity) of the effluent at the IWC is documented to be toxic to the test species.

APPENDIX E-3: TOXICITY REDUCTION EVALUATION PROCESS FLOWCHART ROUTINE MONITORING



ATTACHMENT F – FACT SHEET

CONTENTS

TABLES

ATTACHMENT F – FACT SHEET

This Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order. As described in section 2.2 of this Order, the Regional Water Board incorporates this Fact Sheet as findings supporting the issuance of this Order.

1. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

Table F-1. Facility Information

WDID	2 071051001
CIWQS Place ID	255284
Discharger	Phillips 66 Company
Facility Name	Rodeo Renewable Energy Complex (formerly San Francisco Refinery)
Facility Address	1380 San Pablo Avenue Rodeo, CA 94572 Contra Costa County
Facility Contact, Title, and Phone	John Carroll, Environmental Specialist, (510) 245-4677
Authorized Person to Sign and Submit Reports	Jennifer Ahlskog, Environmental Team Lead, jennifer.m.ahlskog@p66.com
Mailing Address	Same as Facility Address
Billing Address	Same as Facility Address
Facility Type	Industrial Organic Chemicals Facility (renewable fuels production)
Major or Minor Facility	Major
Water Quality Threat	1
Complexity	A
Pretreatment Program	N/A
Recycling Requirements	No
Mercury and PCBs Requirements	NPDES Permit CA0038849
Nutrients Requirements	N/A
Hydraulic Capacity	10 MGD (7,000 GPM, peak hydraulic capacity)
Permitted Flow	Discharge Point 002: 9.1 MGD (reported maximum daily flow) Discharge Point 003: 63 MGD (reported maximum daily flow)
Average Facility Flow	Discharge Point 002: 2.0 MGD (projected daily average flow) Discharge Point 003: 25 MGD (projected daily average flow)
Watershed	San Pablo Basin
Receiving Water	San Pablo Bay
Receiving Water Type	Estuarine

1.1. Phillips 66 Company (Discharger) owns and operates the Rodeo Renewable Energy Complex, formerly the San Francisco Refinery (Facility). Attachment B provides maps of the area around the Facility and the discharge points. For the

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

1.2. The Discharger is regulated pursuant to National Pollutant Discharge Elimination System (NPDES) Permit CA0005053. The Discharger was previously subject to Order R2-2016-0044 (previous order). The Discharger filed a Report of Waste Discharge and submitted an application for reissuance of its Waste Discharge Requirements (WDRs) and NPDES permit on April 5, 2021. The Discharger submitted a revised Report of Waste Discharge for its renewable fuels operations on September 25, 2023.

1.3. The Discharger is authorized to discharge subject to the WDRs in this Order at the discharge locations described in Table 1 of this Order. Regulations in 40 C.F.R. section 122.46 limit the duration of NPDES permits to a fixed term not to exceed five years. Accordingly, this Order limits the effective period for the discharge authorization. Pursuant to 40 C.F.R. section 122.6(d) and California Code of Regulations, title 23, section 2235.4, the terms and conditions of an expired permit are automatically continued pending reissuance of the permit if the Discharger complies with all requirements for continuation of expired permits.

1.4. The discharge is also regulated under NPDES Permit CA0038849, which establish requirements on mercury and polychlorinated biphenyls (PCBs) from wastewater discharges to San Francisco Bay. This Order does not affect that permit.

2. FACILITY DESCRIPTION

2.1. Wastewater Treatment and Control. The Facility processes up to 80,000 barrels per day (bpd) of renewable feedstock (crop-based oils, rendered fats, and other biological oils) into renewable diesel fuel, renewable components for blending with other transportation fuels, and renewable fuel gas. The Facility also receives, blends, and ships gasoline and gasoline blends. The Facility discharges to San Pablo Bay via three outfalls: Discharge Points 002, 003, and 004, further described in Fact Sheet sections 2.1.1 through 2.1.3, below.

The Facility previously refined approximately 84,000 bpd of crude oil. In April 2021, the Facility also began refining soybean oil into renewable diesel at Unit 250. The Discharger began reducing crude throughput at the Facility in September 2023 and ceased all crude refining in December 2023. The Discharger completed construction of a new renewable feedstock pretreatment unit, called the Feed Pre-Treatment Unit (PTU), during the first quarter 2024, and plans to commence processing renewable feedstock at the PTU at the end of the first quarter 2024.

2.1.1. **Wastewater Treatment Plant Effluent (Discharge Point 002).** Discharge Point 002 discharges treated process wastewater; boiler blowdown; cooling tower blowdown; sanitary wastewater; sour water stripper bottoms; effluent from

fats, oils, and greases (FOG) pretreatment (discussed below); stormwater runoff from refinery process areas; and groundwater remediation water. Periodically, the Discharger also directs water from process area fire equipment monitoring and fire hydrant testing to the wastewater treatment plant. Attachment C provides a wastewater process flow diagram for the Facility and its wastewater treatment plant.

The wastewater collection system transports process wastewater (except wastewater from the lower tank farm), refinery process area stormwater, and sanitary wastewater to a splitter box. Wastewater flows from the splitter box and lower tank farm to dry and wet weather sumps, then is then pumped to equalization and storage tanks, from which it flows by gravity to the treatment plant. If wastewater or stormwater volumes exceed the pumping capacity of the wet weather sumps, equalization tanks, or both, excess wastewater overflows to the primary and main basins. When flows return to normal, wastewater in the primary and main basins is drained back to the wet weather sump and pumped to the equalization tanks.

Selenium-containing process wastewater is pretreated by non-phenolic and phenolic sour water strippers, which produce effluent known as stripped sour water. Stripped sour water has historically been further pretreated at the Selenium Removal Plant before flowing to the splitter box because it contained most of the selenium in the Facility's wastewater. Renewable feedstocks are expected to contain much less selenium than the crude oil the Facility previously refined, so the Discharger plans to shut down the Selenium Removal Plant once operational experience shows it is no longer needed. (This would not be an unauthorized bypass if the Discharger complies with Provision 6.3.4.7.) The Discharger expects to shut down the Selenium Removal Plant within the first year of refining only renewable feedstocks.

PTU effluent is high in FOG and chemical oxygen demand (COD) and is pretreated by evaporation and dissolved air flotation (DAF) processes at a new FOG Recovery Unit. Effluent from the FOG Recovery Unit is routed upstream of the biological treatment units (discussed further below), bypassing the splitter box.

Wastewater flows from the equalization tanks to an American Petroleum Institute oil-water separator that removes most oil and solids. Removed oil is transferred to an oil recovery system, and solids are transferred to a collection tank. Oil-water separator effluent flows to a flash-mixing chamber, where primary and secondary coagulants may be added, then to DAF units that remove remaining oil and solids. The DAF units float flocculated solids and oil and mechanically remove them from the water surface. The Facility centrifuges settled and floated solids and oils from the oil-water separator and DAF units, and sends them to offsite facilities for disposal.

Wastewater then flows to a biological treatment system, where it is aerated in two parallel aeration tanks. Biological and inert solids are then settled out in two parallel clarifiers. The settled solids are either returned to the aeration tanks or removed from the biological treatment system as waste depending on sludge age and influent wastewater flow.

The discharger currently adds powdered activated carbon (PAC) to the aeration tanks to enhance removal of toxic organic pollutants. Settled PAC is either returned to the aeration tanks or removed from the biological treatment system with the settled solids; a portion of the settled PAC may also be routed to a wet air regeneration system. Similar to selenium, renewable feedstocks are expected to contain much lower levels of toxic organic pollutants than the crude oil the Facility previously refined, so the Discharger plans to discontinue PAC addition once operational experience shows it is no longer needed. The Discharger expects to cease PAC addition within the first year of refining only renewable feedstocks.

Biologically treated wastewater is treated by sand filters, then routed by gravity to the offshore diffuser sump. From there, it is disinfected using sodium hypochlorite, dechlorinated using sodium bisulfite, and pumped to Discharge Point 002, a 144-foot-long deepwater diffuser approximately 1,500 feet offshore along the Marine Terminal causeway. The diffuser has six pairs of opposite-facing 4-inch-diameter ports spaced 24 feet apart, oriented 90 degrees to the direction of flow. Treated wastewater is disinfected using sodium hypochlorite and dechlorinated using sodium bisulfite before discharge.

The treatment plant has a design flow of about 10 million gallons per day (MGD). During the term of the previous order, the plant treated a maximum daily flow of about 9.1 MGD and an average daily flow of 2.7 MGD. The average daily dry-weather flow rate for renewable feedstocks refining is expected to be about 2.0 MGD.

2.1.2. **Once-Through Cooling Water (Discharge Point 003).** Discharge Point 003 primarily discharges once-through non-contact cooling water. In addition, it discharges neutralized demineralizer water and stormwater runoff from non-industrial and undeveloped areas of the refinery, sections of Interstate 80, San Pablo Avenue (Highway 40), adjacent parking lots and paved areas, and residential portions of Rodeo. These additional non-cooling water flows are less than two percent of the Discharge Point 003 discharge. The Facility uses potable water as a substitute or supplement for cooling water if necessary due to loss of saltwater pump flow or maintenance work on the saltwater cooling system. Under such circumstances, the Discharger dechlorinates the cooling water before discharge. The Discharger can also chlorinate cooling water before use, if necessary; however, the chlorination equipment is not currently in use.

The cooling water intake structure is located at the base of the Marine Terminal causeway and consists of four intake bays with 30-inch diameter T-shaped intake pipes covered by 3/32-inch mesh wedgewire screens that reduce impingement and entrainment of aquatic life. Five pumps are capable of withdrawing the design maximum combined intake flow of approximately 70 MGD from San Pablo Bay. Typically, at most four pumps operate at one time. The maximum and average inflows at the intake structure as measured at Monitoring Location INF-001 from August 2018 to August 2023 were 49 and 30 MGD, respectively. The water withdrawn is used exclusively for cooling.

Cooling water discharges are conveyed across the Facility and under San Pablo Avenue through a 36-inch pipe that daylights into an open splitter-box. Cooling water flows from the splitter-box in two streams: one to an open channel (Ditch #6) and the other to a large, shallow retention basin known as the Effluent Safety Basin. Ditch #6 goes around the perimeter of the Effluent Safety Basin. Cooling water in the basin flows across the basin and down a short rock weir before rejoining the open channel flow. This configuration reduces the discharge temperature. Moreover, in case of a spill or another type of release, all flow from the splitter box can be directed to the Effluent Safety Basin for containment. Discharge Point 003 is an open channel outfall located on the shoreline about 20 meters beyond the confluence of the Effluent Safety Basin and Ditch #6, about 2,500 feet south of the base of the Marine Terminal Complex causeway.

2.1.3 **Stormwater (Discharge Point 004).** Discharge Point 004 discharges stormwater from the Marine Terminal Complex, including the wharf and access road causeway, directly to San Pablo Bay by sheet flow to notches in the surrounding curb. This stormwater does not come into contact with waste, intermediate, or finished materials. Discharge Point 004 also discharges fire equipment monitoring and fire hydrant testing water during annual safety testing. Steam and, potentially, condensate are discharged from steam traps on insulated pipelines along the Marine Terminal Complex causeway. Infrequent discharges of boom boat wash-off water, wash water used to remove bird feces from the open paved areas of the Marine Terminal causeway, and algae removal water from the boat launch ramp also occur when necessary. The Discharger has developed and implements a Stormwater Pollution Prevention Plan and Best Management Practices as required by Provision 6.3.4.2 and described in Fact Sheet section 6.3.4.2.

2.2. Discharge Points and Receiving Waters. The Facility discharges wastewater treatment plant effluent, once-through cooling water, and stormwater from Discharge Points 002, 003, and 004 to San Pablo Bay, a water of the United States within the San Pablo Basin watershed. See Fact Sheet sections 2.1.1 through 2.1.3, above.

2.3. Previous Requirements and Monitoring Data. The tables below present the previous order's effluent limitations and representative monitoring data from

August 2018 through August 2023, when the Facility operated as a petroleum refinery. Effluent limitations and data for Discharge Points 002, 003, and 004 are shown in Tables F-2 through F-4, below:

Table F-2. Previous Limitations and Monitoring Data, Discharge Point 002

Parameter	Units	Average Monthly Limit	Maximum Daily Limit	Other Limits	Long-term Average	Highest Daily Discharge
Biochemical Oxygen Demand, 5-day @ 20°C (BOD_5)	lbs/day	910	1,600	—	ND<5.1 (mg/L)	1,043
Total Suspended Solids (TSS)	lbs/day	730	1,100	—	44	7,188
Chemical Oxygen Demand (COD)	lbs/day	6,300	12,000	—	692	5,426
Ammonia, Total (as N)	lbs/day	500	1,100	—	0.50	87
Chlorine, Total Residual	mg/L	—	—	0.0 [1]	ND<0.050	1.65
Chromium, Total	lbs/day	7.7	22	—	0.095	0.14
Chromium (VI)	lbs/day	0.63	1.4	—	0.011	0.14
Oil and Grease	lbs/day	260	500	—	ND<1.3 (mg/L)	490
pH	s.u.	—	—	6.0 – 9.0 [2]	6.8	6.1 – 8.7
Phenolic Compounds (4AAP)	lbs/day	5.9	12	—	ND<2.0 (µg/L)	1.8
Sulfide	lbs/day	4.8	11	—	ND<0.044 (mg/L)	5.1
Copper, Total Recoverable	µg/L	48	120	—	2.7	63
Cyanide, Total	µg/L	21	42	—	5.5	16
Dioxin—TEQ	µg/L	1.4E-8	2.8E-8	—	ND<1.3E-9	1.2E-7 [3]
Heptachlor	µg/L	0.0019	0.0039	—	ND<0.00080	ND<0.00080
Selenium	kg/day	—	0.47	—	0.21	0.45
Acute Toxicity	% Survival	—	—	90 (11-sample median) 70 (11-sample 90th percentile)	100 99	100 85
Chronic Toxicity	TUc	—	10	—	ND<2.5	ND<2.5
Enterococcus Bacteria	MPN/100 mL	—	—	130 (monthly geometric mean)	ND<10	30

Parameter	Units	Average Monthly Limit	Maximum Daily Limit	Other Limits	Long-term Average	Highest Daily Discharge
Total Coliform Bacteria	MPN/100 mL	—	—	240 (monthly median) 10,000 (single sample)	ND<18 ND<18	180 3,500

Footnotes:

[1] The total residual chlorine limit was an instantaneous maximum.

[2] pH limits were an instantaneous minimum of 6.0 and an instantaneous maximum of 9.0.

[3] This TEQ value was calculated based on a single estimated (i.e., J-flagged or DNQ) congener detection and thus was not an effluent limit violation.

Table F-3. Previous Limitations and Monitoring Data, Discharge Point 003

Parameter	Units	Average Monthly Limit	Maximum Daily Limit	Other Limits	Long-term Average	Highest Daily Discharge
Chlorine, Total Residual	mg/L	—	—	0.0 [1]	ND<0.050	1.2
Temperature	°F	110	—	—	91	114
pH	s.u.	—	—	6.5 – 8.5 [2]	8.0	7.8 – 8.3
Total Organic Carbon (TOC)	mg/L	5.0	—	—	2.4	4.3
Copper, Total Recoverable	µg/L	6.1	11	—	2.8	8.2
Nickel, Total Recoverable	µg/L	12	22	—	4.8	13
Benzo(a)anthracene	µg/L	0.049	0.098	—	ND<0.050	ND<0.050
Chrysene	µg/L	0.049	0.098	—	ND<0.050	ND<0.050

Footnotes:

[1] The total residual chlorine limit was an instantaneous maximum that applied only when the Facility chlorinated once-through cooling water.

[2] pH limits were an instantaneous minimum of 6.5 and an instantaneous maximum of 8.5.

Table F-4. Previous Limitations and Monitoring Data, Discharge Point 004

Parameter	Units	Average Monthly Limit	Maximum Daily Limit	Other Limits	Long-term Average	Highest Daily Discharge
Total Organic Carbon (TOC)	mg/L	—	110	—	12	29
Oil and Grease	mg/L	—	15	—	ND<5.0	5.6
pH	s.u.	—	—	6.5 – 8.5 [2]	8.0	7.8 – 8.5
Visible Oil	—	—	—	None observed	None observed	
Visible Color	—	—	—	None observed	None observed	
BOD_5	mg/L	26	48	—	Not monitored [3]	
TSS	mg/L	21	33	—	Not monitored [3]	
COD	mg/L	180	360	—	Not monitored [3]	

Parameter	Units	Average Monthly Limit	Maximum Daily Limit	Other Limits	Long-term Average	Highest Daily Discharge
Oil and Grease	mg/L	8.0	15	—	Not monitored [3]	
Phenolic Compounds	mg/L	0.17	0.35	—	Not monitored [3]	
Chromium, Total	mg/L	0.21	0.60	—	Not monitored [3]	
Chromium (VI)	mg/L	0.028	0.062	—	Not monitored [3]	

Footnotes:

[1] The total residual chlorine limit was an instantaneous maximum that applied only when the Facility chlorinated once-through cooling water.

[2] pH limits were an instantaneous minimum of 6.5 and an instantaneous maximum of 8.5.

[3] These limits were never triggered by an exceedance of the TOC or oil and grease maximum daily limit so these parameters were never monitored.

2.4. Compliance Summary

2.4.1. **Discharge Point 002.** During the previous order term, the Discharger violated the enterococcus, chlorine, and TSS effluent limits at Discharge Point 002 as listed below:

Table F-5. Numeric Violations – Discharge Point 002

Violation Date	Limitation Violated	Units	Effluent Limit	Reported Value
05/31/17	Enterococcus, Monthly Geometric Mean	MPN/100 ML	130	170
7/8/18	Chlorine, Total Residual, Instantaneous Maximum	mg/L	0.0	1.14
8/15/18	Chlorine, Instantaneous Maximum	mg/L	0.0	1.42
10/11/18	Chlorine, Instantaneous Maximum	mg/L	0.0	1.65
11/25/18	Chlorine, Instantaneous Maximum	mg/L	0.0	0.74
2/14/19	TSS, Daily Maximum	lbs/day	2,400 [1]	7,200

Footnote:

[1] Daily maximum effluent limit of 1,100 lbs/day adjusted by Contaminated Runoff Effluent Limitation Allocations per section IV.A.1.a of the previous order.

The May 31, 2017, enterococcus violation was caused by the Discharger temporarily relocating the chlorine injection location to a point upstream of the sand filters while it repaired corrosion at the permanent chlorine injection location just downstream of the discharge pump. The Discharger completed repairs on June 5, 2017, and the enterococcus violation was not repeated.

The chlorine violations from July 8 through November 25, 2018, were caused by operational errors and equipment failures. The Regional Water Board issued Administrative Civil Liability (ACL) Order R2-2019-1017, which also addressed contemporaneous chlorine violations at Discharge Point 003, as discussed in Fact Sheet section 2.4.2, below. The ACL order imposed a $80,000 penalty.

The February 14, 2019, TSS violation occurred during an unauthorized discharge of 8.5 MG of partially treated wastewater. Consecutive intense storms during the first half of February 2019 caused particulate matter to flow through the biological treatment units and clog the sand media filters. The Discharger then bypassed the filters to maintain flow through the treatment plant. The Discharger's 9-million-gallon equalization storage tank T-130 had been out of service since 2016. The Discharger could have prevented the bypass if it had returned tank T-130 to service in a timely manner. The Regional Water Board issued ACL Order R2-2020-1027, imposing a $285,000 penalty. As of January 31, 2020, the Discharger has returned tank T-130 to service.

2.4.2. **Discharge Point 003.** During the previous order term, the Discharger violated the copper and chlorine effluent limits at Discharge Point 003 as listed below:

Table F-6. Numeric Violations – Discharge Point 003

Violation Date	Parameter Violated	Units	Effluent Limit	Reported Value
2/28/17	Copper, Monthly Average	µg/L	6.1	7.1
9/28/18	Chlorine, Instantaneous Maximum	mg/L	0.0	0.44
9/29/18	Chlorine, Instantaneous Maximum	mg/L	0.0	1.2
10/3/18	Chlorine, Instantaneous Maximum	mg/L	0.0	0.34
10/4/18	Chlorine, Instantaneous Maximum	mg/L	0.0	1.1
10/14/22	Chlorine, Instantaneous Maximum	mg/L	0.0	0.088

The February 28, 2017, monthly average copper violation resulted from two copper samples collected on February 1 and 28, 2017. The February 1 sample exceeded the monthly average limit; however, the Discharger did not receive and review the result until February 28. The Discharger began daily copper monitoring that day, as the previous order required; that sample also exceeded the monthly average limit. Daily copper monitoring continued until March 20, 2017, when the discharge returned to compliance with the monthly average limit. No cause was identified. This violation has not been repeated.

The chlorine violations on September 28 and 29, and October 3 and 4, 2018, occurred while the Discharger repaired a leak from the once-through cooling system discharge line. While repairing the line, the Discharger replaced the usual 30 MGD saltwater cooling water with 4 MGD of potable water. The chlorine limit was exceeded five times for periods ranging from 30 to 90 minutes. The maximum detections from each day are shown in Table F-6. These violations were caused by failure to follow standard operating procedures, inadequate standard operating procedures for dechlorination of potable water, and equipment malfunction (the sodium bisulfite drip line clogged due to crystallization). ACL Order R2-2019-1017 addressed these violations (see Fact Sheet § 2.4.1 above).

The October 14, 2022, chlorine violation also occurred while the Discharger was using potable replacement cooling water. That violation was caused by the

sodium bisulfite container running dry, which Facility personnel did not notice until chlorine was detected in the cooling water effluent. The Discharger immediately added sodium bisulfite and sampled to confirm that the effluent was dechlorinated. The Discharger has since revised its practices to add an hourly check of the bisulfite container to its wastewater operators' standard rounds when using potable water for cooling water, updated its operating procedures, and trained all wastewater treatment operators in the new procedures. Enforcement for this violation is pending.

2.4.3. **Discharge Point 004.** During the previous order term, the Discharger did not violate effluent limits at Discharge Point 004.

2.4.4. **Marine Terminal Unauthorized Discharges.** The Discharger had several minor discharges of chlorinated water or hydrocarbons from the Marine Terminal and an out-of-service discharge sump in 2022, as listed below:

Table F-7: Petroleum Product and Chlorinated Water Discharges in 2022

Date	Material	Volume (Gallons)	Discharge Location and Cause
February 7, 2022	Hydrocarbon (gasoline)	<1.0	Line 101 at Marine Terminal; threaded connection between twin seal valve and nipple corroded.
May 25, 2022	Hydrocarbon (diesel range)	7.0	Line 161 at Marine Terminal; fillet weld connecting pipe and wear pad failed.
May 25, 2022	EBMUD water (cooling water)	375	E-001 sump; sump overflowed (not labelled out-of-service in field or on drawings).
June 20, 2022	Hydrocarbon (diesel)	2.3	Line 121 at the Marine Terminal; pressure-containing pipe wrap failed.
August 30, 2022	EBMUD water (potable)	<1	Potable water line at Marine Terminal; threaded connection on potable water line failed.
September 15, 2022	Hydrocarbon (gas oil)	<1	Line 142 at the Marine Terminal; sampling manifold piping beneath line insulation corroded.
October 19, 2022	EBMUD water (firewater)	440	E-001 sump; sump overflowed (upstream sump connected to E-001 sump instead of to process sewer).

The Regional Water Board required a technical report from the Discharger under CWC section 13383 regarding the condition of its Marine Terminal and related piping, including any deficiencies, and a schedule for corrective actions (*Water Code Section 13383 Order Requiring Submittal of Information on Marine Terminal Piping*, March 17, 2023). The Discharger submitted the required report (*Marine Terminal Piping and E-001 Status Report*, April 28, 2023), which reported having identified and corrected 10 deficiencies by replacing about 2,500 feet of pipe and permanently removing two lines from service. The Discharger also reported fully isolating the EFF-001 sump by plugging upstream

piping, redirecting flows to the refinery process wastewater sewer, and labelling upstream piping as out of service both in the field and on associated drawings.

2.5. Sea Level Rise. According to the Discharger's February 1, 2022, *Vulnerability Assessment and Adaptation Strategies* report, sea level rise could affect the Effluent Safety Basin and supporting drainage networks, the former PG&E Outfall ditch, and portions of the Marine Terminal Area (MTA). The Effluent Safety Basin area includes Discharge Point 003, groundwater monitoring or extraction wells, and portions of San Pablo Avenue. The Discharger's *Long-Term Flood Protection Report* (Trihydro Corp., June 23, 2021), maintained in accordance with WDR Order R2-2005-0042, is updated every 5 years. It includes assessment of current and projected flood and groundwater inundation risk based on recent sea level rise modeling data. It also includes adaptation strategies. The Discharger uses this report to verify that capital improvements are not planned for areas potentially threated by sea level rise or incorporate engineering controls to address anticipated flood risks. The Discharger does not currently plan any capital improvements in at-risk areas.

2.6. Planned Changes. The Discharger made significant changes in 2023 and 2024, including constructing the PTU and FOG Recovery Unit, and a new sulfur treatment unit, and ceasing to operate or idling several existing process units. These changes are reflected in Fact Sheet section 2.1 and the process flow diagram in Attachment C. The Discharger has not reported any further planned changes in its permit reissuance application.

3. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in this Order are based on the requirements and authorities described in this section.

3.1. Legal Authorities. This Order serves as WDRs pursuant to California Water Code article 4, chapter 4, division 7 (commencing with § 13260). This Order is also issued pursuant to federal Clean Water Act (CWA) section 402 and implementing regulations adopted by the U.S. EPA, and Water Code chapter 5.5, division 7 (commencing with § 13370). It serves as an NPDES permit authorizing the Discharger to discharge into waters of the United States at the discharge locations described in Table 1 subject to the WDRs in this Order.

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

3.3. State and Federal Laws, Regulations, Policies, and Plans

3.3.1. **Water Quality Control Plan.** The Regional Water Board adopted the *Water Quality Control Plan for the San Francisco Bay Basin* (Basin Plan), which designates beneficial uses, establishes water quality objectives, and contains

implementation programs and policies to achieve those objectives for all waters addressed through the plan. Requirements in this Order implement the Basin Plan. In addition, this Order implements State Water Board Resolution 88-63, which established State Policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal and domestic supply. Because of the marine influence on San Francisco Bay, total dissolved solids exceed 3,000 mg/L; therefore, San Francisco Bay meets an exception to State Water Board Resolution 88-63. Therefore, the beneficial uses applicable to San Pablo Bay are listed below:

Table F-8. Beneficial Uses

Discharge Points	Receiving Water	Beneficial Uses
002, 003, and 004	San Pablo Bay	Industrial Service Supply (IND) Ocean, Commercial and Sport Fishing (COMM) Shellfish Harvesting (SHELL) Estuarine Habitat (EST) Fish Migration (MIGR) Preservation of Rare and Endangered Species (RARE) Fish Spawning (SPWN) Wildlife Habitat (WILD) Water Contact Recreation (REC1) Non-Contact Water Recreation (REC2) Navigation (NAV)

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

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

3.3.4. **Bacteria Objectives.** The State Water Board adopted the *Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of*

California – Part 3, Bacteria Provisions and a Water Quality Standards Variance Policy on August 7, 2018, and it became effective on March 22, 2019. This plan establishes *Enterococcus* bacteria water quality objectives and related implementation provisions for discharges to marine and estuarine waters that support the water contact recreation beneficial use.

3.3.5. **Sediment Quality.** The State Water Board adopted the *Water Quality Control Plan for Enclosed Bays and Estuaries – Part 1, Sediment Quality* on September 16, 2008, and it became effective on August 25, 2009. The State Water Board adopted amendments to the plan on June 5, 2018, that became effective on March 11, 2019. This plan establishes sediment quality objectives and related implementation provisions for specifically defined sediments in most bays and estuaries.

3.3.6 **Toxicity Provisions.** The State Water Board adopted the *State Policy for Water Quality Control: Toxicity Provisions* (Toxicity Provisions) on October 5, 2021. U.S. EPA approved the Toxicity Provisions on May 1, 2023. Toxicity Provisions sections II.C.1 and II.C.2 establish numeric chronic and acute toxicity objectives that apply to all inland surface waters, enclosed bays, and estuaries in the State with aquatic life beneficial uses. The Toxicity Provisions include related implementation provisions and require that compliance with the chronic toxicity water quality objectives be assessed using U.S. EPA's Test of Significant Toxicity (TST) (U.S. EPA, *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* [EPA/833-R-10-003], June 2010).

3.3.7. **Thermal Plan.** The State Water Board adopted the *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California* (Thermal Plan) on January 7, 1971, and amended this plan on September 18, 1975. This plan contains temperature objectives for surface waters. Under the Thermal Plan, the cooling water discharge from Discharge Point 003 is considered an existing discharge of elevated temperature waste to an enclosed bay because the discharge began before State Water Board adoption of the Thermal Plan. Requirements of this Order implement the Thermal Plan.

3.3.8 **Antidegradation Policy.** Federal regulations at 40 C.F.R. section 131.12 require that state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy through State Water Board Resolution 68-16, *Statement of Policy with Respect to Maintaining High Quality of Waters in California*, which incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. Permitted discharges must

be consistent with the antidegradation provisions of 40 C.F.R. section 131.12 and State Water Board Resolution 68-16.

3.3.9. **Anti-Backsliding Requirements.** CWA sections 402(o) and 303(d)(4) and 40 C.F.R. section 122.44(l) restrict backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed.

3.3.10. **Endangered Species Act Requirements.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code §§ 2050 to 2097) or Federal Endangered Species Act (16 U.S.C.A. §§ 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the State, including protecting rare, threatened, or endangered species. The Discharger is responsible for meeting all applicable Endangered Species Act requirements.

3.3.11 **Clean Water Act Section 316(b) Rule (Cooling Water Intakes).** Clean Water Act Section 316(b) and 40 C.F.R. part 125 subparts I and J require that the location, design, construction, and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impact. U.S. EPA amended the rule effective October 15, 2014. Point source dischargers with a design intake flow of 2 MGD or greater that use at least 25 percent of the water withdrawn from waters of the United States exclusively for cooling are subject to these requirements.

3.4. Impaired Water Bodies on CWA section 303(d) List. On May 11, 2022, U.S. EPA approved a revised list of impaired waters pursuant to CWA section 303(d), which requires identification of specific water bodies where it is expected that water quality standards will not be met after implementation of technology-based effluent limitations on point sources. Where it has not done so already, the Regional Water Board plans to adopt total maximum daily loads (TMDLs) for pollutants on the 303(d) list. TMDLs establish wasteload allocations for point sources and load allocations for nonpoint sources and are established to achieve water quality standards.

San Pablo Bay is listed as impaired by mercury, PCBs, dioxin-like PCBs, selenium, chlordane, DDT, dieldrin, dioxin compounds, furan compounds, and invasive species. On February 12, 2008, U.S. EPA approved a TMDL for mercury in San Francisco Bay. On March 29, 2010, U.S. EPA approved a TMDL for PCBs in San Francisco Bay. On August 23, 2016, U.S. EPA approved a selenium TMDL for North San Francisco Bay (including San Pablo Bay). The TMDLs for mercury and PCBs are implemented through NPDES Permit CA0038849. This Order implements the selenium TMDL as it applies to the Discharger. According to the Discharger's Effluent Characterization Study Final Report, submitted with the

Report of Waste Discharge, chlordane, DDT, and dieldrin have not been detected in Facility discharges. This Order contains dioxin-TEQ effluent limitations to ensure that dioxins and furans in effluent are kept below water quality objectives. Facility discharges are not a source of invasive species.

4. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

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

4.1. Discharge Prohibitions

4.1.1. Prohibitions in this Order

4.1.1.1. **Discharge Prohibition 3.1 (No discharge other than as described):** This prohibition is based on 40 C.F.R. section 122.21(a) and Water Code section 13260, which require filing an application and Report of Waste Discharge before a discharge can occur. Discharges not described in the application and Report of Waste Discharge, and subsequently in this Order, are prohibited.

4.1.1.2. **Discharge Prohibition 3.2 (Minimum initial dilution ratio of 35:1 at Discharge Point 002):** This prohibition is based on Basin Plan Discharge Prohibition 1, which prohibits discharges that do not receive a minimum initial dilution of at least 10:1 (10 parts total receiving water after mixing with 1 part effluent). Furthermore, this Order allows a 10:1 dilution credit in the calculation of some WQBELs and a 35:1 dilution credit in the calculation of the ammonia WQBELs. These WQBELs would not be protective of water quality if the discharge did not actually achieve at least 35:1 dilution.

4.1.1.3. **Discharge Prohibition 3.3 (No bypass):** This prohibition is based on 40 C.F.R. section 122.41(m) (see Attachment D § 1.7).

4.1.2 Basin Plan Discharge Prohibitions. Basin Plan Discharge Prohibition 1 (Basin Plan Table 4-1) prohibits the discharge of any wastewater that has particular characteristics of concern to beneficial uses at any point where the discharge does not receive an initial dilution of at least 10:1 to limit exposure to undiluted wastes or abnormal discharges caused by the malfunction or upset of a treatment process. Discharges from Discharge Point 001 receive at least 10:1 initial dilution; however, this Order allows discharge of once-through cooling water from Discharge Point 003 and stormwater from Discharge Point 004

without a minimum initial dilution of at least 10:1. Discharge Prohibition 1 does not apply to the discharges from Discharge Points 003 and 004 because it is primarily intended to buffer the effects of continuous discharges and temporary treatment plant upsets or malfunctions. Furthermore, these discharges meet the requirements of Basin Plan section 4.2, which allows exceptions to Discharge Prohibition 1 when an inordinate burden would be placed on the Discharger relative to the beneficial uses protected and an equivalent level of environmental protection can be achieved by alternate means. This Order grants exceptions to Discharge Prohibition 1 as explained below.

4.1.2.1 **Discharge Point 003.** Discharge Prohibition 1 does not apply to the discharge of cooling water from Discharge Point 003 because the discharged wastewater is essentially identical to the receiving water and does not have particular characteristics of concern. The Discharger withdraws water from San Pablo Bay and uses it primarily to cool portions of the flare gas recovery and vapor recovery compressor systems. The Discharger then discharges the cooling water to San Pablo Bay at a higher temperature than when withdrawn but otherwise unaltered. Providing dilution at Discharge Point 003 would not dilute any chemical constituents in the cooling water. Occasionally, the Discharger supplements cooling water withdrawn from San Pablo Bay with potable water; however, potable water makes up less than 5 percent of the discharge in such cases. In addition, the effluent is dechlorinated in such cases, as described in Fact Sheet section 2.1.2.

The discharge from Discharge Point 003 would qualify for an exception to Discharge Prohibition 1 if that prohibition applied. Construction of a deep-water outfall to provide dilution would be inordinately burdensome relative to the beneficial uses protected based on estimates of cost and likely project complexity (*Response to Request for Additional Information for Permit Reissuance,* ConocoPhillips*,* November 12, 2010). Also, in case of a spill or upset, cooling water would be contained in the cooling water channel and the retention basin described in Fact Sheet section 2.1.2, thus providing an equivalent level of environmental protection by preventing discharge.

4.1.2.2 **Discharge Point 004.** Discharge Prohibition 1 does not apply to the discharge of stormwater from Discharge Point 004 because stormwater flows are not continuous and are not subject to plant upset or malfunction. Furthermore, this discharge would qualify for an exception to Discharge Prohibition 1 if the prohibition applied. Providing for deep-water discharge to achieve an initial dilution of at least 10:1 would be impractical for a stormwater discharge and thus would constitute an inordinate burden. In addition, Provision 6.3.4.2.2 of this Order requires the Discharger to provide an equivalent level of environmental protection by developing and implementing Best Management Practices reflecting best industry practice considering technological availability and economic practicability to comply with effluent limits and minimize pollutants in stormwater.

4.1.2.3. **Other Basin Plan Discharge Prohibitions.** Discharges from the Facility are also subject to Basin Plan Discharge Prohibitions 8 and 13.

4.1.2.3.1 Basin Plan Discharge Prohibition 8 prohibits discharge of floating oil or other materials to protect wildlife. This Order establishes effluent limits for oil and grease and requires the Discharger to conduct acute toxicity tests that ensure that treated effluent does not threaten wildlife.

4.1.2.3.2 Basin Plan Discharge Prohibition 13 prohibits discharge of oil except in accordance with waste discharge requirements. This Order establishes waste discharge requirements for oil and grease.

4.2. Technology-Based Effluent Limitations

4.2.1. **Scope and Authority.** CWA section 301(b) and 40 C.F.R. section 122.44(a) require that permits include applicable technology-based limitations based on several levels of control:

- 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. Conventional pollutants include 5-day biochemical oxygen demand (BOD_5), total suspended solids (TSS), pH, and oil and grease.

- 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.

- Best conventional control technology (BCT) represents the control from existing industrial point sources of conventional pollutants. 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.

- New source performance standards (NSPS) represent the best available demonstrated control technology standards for new sources. The intent of NSPS guidelines is to set limitations that represent state-of-the-art treatment technology for new sources.

The CWA requires U.S. EPA to develop effluent limitations, guidelines, and standards representing application of BPT, BAT, BCT, and NSPS. U.S. EPA has done so for many types of industries but not for renewable fuels facilities.

CWA section 402(a)(1) and 40 C.F.R. section 125.3 authorize the use of best professional judgment (BPJ) to derive technology-based effluent limitations on a

case-by-case basis whenever U.S. EPA has not promulgated effluent limitations, guidelines, and standards. When using BPJ to impose technology-based effluent limits based on BPT and BCT control, 40 C.F.R. section 125.3 requires the Regional Water Board to consider the factors set forth in 40 C.F.R. subsections 125.3(c)(2)(i)-(ii) and 125.3(d).

Basin Plan Table 4-2 contains technology-based effluent limitations for pH, residual chlorine, settleable matter, and oil and grease that apply to all treatment facilities. It also contains effluent limitations for biochemical oxygen demand (BOD) and TSS that the Regional Water Board may, at its option, apply to non-sewage discharges if doing so does not preempt any of U.S. EPA's effluent limitations, guidelines, and standards.

Table F-9. Selected Effluent Limits from Basin Plan Table 4-2

Parameter	Monthly Average	Weekly Average	Instantaneous
BOD	30 mg/L	45 mg/L	—
TSS [2]	30 mg/L	45 mg/L	—
Chlorine, Total Residual	—	—	0.0 mg/L
Oil and Grease	10 mg/L	20 mg/L	—
pH	—	—	6.0 – 9.0

4.2.2. Technology-Based Effluent Limitations – Discharge Point 002

4.2.2.1. **BOD and TSS.** The BOD and TSS effluent limitations are based on Basin Plan Table 4-2 and Best Professional Judgement. These limits are consistent with limits for similar facilities. In accordance with 40 C.F.R. section 125.3(d), the following factors were considered when developing these limitations:

Table F-10. Factors Considered Pursuant to 40 C.F.R. Section 125.3(d)

Factors	Considerations
Cost relative to benefits	For Discharge Point 002, the costs of imposing these limitations are reasonable relative to the benefits of treating the wastewater. The Discharger can readily comply based on the *Rodeo Renewed Project Existing WWT (PACT) Re-Rating Study* (Worley, December 8, 2020) it prepared for its planned treatment processes. For Discharge Point 004, there will be no additional costs because the Discharger does not need to change its stormwater operations.

Factors	Considerations
Comparison of cost and level of reduction of such pollutants to that of publicly owned treatment plants	For Discharge Point 002, the treatment system cost and pollutant reduction are comparable to those for a publicly-owned treatment works because this Order imposes the same BOD and TSS effluent limits as the Regional Water Board imposes on publicly-owned treatment works (based on Basin Plan Table 4-2). Like publicly-owned treatment works, the Discharger will rely primarily on settling and biological treatment. For Discharge Point 004, there will be no additional costs for the stormwater discharge because the Discharger does not need to change its stormwater operations.
Age of equipment and facilities	The limitations can be met with existing and newly installed equipment and facilities.
Process employed	According to the *Rodeo Renewed Project Existing WWT (PACT) Re-Rating Study* (Worley, December 8, 2020), the limitations for Discharge Point 002 can be met with the treatment processes the Discharger proposes to employ. No new processes will be needed for Discharge Point 004.
Engineering aspects of various controls	According to the *Rodeo Renewed Project Existing WWT (PACT) Re-Rating Study* (Worley, December 8, 2020), the limitations can be met with the treatment processes the Discharger proposes to employ for Discharge Point 002. No new processes will be needed for Discharge Point 004.
Process changes	For the new industrial processes, the Discharger proposes new pretreatment processes capable of reducing influent concentrations to the wastewater treatment plant such that it can meet the limitations at Discharge Point 002. No other process changes are necessary to meet these limitations. No new processes will be needed for Discharge Point 004.
Non-water quality environmental impacts	For Discharge Point 002, the modifications to the wastewater treatment processes will not increase or cause significant new non-water quality impacts, such as air emissions or solid waste generation. Ceasing some crude refining processes will reduce or eliminate some environmental impacts. For Discharge Point 004, no changes are anticipated.

4.2.2.2. **Chlorine.** The instantaneous maximum effluent limitation for residual chlorine of 0.0 mg/L is based on Basin Plan Table 4-2.

4.2.2.3. **pH.** The pH effluent limitations are based on Basin Plan Table 4-2.

4.2.2.4. **Oil and Grease.** The oil and grease effluent limitations are based on Basin Plan Table 4-2.

4.2.3. **Technology-Based Effluent Limitations – Discharge Point 003.** Because the Facility will continue using its once-through cooling system for its operations, this Order retains the technology-based effluent limitations for Discharge

Point 003 from the previous order. The average monthly limitation for total organic carbon (TOC) is based on 40 C.F.R. sections 419.22(d) and 419.23(e). The instantaneous effluent limitation of 0.0 mg/L for total residual chlorine is based on Basin Plan Table 4-2.

4.2.4. **Technology-Based Effluent Limitations – Discharge Point 004.** Because the Facility will continue to receive and ship gasoline and gasoline blendstocks at the Marine Terminal, this Order retains the previous order's technology-based effluent limitations for Discharge Point 004. These limitations are based on best professional judgement using 40 C.F.R. section 419, subpart B, as guidance, except for the pH limitations, which are based on Basin Plan section 3.3.9. The stormwater discharges are also subject to the provisions of Attachment S, which constitute narrative technology-based effluent limits. These requirements reflect BAT and BCT as CWA section 301(b) requires. When developing these numeric and narrative limitations, the factors listed in 40 C.F.R. section 125.3(d) were considered, as discussed in Table F-10.

4.3. Water Quality-Based Effluent Limitations

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

4.3.2. **Beneficial Uses and Water Quality Criteria and Objectives.** Fact Sheet section 3.3.1 identifies the beneficial uses of the receiving waters. Water quality criteria and objectives to protect these beneficial uses are described below.

4.3.2.1. **Basin Plan Objectives.** The Basin Plan specifies numerous water quality objectives, including numeric objectives for 10 priority pollutants, polycyclic aromatic hydrocarbons (PAHs), and un-ionized ammonia, and a narrative objective for bioaccumulation.

4.3.2.1.1. **Un-ionized Ammonia.** Basin Plan section 3.3.20 contains water quality objectives for un-ionized ammonia of 0.025 mg/L (as nitrogen) as an annual median and 0.16 mg/L (as nitrogen) as a maximum for Central San Francisco Bay and upstream waters, including San Pablo Bay. Effluent and receiving water data are available for total ammonia, but not un-ionized ammonia because (1) sampling and laboratory methods are unavailable to analyze for un-ionized ammonia, and (2) the fraction of total ammonia that exists in the toxic un-ionized form depends on pH, salinity, and temperature of the receiving water.

To translate the un-ionized ammonia objectives into total ammonia criteria, pH, salinity, and temperature data were obtained from Monitoring Location RSW-003, as described in Attachment E, the Monitoring and Reporting Program (MRP). The un-ionized fraction of total ammonia was calculated using on the following equations (U.S. EPA, 1989, Ambient Water Quality Criteria for Ammonia (Saltwater)–1989, EPA Publication 440/5-88-004):

$$\text{Fraction of un-ionized ammonia} = (1 + 10^{[pK - pH]})^{-1}$$

Where, for salinity less than 1 ppt:

pK = 0.09018 + 2729.92/T
T = temperature in Kelvin

Where, for salinity greater than 10 ppt:

pK = 9.245 + 0.116*(I) + 0.0324*(298-T) + 0.0415*(P)/T
I = molal ionic strength of saltwater = 19.9273*(S)/(1000-1.005109*S)
S = salinity (parts per thousand)
T = temperature in Kelvin
P = pressure (one atmosphere)

The 90th percentile and median un-ionized ammonia fractions were then used to express the maximum and annual average un-ionized objectives as acute and chronic total ammonia criteria. This approach is consistent with U.S. EPA guidance on translating dissolved metal water quality objectives to total recoverable metal water quality criteria (*The Metals Translator: Guidance for Calculating a Total Recoverable Limit from a Dissolved Criterion,* EPA Publication 823-B96-007, 1996). The equivalent acute and chronic total ammonia criteria are 4.9 mg/L and 1.1 mg/L (as nitrogen).

4.3.2.1.2. **Dioxin-TEQ.** The narrative bioaccumulation objective (Basin Plan § 3.3.2) states, “Many pollutants can accumulate on particulates, in sediments, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.”

Because it is the consensus of the scientific community that dioxins and furans associate with particulates, accumulate in sediments, and bioaccumulate in the fatty tissue of fish and other organisms, the Basin Plan's narrative bioaccumulation water quality objective applies to these pollutants. Elevated levels of dioxins and furans in San Francisco Bay fish tissue demonstrate that the narrative bioaccumulation water quality objective is not being met. U.S. EPA has therefore placed San Pablo Bay on its 303(d) list of receiving waters where water quality objectives are not being met after imposition of applicable technology-based requirements.

When the CTR was promulgated, U.S. EPA stated its support for the regulation of dioxin and dioxin-like compounds through the use of toxicity equivalencies (TEQs). U.S. EPA stated, "For California waters, if the discharge of dioxin or dioxin-like compounds has reasonable potential to cause or contribute to a violation of a narrative criterion, numeric water quality-based effluent limits for dioxin or dioxin-like compounds should be included in NPDES permits and should be expressed using a TEQ scheme" (Fed. Reg. Vol. 65, No. 97, pages 31695-31696, May 18, 2000). This Order uses a TEQ scheme based on a set of toxicity equivalency factors (TEFs) the World Health Organization developed in 2005, and a set of bioaccumulation equivalency factors (BEFs) U.S. EPA developed for the Great Lakes region (40 C.F.R. § 132, Appendix F) to convert the concentration of any congener of dioxin or furan into an equivalent concentration of 2,3,7,8-tetrachlorinated dibenzo-p-dioxin (2,3,7,8-TCDD). Although the 2005 World Health Organization scheme includes TEFs for dioxin-like PCBs, they are not included in this Order's TEQ scheme. The CTR has established a specific water quality criterion for PCBs, and dioxin-like PCBs are included in the analysis of total PCBs.

The CTR establishes a numeric water quality objective for 2,3,7,8-TCDD of 1.4×10^{-8} µg/L for the protection of human health when water and aquatic organisms are consumed. This CTR criterion is used as a criterion for dioxin-TEQ because dioxin-TEQ represents a toxicity-weighted concentration equivalent to 2,3,7,8 TCDD, thus translating the narrative bioaccumulation objective into a numeric criterion.

4.3.2.2. **CTR Criteria.** The CTR specifies numeric aquatic life and human health criteria for numerous priority pollutants. These criteria apply to inland surface waters and enclosed bays and estuaries. Some human health criteria are for consumption of "water and organisms" and others are for consumption of "organisms only." The criteria applicable to "organisms only" apply to San Pablo Bay because it is not a source of drinking water.

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

4.3.2.4. **Bacteria Objectives.** The *Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California – Part 3, Bacteria Provisions and a Water Quality Standards Variance Policy* establishes *Enterococcus* bacteria water quality objectives to limit cases of gastrointestinal illness from water contact recreation. The *Enterococcus* bacteria objectives apply to marine and estuarine waters.

4.3.2.5. **Sediment Quality Objectives.** The *Water Quality Control Plan for Enclosed Bays and Estuaries – Part 1, Sediment Quality* contains the following narrative water quality objectives:

4.3.2.5.1. "Pollutants in sediments shall not be present in quantities that, alone or in combination, are toxic to benthic communities in bays and estuaries of California." This objective is to be implemented by integrating three lines of evidence: sediment toxicity, benthic community condition, and sediment chemistry. The policy requires that if the Regional Water Board determines that a discharge has reasonable potential to cause or contribute to an exceedance of this objective, it is to impose the objective as a receiving water limit.

4.3.2.5.2. "Pollutants shall not be present in sediments at levels that will bioaccumulate in aquatic life to levels that are harmful to human health in bays and estuaries of California." This objective is to be implemented by a three-tiered procedure based on pollutant concentrations in sediment and fish tissue.

4.3.2.5.3. "Pollutants shall not be present in sediment at levels that alone or in combination are toxic to wildlife and resident finfish by direct exposure or bioaccumulate in aquatic life at levels that are harmful to wildlife or resident finfish by indirect exposure in bays and estuaries of California." This objective is to be implemented on a case-by-case basis, based upon an ecological risk assessment.

4.3.2.6. **Toxicity Provisions.** The Toxicity Provisions establish numeric chronic and acute toxicity objectives that apply to all inland surface waters, enclosed bays, and estuaries in the State with aquatic life beneficial uses. The chronic toxicity water quality objective is as follows:

H_o:
mean response (ambient water) ≤ 0.75 x mean response (control water)

H_a:
mean response (ambient water) > 0.75 x mean response (control water)

Where:

H_o = null hypothesis
H_a = alternative hypothesis,

0.75 = regulatory management decision criterion (i.e., 75 percent)

H_o means the ambient water is toxic when the test organism response in a bioassay is less than or equal to 75 percent of the control response; H_a means the ambient water is not toxic when the test organism response is greater than 75 percent of the control response. For example, if an average of 75 percent of bioassay test organisms or fewer survive when exposed to ambient water relative to the average number that survive when exposed to control water, the ambient water is toxic (i.e., the test result is “fail”). Conversely, if an average of more than 75 percent of bioassay test organisms survive relative to those exposed to control water, the ambient water is not toxic (i.e., the test result is “pass”).

4.3.2.7. **Temperature.** The Thermal Plan, under paragraph 4.A.(1), establishes the following narrative objective for elevated temperature waste discharges to enclosed bays, specifically including San Francisco Bay:

> Elevated temperature waste discharges shall comply with limitations necessary to assure protection of beneficial uses.

The Thermal Plan defines an “elevated temperature waste” as:

> Liquid, solid, or gaseous material including thermal waste discharged at a temperature higher than the natural temperature of receiving water….

The Thermal Plan defines “thermal waste” as”

> Cooling water and industrial process water used for the purpose of transporting waste heat.

Wastewater discharged at Discharge Point 002 does not include cooling water or process water used to transport waste heat, thus the Thermal Plan does not apply. Wastewater discharged at Discharge Point 003 is mostly cooling water used to transport waste heat, thus the Thermal Plan applies.

4.3.2.8. **Receiving Water Salinity.** Basin Plan section 4.6.2 (like the CTR and NTR) states that the salinity characteristics (i.e., freshwater vs. saltwater) of the receiving water are to be considered in determining the applicable water quality objectives. Freshwater criteria apply to discharges to waters with salinities equal to or less than one part per thousand (ppt) at least 95 percent of the time. Saltwater criteria apply to discharges to waters with salinities equal to or greater than 10 ppt at least 95 percent of the time in a normal water year. For discharges to water with salinities in between these two categories, or tidally-influenced freshwaters that support estuarine beneficial uses, the water quality objectives are the lower of the salt or freshwater criteria (the latter calculated based on ambient hardness) for each substance.

San Pablo Bay is an estuarine environment based on salinity data generated through the Regional Monitoring Program (RMP). Salinity data were collected at the Davis Point (BD40) sampling location between March 1993 and August 2001, and receiving water monitoring data at Monitoring Location RSW-003, as defined in the MRP, between September 2011 and August 2023. During that period, the average salinity was 16.7 ppt, with a range from 0 to 27 ppt. Because the salinity was between 1 and 10 ppt in 23 percent of the receiving water samples, San Pablo Bay is classified as estuarine, and the reasonable potential analysis and WQBELs are based on saltwater and freshwater water quality criteria and objectives.

4.3.2.9. **Receiving Water Hardness.** Ambient hardness values collected at the Monitoring Location RSW-003 between September 2011 and August 2023 were used to calculate freshwater objectives that are hardness-dependent. All hardness values exceeded 400 mg/L as calcium carbonate ($CaCO_3$), ranging from 570 to 12,300 mg/L. U.S. EPA recommends using a maximum hardness of 400 mg/L as $CaCO_3$ for freshwater criteria (Fed. Reg Vol 65, No. 97, page. 31692, May 18, 2000). Therefore, a hardness of 400 mg/L as $CaCO_3$ was used to calculate the water quality objectives for this Order.

4.3.2.10. **Metals Translators.** Regulations at 40 C.F.R. section 122.45(c) require effluent limitations for metals to be expressed as total recoverable metal. Since the water quality objectives for metals are typically expressed as dissolved metal, translators must be used to convert metals concentrations from dissolved to total recoverable and vice versa. The CTR contains default translators; however, site-specific conditions, such as water temperature, pH, total suspended solids, and organic carbon may affect the form of metal (dissolved, non-filterable, or otherwise) present and therefore available to cause toxicity. In general, dissolved metals are more available and more toxic to aquatic life than other forms. Site-specific translators can account for site-specific conditions, thereby preventing overly stringent or under-protective water quality objectives. This Order uses default CTR translators for all metals except copper and nickel.

For Discharge Point 002, this Order uses the site-specific copper translators set forth in Basin Plan Table 7.2.1-2 and the site-specific nickel translators from *North of Dumbarton Bridge Copper and Nickel Development and Selection of Final Translators* (Clean Estuary Partnership, March 2005). These translators are 0.38 and 0.66 for average monthly and maximum daily copper limits and 0.27 and 0.57 for average monthly and maximum daily nickel limits.

For Discharge Point 003, this Order uses site-specific copper and nickel translators from *ConocoPhillips Translator Study Report* (February 24, 2010). These translators are 0.59 and 0.84 for average monthly and maximum daily copper limits and 0.57 and 0.78 for average monthly and maximum daily nickel limits.

4.3.3. **Reasonable Potential Analysis.** Assessing whether a pollutant has reasonable potential to exceed a water quality objective is the fundamental step in determining whether a WQBELs is required. The reasonable potential analysis below applies to the discharges at Discharge Points 002 and 003. Discharge Point 004 discharges stormwater and is subject to technology-based limits as described in Fact Sheet section 4.2.4 and narrative WQBELs as set forth in Provision 6.3.4.2. These narrative requirements include implementation of best management practices in accordance with 40 C.F.R. section 122.44(k).

4.3.3.1 **Available Information.** This Order's reasonable potential analysis is based on effluent monitoring data the Discharger collected from August 2018 through August 2023 and the Discharger's September 2023 updated Report of Waste Discharge. It is also based on and ambient background data from two sources:

- The RMP's *San Francisco Bay California Toxics Rule Priority Pollutant Ambient Water Monitoring Report* (2017), which includes data collected through the RMP at the Yerba Buena RMP station (BC10) from 1993 through 2015.

- Bay Area Clean Water Agencies (BACWA) data from *San Francisco Bay Ambient Water Monitoring Interim Report* (2003) and *Ambient Water Monitoring: Final CTR Sampling Update* (2004).

The Report of Waste Discharge includes an updated description of the Facility and projected process and discharge flows and mass loadings. Mass loadings from Discharge Point 002 are based on the process flows and wastewater treatment plant design flow of 10.08 MGD; mass loadings from Discharge Point 003 are based on the maximum once-through cooling flow over the term of the previous order, 63.2 MGD.

SIP section 1.4.3 requires that background water quality data be representative of the ambient receiving water that will mix with the discharge. Accordingly, this Order uses RMP monitoring station BC10 (Yerba Buena Island) to establish background conditions for most pollutants and nearby receiving water Monitoring Location RSW-003 to establish background conditions for ammonia. The ammonia WQBELs are based on actual dilution at the edge of the initial mixing zone. Data from Monitoring Location RSW-003 best represent water quality at the edge of the initial mixing zone.

In some cases, reasonable potential cannot be determined because projected effluent data are limited or unavailable. The Monitoring and Reporting Program requires the Discharger to monitor for these constituents in its effluent using analytical methods that provide the best feasible detection limits. When additional data become available, further analysis will be conducted to determine whether numeric effluent limitations are necessary.

This Order does not contain WQBELs for constituents that do not demonstrate reasonable potential; however, Provision 6.3.2.1 requires monitoring for those pollutants. If concentrations are found to have increased significantly, Provision 6.3.2.1 requires the Discharger to investigate the source of the increase and implement remedial measures if the increase poses a threat to receiving water quality.

4.3.3.2. **Methodology.** SIP section 1.3 sets forth the methodology used to assess whether priority pollutants have reasonable potential to exceed CTR and NTR water quality objectives. Here, SIP section 1.3 is also used as guidance for dioxin-TEQ, PAHs, and ammonia.

The analysis begins with identifying the maximum effluent concentration (MEC) observed for each pollutant based on available effluent concentration data and the ambient background concentration (B). SIP section 1.4.3 states that ambient background concentrations are either the maximum ambient concentration observed or, for water quality objectives intended to protect human health, the arithmetic mean of observed concentrations. There are three triggers in determining reasonable potential:

- **Trigger 1** is activated if the maximum effluent concentration is greater than or equal to the lowest applicable water quality objective (MEC ≥ water quality objective).
- **Trigger 2** is activated if the ambient background concentration observed in the receiving water is greater than the lowest applicable water quality objective (B > water quality objective) and the pollutant is detected in any effluent sample.
- **Trigger 3** is activated if a review of other information indicates that a WQBEL is needed to protect beneficial uses.

4.3.3.3. **Discharge Point 002**

4.3.3.3.1. **Priority Pollutants, Dioxin-TEQ, PAHs, and Ammonia.** The maximum effluent concentrations, most stringent applicable water quality criteria and objectives, and ambient background concentrations used in the analysis are presented in the following table, along with the reasonable potential analysis results (yes, no, or unknown) for each pollutant. Based on this analysis, the pollutants that demonstrate reasonable potential are copper, nickel,cyanide, dioxin-TEQ, chlorodibromomethane, and ammonia.

Table F–11. Reasonable Potential Analysis – Discharge Point 002

CTR No.	Pollutant	C or Governing Criterion or Objective (µg/L)	MEC or Minimum DL (µg/L) [1][2]	B or Minimum DL (µg/L) [1][2]	RPA Result [3]
1	Antimony	4,300	0.97	1.8	No

CTR No.	Pollutant	C or Governing Criterion or Objective (µg/L)	MEC or Minimum DL (µg/L) [1][2]	B or Minimum DL (µg/L) [1][2]	RPA Result [3]
2	Arsenic	36	11	2.5	No
3	Beryllium	No Criteria	<0.090	0.22	No
4	Cadmium	7.3	1.4	0.13	No
5a	Chromium (III) [4]	644	2.0	4.4	No
5b	Chromium (VI)	11	0.70	4.4	No
6	**Copper**	**14**	**63**	**2.5**	**Yes [5]**
7	Lead	8.5	7.8	0.80	No
8	Mercury [6]	—	—	—	—
9	**Nickel**	**30**	**2.8**	**3.7**	**Yes [7]**
10	Selenium [6]	—	—	—	—
11	Silver	2.2	0.19	0.052	No
12	Thallium	6.3	<0.050	0.023	No
13	Zinc	86	14	5.1	No
14	**Cyanide**	**2.9**	**16**	**0.55**	**Yes [5]**
15	Asbestos (fibers/L)	No Criteria	—	—	U
16	2,3,7,8-TCDD	1.4E-08	<8.0E-07	1.7E-08	U
	Dioxin-TEQ	**1.4E-08**	1.2E-07	**4.1E-08**	**Yes [8]**
17	Acrolein	780	<0.81	<0.50	No
18	Acrylonitrile	0.66	<0.69	0.030	No
19	Benzene	71	<0.18	<0.050	No
20	Bromoform	360	36	<0.15	No
21	Carbon Tetrachloride	4.4	<0.16	0.060	No
22	Chlorobenzene	21,000	<0.18	<0.18	No
23	**Chlorodibromomethane**	**34**	**57**	**<0.050**	**Yes**
24	Chloroethane	No Criteria	<0.38	<0.38	U
25	2-Chloroethylvinyl ether	No Criteria	<0.83	<0.28	U
26	Chloroform	No Criteria	21	<0.19	U
27	Dichlorobromomethane	46	35	<0.050	No
28	1,1-Dichloroethane	No Criteria	<0.19	<0.050	U
29	1,2-Dichloroethane	99	<0.18	0.040	No
30	1,1-Dichloroethylene	3.2	<0.21	<0.21	No
31	1,2-Dichloropropane	39	<0.18	<0.050	No
32	1,3-Dichloropropylene	1,700	<0.46	<0.16	No
33	Ethylbenzene	29,000	<0.26	<0.26	No
34	Methyl Bromide	4,000	<0.30	<0.30	No
35	Methyl Chloride	No Criteria	0.40	<0.30	U
36	Methylene Chloride	1,600	<0.40	22	No
37	1,1,2,2-Tetrachloroethane	11	<0.15	<0.050	No
38	Tetrachloroethylene	8.9	<0.19	<0.050	No
39	Toluene	200,000	<0.19	<0.19	No
40	1,2-Trans-Dichloroethylene	140,000	<0.22	<0.22	No
41	1,1,1-Trichloroethane	No Criteria	<0.19	<0.19	U

CTR No.	Pollutant	C or Governing Criterion or Objective (µg/L)	MEC or Minimum DL (µg/L) [1][2]	B or Minimum DL (µg/L) [1][2]	RPA Result [3]
42	1,1,2-Trichloroethane	42	<0.16	<0.050	No
43	Trichloroethylene	81	<0.20	<0.20	No
44	Vinyl Chloride	525	<0.25	<0.25	No
45	2-Chlorophenol	400	<0.90	<0.70	No
46	2,4-Dichlorophenol	790	<0.90	<0.90	No
47	2,4-Dimethylphenol	2,300	<0.80	<0.80	No
48	2-Methyl- 4,6-Dinitrophenol	765	<2.0	<0.60	No
49	2,4-Dinitrophenol	14,000	<2.0	<0.70	No
50	2-Nitrophenol	No Criteria	<1.0	<0.80	U
51	4-Nitrophenol	No Criteria	<1.0	<0.50	U
52	3-Methyl 4-Chlorophenol	No Criteria	<0.80	<0.80	U
53	Pentachlorophenol	7.9	<0.60	<0.60	No
54	Phenol	4,600,000	<0.50	<0.50	No
55	2,4,6-Trichlorophenol	6.5	<2.0	<0.97	No
56	Acenaphthene	2,700	<0.020	0.0020	No
57	Acenaphthylene	No Criteria	<0.020	0.0010	U
58	Anthracene	110,000	<0.030	0.0010	No
59	Benzidine	0.00054	<5.0	<0.00030	U
60	Benzo(a)Anthracene	0.049	<0.020	0.0050	No
61	Benzo(a)Pyrene	0.049	<0.020	0.0020	No
62	Benzo(b)Fluoranthene	0.049	<0.020	0.0050	No
63	Benzo(ghi)Perylene	No Criteria	<0.050	0.0030	U
64	Benzo(k)Fluoranthene	0.049	<0.020	0.0020	No
65	Bis(2-Chloroethoxy)Methane	No Criteria	<0.90	<0.30	U
66	Bis(2-Chloroethyl)Ether	1.4	<0.90	<0.30	No
67	Bis(2-Chloroisopropyl)Ether	170,000	<0.90	<0.60	U
68	Bis(2-Ethylhexyl)Phthalate	5.9	<0.60	<0.50	No
69	4-Bromophenyl Phenyl Ether	No Criteria	<2.0	<0.23	U
70	Butylbenzyl Phthalate	5,200	<2.0	<0.70	No
71	2-Chloronaphthalene	4,300	<1.0	<0.30	No
72	4-Chlorophenyl Phenyl Ether	No Criteria	<1.5	<0.30	U
73	Chrysene	0.049	<0.020	0.0020	No
74	Dibenzo(a,h)Anthracene	0.049	<0.030	0.0010	No
75	1,2-Dichlorobenzene	17,000	<0.40	<0.27	No
76	1,3-Dichlorobenzene	2,600	<0.40	<0.18	No
77	1,4-Dichlorobenzene	2,600	<0.40	<0.18	No
78	3,3 Dichlorobenzidine	0.077	<5.0	<0.00020	No
79	Diethyl Phthalate	120,000	<0.70	<0.20	No
80	Dimethyl Phthalate	2,900,000	<0.90	<0.20	No
81	Di-n-Butyl Phthalate	12,000	<0.60	<0.50	No
82	2,4-Dinitrotoluene	9.1	<0.90	<0.27	No
83	2,6-Dinitrotoluene	No Criteria	<0.80	<0.29	U

CTR No.	Pollutant	C or Governing Criterion or Objective (µg/L)	MEC or Minimum DL (µg/L) [1][2]	B or Minimum DL (µg/L) [1][2]	RPA Result [3]
84	Di-n-Octyl Phthalate	No Criteria	<0.50	<0.38	U
85	1,2-Diphenyhydrazine	0.54	<0.70	0.0040	U
86	Fluoranthene	370	<0.030	0.011	No
87	Fluorene	14,000	<0.020	0.0020	No
88	Hexachlorobenzene	0.00077	<1.0	0.000020	No
89	Hexachlorobutadiene	50	<0.60	<0.30	No
90	Hexachlorocyclopentadiene	17,000	<0.90	<0.30	No
91	Hexachloroethane	8.9	<0.90	<0.20	No
92	Indeno(1,2,3-cd)Pyrene	0.049	<0.020	0.0040	No
93	Isophorone	600	<0.93	<0.30	No
94	Naphthalene	No Criteria	0.30	0.0090	U
95	Nitrobenzene	1,900	<0.90	<0.25	No
96	N-Nitrosodimethylamine	8.1	<0.70	<0.30	No
97	N-Nitrosodi-n-Propylamine	1.4	<0.80	<0.00020	No
98	N-Nitrosodiphenylamine	16	<0.70	<0.0010	No
99	Phenanthrene	No Criteria	<0.020	0.0060	U
100	Pyrene	11,000	0.80	0.019	No
101	1,2,4-Trichlorobenzene	No Criteria	<0.90	<0.30	U
102	Aldrin	0.00014	<0.0040	<0.0000085	U
103	Alpha-BHC	0.013	<0.0050	0.00050	No
104	Beta-BHC	0.046	<0.0040	0.00040	No
105	Gamma-BHC	0.063	<0.0040	0.0010	No
106	Delta-BHC	No Criteria	<0.0040	0.00010	U
107	Chlordane	0.00059	<0.020	0.00010	U
108	4,4'-DDT	0.00059	<0.0040	0.00020	U
109	4,4'-DDE	0.00059	<0.0040	0.0010	U
110	4,4'-DDD	0.00084	<0.0040	0.00030	No
111	Dieldrin	0.00014	<0.0040	0.00030	U
112	Alpha-Endosulfan	0.0087	<0.0040	0.00010	No
113	beta-Endosulfan	0.0087	<0.0050	0.00010	No
114	Endosulfan Sulfate	240	<0.0050	0.00010	No
115	Endrin	0.0023	<0.0050	0.000040	No
116	Endrin Aldehyde	0.81	<0.0050	<0.0050	No
117	Heptachlor	0.00021	<0.0010	0.000020	U
118	Heptachlor Epoxide	0.00011	<0.0040	0.00010	U
119-125	PCBs sum [5]	—	—	—	—
126	Toxaphene	0.00020	<0.30	<0.00000082	U
	Total PAHs	15	<0.010	0.19	No
	Total Ammonia	**1.1**	**4.4**	**0.22**	**Yes**

Footnotes:

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

[2] The MEC or ambient background concentration is “Unavailable” when there are no monitoring data for the constituent.

[3] RPA Results = Yes, if MEC ≥ WQC, B > WQC and MEC is detected, or Trigger 3
= No, if MEC and B are < WQC or all effluent data are undetected
= Unknown (U) if no criteria have been promulgated or data are insufficient.

[4] The maximum effluent and ambient background concentrations are the total chromium concentration. The chromium (III) concentrations are unknown but less than these values.

[5] Reasonable potential is based in part on Basin Plan sections 7.2.1.2 and 4.7.2.2.

[6] SIP section 1.3 excludes from its reasonable potential analysis procedure priority pollutants for which a TMDL has been developed. TMDLs have been developed for mercury and PCBs in San Francisco Bay. Mercury and PCBs from wastewater discharges are regulated by NPDES Permit CA0038849, which implements the San Francisco Bay Mercury and PCBs TMDLs. A TMDL has also been developed for selenium in North San Francisco Bay, which includes San Pablo Bay. This Order implements the North San Francisco Bay Selenium TMDL by establishing mass-based selenium limitations. See Fact Sheet section 4.3.4.2.3.

[7] The effluent nickel concentration for the Tesoro Martinez Facility in Martinez, California, a similar facility producing renewable diesel by refining renewable feedstocks, was projected to be as high as 180 µg/L, higher than the lowest water quality criterion of 30 µg/L (*Addendum: NPDES Permit No. CA0004961 Renewal Application, December 5, 2019*, Ramboll, March 12, 2021). The Regional Water Board therefore finds reasonable potential for nickel to cause or contribute to an exceedance of the water quality objective by Trigger 3.

[8] The MEC is based on an estimated (i.e., J-flagged or DNQ) result and thus can’t be reliably quantified. Reasonable potential is based on Trigger 3 because San Francisco Bay is 303(d)-listed for dioxin-TEQ and elevated levels of dioxin-TEQ are found in San Francisco Bay fish tissue.

4.3.3.3.2. **Chronic Toxicity.** Toxicity Provisions section III.C.3.c states that reasonable potential exists if any of at least four chronic toxicity tests at the IWC within five years prior to permit reissuance (1) results in a “fail” or (2) has at least a 10 percent effect. If data from these tests were not analyzed using the TST, the data must be re-analyzed using the TST. If previous tests were not conducted at the IWC, then a concentration of effluent higher than the IWC may be used. Data from older tests may also be considered. If a minimum of four chronic toxicity tests is unavailable, the Regional Water Board is to require the Discharger to conduct a minimum of four chronic toxicity tests at the IWC and analyze the data using the TST.

The Discharger’s chronic toxicity screening, conducted over the first through fourth quarter 2020, included quarterly testing on one vertebrate, one invertebrate, and one aquatic plant/algae from Table 1 of Toxicity Provisions section III.B.2. All tests at the Instream Waste Concentration (IWC) of 10 percent effluent resulted in a Pass, with a maximum percent effect of 7.5 percent (*Pimephales promelas*, survival endpoint). However, due to the complexity of the discharge, there is reasonable potential for it to cause or contribute to exceedance of the Toxicity Policy’s water quality objectives for chronic toxicity. Refinery discharges can contain many different combinations of potentially toxic pollutants in addition to those for which numeric water quality objectives have been established. Chronic toxicity WQBELs are needed to ensure that the Toxicity Policy’s water quality objectives for chronic toxicity are met in San Pablo Bay.

4.3.3.3.3. **Acute Toxicity.** During the previous order term, the Discharger monitored its effluent weekly for acute toxicity. The Discharger’s 11-sample median

was 100 percent survival for the duration of the previous order's term and its 11-sample 90th percentile was at least 85 percent, meaning it complied with its permit limits. Therefore, there is no reasonable potential for the discharge to cause or contribute to acute toxicity in the receiving water. However, this Order retains the previous order's acute toxicity limits to ensure that the Discharger continues to properly operate and maintain its treatment system and to avoid backsliding.

4.3.3.3.4. ***Enterococcus* Bacteria.** The *Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California – Part 3, Bacteria Provisions and a Water Quality Standards Variance Policy* requires *Enterococcus* bacteria effluent limitations for discharges to marine and estuarine receiving waters that support the water contact recreation (REC1) beneficial use.

4.3.3.3.5. **Total Coliform Bacteria.** Basin Plan section 4.5.5.1 requires that all NPDES permits for discharges that contain sanitary waste include the applicable effluent limitations from Basin Plan Table 4-2A. Basin Plan Table 4-2A requires total coliform effluent limitations for discharges to receiving waters with the shellfish harvesting (SHELL) beneficial use. The discharge from Discharge Point 002 includes sanitary waste and San Pablo Bay has the SHELL beneficial use (Table F-8).

4.3.3.3.6. **Temperature.** The State's Thermal Plan requires existing dischargers of elevated temperature waste to enclosed bays to comply with limitations necessary to ensure protection of beneficial uses. Wastewater discharged at Discharge Point 002 does not include elevated temperature waste as defined by the Thermal Plan. Therefore, it is not subject to Thermal Plan requirements and does not have a reasonable potential to cause or contribute to an impact on beneficial uses.

4.3.3.3.7. **Sediment Quality.** Pollutants in some receiving water sediments may be present in quantities that alone or in combination are toxic to benthic communities. The Sediment Quality Plan states that effluent limits to protect sediment quality are to be developed when: (1) a direct relationship between the discharge and degraded sediment has been established; (2) the pollutants causing degradation have been identified; and (3) the reductions in pollutant loading needed to restore sediment quality have been estimated.

However, to date there is no evidence directly linking compromised sediment conditions to the discharges subject to this Order; therefore, the Regional Water Board does not find reasonable potential for this discharge to cause or contribute to exceedances of the sediment quality objectives. Nevertheless, the Discharger continues to participate in the Regional Monitoring Program, which routinely monitors San Francisco Bay

sediment and seeks to identify stressors responsible for degraded sediment quality.

4.3.3.4. Discharge Point 003

4.3.3.4.1. Priority Pollutants, Dioxin-TEQ, PAHs, and Ammonia. The maximum effluent concentrations, most stringent applicable water quality criteria and objectives, and ambient background concentrations used in the analysis are presented in the following tables, along with the reasonable potential analysis results (yes or no) for each priority pollutant, dioxin-TEQ, PAHs, and ammonia. No pollutant analyzed below exhibits reasonable potential at Discharge Point 003.

Table F-12. Reasonable Potential Analysis – Discharge Point No. 003

CTR No.	Priority Pollutant	Lowest Criterion or Objective (µg/L)	MEC or Minimum DL (µg/L) [1][2]	B or Minimum DL (µg/L) [1][2]	Result [3]
1	Antimony	4,300	0.59	1.8	No
2	Arsenic	36	3.5	2.5	No
3	Beryllium	No Criteria	0.24	0.22	U
4	Cadmium	7.3	1.1	0.13	No
5a	Chromium (III)	644	9.5	4.4	No
5b	Chromium (VI)	11	9.5	4.4	No
6	Copper	10	8.2	2.5	No
7	Lead	8.5	3.7	0.80	No
8	Mercury	—	—	—	[4]
9	Nickel	14	13	3.7	No
10	Selenium	—	—	—	[4]
11	Silver	2.2	0.47	0.052	No
12	Thallium	6.3	<0.050	0.21	No
13	Zinc	86	65	5.1	No
14	Cyanide	2.9	<0.0020	0.52	No [5]
15	Asbestos	No Criteria	—	—	U
16	2,3,7,8-TCDD	1.4E-08	—	1.7E-08	No [6]
	Dioxin TEQ	1.4E-08	—	4.1E-08	No [6]
17	Acrolein	780	<0.81	<0.50	No
18	Acrylonitrile	0.66	<0.75	0.030	No
19	Benzene	71	<0.18	<0.050	No
20	Bromoform	360	<0.15	<0.15	No
21	Carbon Tetrachloride	4.4	<0.16	0.060	No
22	Chlorobenzene	21,000	<0.18	<0.18	No
23	Chlorodibromomethane	34	<0.17	<0.050	No
24	Chloroethane	No Criteria	<0.15	<0.38	U
25	2-Chloroethylvinyl Ether	No Criteria	<0.28	<0.28	U
26	Chloroform	No Criteria	0.63	<0.19	U

CTR No.	Priority Pollutant	Lowest Criterion or Objective (µg/L)	MEC or Minimum DL (µg/L) [1][2]	B or Minimum DL (µg/L) [1][2]	Result [3]
27	Dichlorobromomethane	46	<0.17	<0.050	No
28	1,1-Dichloroethane	No Criteria	<0.15	<0.050	U
29	1,2-Dichloroethane	99	<0.080	0.040	No
30	1,1-Dichloroethylene	3.2	<0.21	<0.21	No
31	1,2-Dichloropropane	39	<0.060	<0.050	No
32	1,3-Dichloropropylene	1,700	<0.090	<0.16	No
33	Ethylbenzene	29,000	<0.10	<0.26	No
34	Methyl Bromide	4,000	<0.13	<0.30	No
35	Methyl Chloride	No Criteria	<0.13	<0.30	U
36	Methylene Chloride (Dichloromethane)	1,600	<0.12	22	No
37	1,1,2,2-Tetrachloroethane	11	<0.15	<0.050	No
38	Tetrachloroethylene	8.85	<0.19	<0.050	No
39	Toluene	200,000	<0.19	<0.19	No
40	1,2-Trans-Dichloroethylene	140,000	<0.10	<0.22	No
41	1,1,1-Trichloroethane	No Criteria	<0.19	<0.19	U
42	1,1,2-Trichloroethane	42	<0.16	<0.050	No
43	Trichloroethylene	81	<0.20	<0.20	No
44	Vinyl Chloride	525	<0.25	<0.25	No
45	Chlorophenol	400	<0.40	<0.70	No
46	2,4-Dichlorophenol	790	<0.40	<0.90	No
47	2,4-Dimethylphenol	2,300	<0.40	<0.80	No
48	2-Methyl-4,6-Dinitrophenol	765	<0.90	<0.60	No
49	2,4-Dinitrophenol	14,000	<0.20	<0.70	No
50	2-Nitrophenol	No Criteria	<0.40	<0.80	U
51	4-Nitrophenol	No Criteria	<0.50	<0.50	U
52	3-Methyl-4-Chlorophenol	No Criteria	<0.50	<0.80	U
53	Pentachlorophenol	5.8	<0.40	<0.60	No
54	Phenol	4,600,000	1.9	<0.50	No
55	2,4,6-Trichlorophenol	6.5	<0.40	<0.97	No
56	Acenaphthene	2,700	<0.020	0.0020	No
57	Acenaphthylene	No Criteria	<0.020	0.0010	U
58	Anthracene	110,000	<0.010	0.0010	No
59	Benzidine	0.00054	<4.0	<0.00030	No
60	Benzo(a)Anthracene	0.049	<0.020	0.0050	No
61	Benzo(a)Pyrene	0.049	<0.020	0.0020	No
62	Benzo(b)Fluoranthene	0.049	<0.020	0.0050	No
63	Benzo(ghi)Perylene	No Criteria	<0.020	0.0030	U
64	Benzo(k)Fluoranthene	0.049	<0.010	0.0020	No
65	Bis(2-Chloroethoxy)Methane	No Criteria	<0.50	<0.30	U
66	Bis(2-Chloroethyl)Ether	1.4	<0.40	<0.30	No
67	Bis(2-Chloroisopropyl)Ether	170,000	<0.40	<0.60	No

CTR No.	Priority Pollutant	Lowest Criterion or Objective (µg/L)	MEC or Minimum DL (µg/L) [1][2]	B or Minimum DL (µg/L) [1][2]	Result [3]
68	Bis(2-Ethylhexyl)Phthalate	5.9	0.80	<0.50	No
69	4-Bromophenyl Phenyl Ether	No Criteria	<0.50	<0.23	U
70	Butylbenzyl Phthalate	5,200	<0.50	<0.70	No
71	2-Chloronaphthalene	4,300	<0.40	<0.30	No
72	4-Chlorophenyl Phenyl Ether	No Criteria	<0.50	<0.30	U
73	Chrysene	0.049	<0.020	0.0020	No
74	Dibenzo(a,h)Anthracene	0.049	<0.020	0.0010	No
75	1,2-Dichlorobenzene	17,000	<0.27	<0.27	No
76	1,3-Dichlorobenzene	2,600	<0.18	<0.18	No
77	1,4-Dichlorobenzene	2,600	<0.18	<0.18	No
78	3,3-Dichlorobenzidine	0.077	<5.0	<0.00020	No
79	Diethyl Phthalate	120,000	<0.50	<0.20	No
80	Dimethyl Phthalate	2,900,000	<0.50	<0.20	No
81	Di-n-Butyl Phthalate	12,000	<0.40	<0.50	No
82	2,4-Dinitrotoluene	9.1	<0.40	<0.27	No
83	2,6-Dinitrotoluene	No Criteria	<0.40	<0.29	U
84	Di-n-Octyl Phthalate	No Criteria	<0.40	<0.38	U
85	1,2-Diphenylhydrazine	0.54	<0.50	0.0040	No
86	Fluoranthene	370	<0.020	0.011	No
87	Fluorene	14,000	<0.010	0.0020	No
88	Hexachlorobenzene	0.00077	<0.40	0.000020	No
89	Hexachlorobutadiene	50	<0.40	<0.30	No
90	Hexachlorocyclopentadiene	17,000	<0.30	<0.30	No
91	Hexachloroethane	8.9	<0.40	<0.20	No
92	Indeno(1,2,3-cd) Pyrene	0.049	<0.020	0.0040	No
93	Isophorone	600	<0.50	<0.30	No
94	Naphthalene	No Criteria	<0.020	0.0090	U
95	Nitrobenzene	1,900	<0.50	<0.25	No
96	N-Nitrosodimethylamine	8.1	<0.30	<0.30	No
97	N-Nitrosodi-n-Propylamine	1.4	<0.50	<0.00020	No
98	N-Nitrosodiphenylamine	16	<0.30	<0.0010	No
99	Phenanthrene	No Criteria	<0.020	0.0060	U
100	Pyrene	11,000	<0.020	0.019	No
101	1,2,4-Trichlorobenzene	No Criteria	<0.40	<0.30	U
102	Aldrin	0.00014	<0.0020	<0.0000085	No
103	alpha-BHC	0.013	<0.0030	0.00050	No
104	beta-BHC	0.046	<0.0030	0.00040	No
105	gamma-BHC (Lindane)	0.063	<0.0030	0.0010	No
106	delta-BHC	No Criteria	<0.0030	0.00010	U
107	Chlordane	0.00059	<0.020	0.00010	No
108	4,4-DDT	0.00059	<0.0030	0.00020	No

CTR No.	Priority Pollutant	Lowest Criterion or Objective (µg/L)	MEC or Minimum DL (µg/L) [1][2]	B or Minimum DL (µg/L) [1][2]	Result [3]
109	4,4-DDE	0.00059	<0.0030	0.0010	No
110	4,4-DDD	0.00084	<0.0030	0.00030	No
111	Dieldrin	0.00014	<0.0040	0.00030	No
112	alpha-Endosulfan	0.0087	<0.0030	0.00010	No
113	beta-Endosulfan	0.0087	<0.0030	0.00010	No
114	Endosulfan Sulfate	240	<0.0030	0.00010	No
115	Endrin	0.0023	<0.0030	0.000040	No
116	Endrin Aldehyde	0.81	<0.0040	<0.0050	No
117	Heptachlor	0.00021	<0.0030	0.000020	No
118	Heptachlor Epoxide	0.00011	<0.0030	0.00010	No
119-125	PCBs sum	—	—	—	[4]
126	Toxaphene	0.00020	<0.20	0.075	No
	Total PAHs	15	<0.010	0.19	No
	Ammonia (mg/L) [7]	1.1	0.14	0.19	No

Footnotes:

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

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

[3] RPA Results = Yes, if MEC ≥ WQC, B > WQC and MEC is detected, or Trigger 3
= No, if MEC and B are < WQC or all effluent data are undetected
= U, unknown

[4] SIP section 1.3 excludes from its reasonable potential analysis procedure priority pollutants for which a TMDL has been developed. TMDLs have been developed for mercury and PCBs in San Francisco Bay and selenium in north San Francisco Bay. Mercury and PCBs from wastewater discharges are regulated under NPDES Permit CA0038849, which implements the San Francisco Bay Mercury and PCBs TMDLs. The North San Francisco Bay selenium TMDL does not apply to once-through cooling water discharges because they do not contribute a net load to North San Francisco Bay.

[5] Basin Plan section 4.7.2.2 does not require cyanide effluent limits for an industrial discharger that does not detect cyanide at a method detection limit of 1.0 µg/L or less, disinfect any portion of its effluent, or use cyanide in its industrial process. The Discharger did not detect cyanide in its once-through cooling process at a detection limit less than 1.0 µg/L; does not disinfect once-through cooling effluent; and does not use cyanide in its once-through cooling process.

[6] Effluent from Discharge Point 003 does not have reasonable potential to cause or contribute to an exceedance of the narrative bioaccumulation water quality objective with respect to dioxins and furans, thus an effluent limitation for Dioxin-TEQ is not required. Effluent from Discharge Point 003 is comprised of once-through non-contact cooling water drawn from San Pablo Bay near the Marine Terminal and less than two percent of neutralized demineralizer water and non-process area stormwater. Neither the non-contact cooling operations nor the small volume waste streams are anticipated to be sources of dioxins and furans.

[7] Total ammonia units are milligrams per liter as nitrogen.

4.3.3.4.2. **Acute and Chronic Toxicity.** There is no reasonable potential for the discharge from Discharge Point 003 to cause or contribute to an exceedance of the Toxicity Provisions' water quality objectives. The Discharger does not alter once-through cooling water in a way that could

make it more acutely or chronically toxic than when taken in from San Pablo Bay.

4.3.3.4.3. **Bacteria.** There is no reasonable potential for the discharge from Discharge Point 003 to cause or contribute to an exceedance of the Basin Plan Table 3-1 water quality objectives for total coliform or enterococcus bacteria because there is no sanitary wastewater component to this discharge.

4.3.3.4.4. **pH.** Because the discharge from Discharge Point 003 includes stormwater from areas described in Fact Sheet section 2.1.2 during storm events and a small amount of demineralizer water, there is reasonable potential for it to cause or contribute to an exceedance of the pH water quality objective established by Basin Plan section 3.3.9 of 6.5 to 8.5 standard units.

4.3.3.4.5. **Temperature.** The State's Thermal Plan requires existing dischargers of elevated temperature waste to enclosed bays to comply with limitations necessary to ensure protection of beneficial uses. Wastewater discharged at Discharge Point 003 includes elevated temperature waste as defined by the Thermal Plan. Therefore, it is subject to Thermal Plan requirements and has a reasonable potential to cause or contribute to an impact on beneficial uses.

4.3.3.4.6. **Sediment Quality.** To date there is no evidence directly linking compromised sediment conditions to the discharge from Discharge Point 003; therefore, the Regional Water Board does not find reasonable potential for this discharge to cause or contribute to exceedances of the sediment quality objectives. Nevertheless, the Discharger continues to participate in the Regional Monitoring Program, which routinely monitors San Francisco Bay sediment and seeks to identify stressors responsible for degraded sediment quality.

4.3.3.5. **Discharge Point 004.** Stormwater discharges from Discharge Point 004 are subject to the technology-based requirements discussed in Fact Sheet section 4.2.4. These requirements, including development and implementation of a Stormwater Pollution Prevention Plan, ensure that stormwater discharges will not contain pollutants that cause or contribute to exceedances of narrative or numeric water quality objectives.

4.3.4. **Water Quality-Based Effluent Limitations (WQBELs).** WQBELs were developed for the pollutants determined to have reasonable potential to cause or contribute to exceedances of water quality objectives. Except for chronic toxicity, acute toxicity, and *Enterococcus* bacteria (discussed below), the WQBEL calculations are based on the procedures in SIP section 1.4 and 40 C.F.R. section 122.44(k).

4.3.4.1. **WQBEL Expression.** NPDES regulations at 40 C.F.R. section 122.45(d) require that permit limits for industrial dischargers be expressed as maximum daily and average monthly limits, unless impracticable.

4.3.4.2. **Discharge Point 002**

4.3.4.2.1. **Dilution Credits.** Basin Plan section 4.6.1 and SIP section 1.4.2 allow dilution credits under certain circumstances. The outfall at Discharge Point 002 is designed to achieve a minimum initial dilution ratio of at least 10:1. For the previous refinery discharge, the Discharger submitted a dilution study titled *Diffuser Dilution Study in Support of NPDES Permit Renewal* (Exponent, December 11, 2015) that evaluated dilution using U.S. EPA's modeling software, Visual Plumes UM3. The dilution study concluded that the minimum initial dilution at Discharge Point 002 is at least 35:1 and would occur at the mean flow of 2.6 MGD under fall receiving water conditions during slack tide. The study evaluated various discharge rates, including mean, design maximum, and actual maximum effluent flows of 2.6, 10, and 11.5 MGD at slack tide during each calendar season. The study based its dilution estimates on the diffuser characteristics described in Fact Sheet section 2.1.1, except that the diffuser port pairs were assumed to be facing the same direction instead of opposite directions. This assumption was required by the limitations of Visual Plumes UM3 and would tend to underestimate dilution.

The results of the dilution study are still applicable to this discharge because the diffuser characteristics remain the same. Also, although the average discharge flow is projected to decrease from 2.6 to 2.0 MGD, which may reduce dilution, the estimated dilution was based on conservative assumptions that would result in underpredicting actual dilution (as described above). In addition, the minimum dilution is predicted to occur only during slack tide conditions, which occur four times per day for about three minutes each time.

4.3.4.2.1.1. **Bioaccumulative Pollutants.** For certain bioaccumulative pollutants, dilution credit is significantly restricted or denied. Specifically, these pollutants include dioxin and furan compounds, which appear on the CWA section 303(d) list for San Francisco Bay, including San Pablo Bay because, based on available data on the concentrations of these pollutants in aquatic organisms, sediment, and the water column, they impair San Francisco Bay beneficial uses. The following factors suggest

insufficient assimilative capacity in San Francisco Bay for these pollutants.

Tissue samples taken from San Francisco Bay fish show the presence of these pollutants at concentrations greater than screening levels (*Contaminant Concentrations in Fish from San Francisco Bay*, San Francisco Estuary Institute, May 1997). The results of a 1994 San Francisco Bay pilot study, presented in *Contaminated Levels in Fish Tissue from San Francisco Bay* (Regional Water Board, 1994), also show elevated levels of chemical contaminants in fish tissues. The Office of Environmental Health and Hazard Assessment completed a preliminary review of the data in the 1994 report and in December 1994 issued an interim consumption advisory covering certain fish species in San Francisco Bay due to the levels of some of these pollutants. The Office of Environmental Health and Hazard Assessment updated this advisory in a May 2011 report, *Health Advisory and Safe Eating Guidelines for San Francisco Bay Fish and Shellfish*, which still suggests insufficient assimilative capacity in San Francisco Bay for 303(d)-listed pollutants. Therefore, dilution credits are denied for bioaccumulative pollutants on the 303(d) list for which data are lacking on sources and significant uncertainty exists about how different sources contribute to bioaccumulation.

4.3.4.2.1.2. **Ammonia.** For ammonia, actual initial dilution, estimated as described in Fact Sheet section 4.3.4.2.1 above, was used to calculate effluent limits. This approach is justified because ammonia is a non-persistent pollutant that quickly disperses and degrades to a non-toxic state; thus, ammonia is unlikely to accumulate and cause cumulative toxicity.

4.3.4.2.1.3. **Other Non-Bioaccumulative Pollutants**. This Order grants a conservative dilution credit of 10:1 (D =9) for other non-bioaccumulative pollutants (excluding ammonia), including chronic toxicity. This dilution credit is based in part on Basin Plan Discharge Prohibition 1 (Basin Plan Table 4-1), which prohibits discharges with less than 10:1 dilution, SIP section 1.4.2 allows for limiting the dilution credit. The dilution credit is limited for the following reasons:

4.3.4.2.1.3.1. San Francisco Bay is a complex estuarine system with highly variable and seasonal upstream freshwater inflows and diurnal tidal saltwater inputs. SIP section 1.4.3 allows background conditions to be determined on a discharge-by-discharge or water body-by-water body basis. A water body-by-water body approach is taken here due to inherent uncertainties in characterizing ambient background conditions in a complex estuarine system on a discharge-by-discharge basis.

4.3.4.2.1.3.2. Because of the complex hydrology of San Francisco Bay, there are uncertainties in accurately determining an appropriate mixing zone. The models used to predict dilution do not consider the three-dimensional nature of San Francisco Bay currents resulting from the interaction of tidal flushes and seasonal freshwater outflows. Being heavier and colder than freshwater, ocean saltwater enters San Francisco Bay on a twice-daily tidal cycle, generally beneath the warmer freshwater that flows seaward. When these waters mix and interact, complex circulation patterns occur due to the varying densities of the fresh and ocean waters. The complex patterns occur throughout San Francisco Bay but are most prevalent in San Pablo Bay, Carquinez Strait, and Suisun Bay. The locations of this mixing and interaction change depending on the strength of each tide. Additionally, sediment loads from the Central Valley change on a long-term basis, affecting the depth of different parts of San Francisco Bay, resulting in alteration of flow patterns, mixing, and dilution at the outfall.

4.3.4.2.2. **Copper, Cyanide, Dioxin-TEQ, Chlorodibromomethane, and Ammonia.** The following table shows the WQBEL calculations for copper, cyanide, dioxin-TEQ, chlorodibromomethane for Discharge Point 002.

Table F-13. WQBEL Calculations – Discharge Point 002

Pollutant	Copper	Nickel	Cyanide	Dioxin-TEQ	Chloro dibromo methane	Ammonia
Units	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L
Basis and Criteria type	Basin Plan and CTR Aquatic Life	Basin Plan and CTR saltwater	Basin Plan and CTR Aquatic Life	Basin Plan Narrative	CTR Human Health	Basin Plan & CTR Aquatic Life (Chronic)
CTR Aquatic Life Criteria - Acute	—	74	—	—	—	1.1
CTR Aquatic Life Criteria - Chronic	—	8.2	—	—	—	—
Site-Specific Objective Criteria - Acute	9.4	—	9.4	—	—	—
Site-Specific Objective Criteria - Chronic	6.0	—	2.9	—	—	—
Water Effects Ratio (WER)	2.4	1	1	1	1	1
Lowest WQO	6.0	30	2.9	1.4E-08	34	1.1
Site Specific Translator – MDEL	0.66	0.57	—	—	—	
Site Specific Translator – AMEL	0.38	0.27	—	—	—	
Dilution Factor (D)	9	9	9	0	9	34
No. of samples per month	4	4	4	4	4	30

Pollutant	Copper	Nickel	Cyanide	Dioxin-TEQ	Chloro dibromo methane	Ammonia
Aquatic life criteria analysis required? (Y/N)	Y	Y	Y	N	N	Y
HH criteria analysis required? (Y/N)	N	N	Y	Y	Y	N
Applicable Acute WQO	14	130	9.4	—	—	—
Applicable Chronic WQO	16	30	2.9	—	—	1.1
HH Criteria	—	—	220,000	1.4E-08	34	—
Background (Maximum Conc. for Aquatic Life Calc.)	2.5	3.7	0.55	—	—	0.035
Background (Average Conc. for Human Health Calc.)	—	—	0	4.1E-08	0	—
Is the pollutant on the 303d list and/or bioaccumulative (Y/N)?	N	N	N	Y	N	N
ECA Acute	119	1267	89	—	—	—
ECA Chronic	135	267	24	—	—	38
ECA HH	—	—	2,200,000	1.4E-08	340	—
No. of data points <10 or at least 80% of data reported non-detect? (Y/N)	N	Y	N	Y	Y	N
Avg of effluent data points	3.9	—	5.9	1.1E-08	26	0.17
Std Dev of effluent data points	5.4	—	3.9	3.6E-08	19	0.64
CV Calculated	1.4	—	0.67	N/A	N/A	3.7
CV (Selected) – Final	1.4	0.60	0.67	0.60	0.60	3.7
ECA Acute Mult99	0.15	0.32	0.29	—	—	0.085
ECA Chronic Mult99	0.29	0.53	0.50	—	—	0.12
LTA Acute	18	406	26	—	—	—
LTA Chronic	39	142	12	—	—	4.7
Minimum of LTAs	18	142	12	—	—	4.7
AMEL Mult95	2.3	1.6	1.6	1.6	1.6	2.3
MDEL Mult99	6.5	3.1	3.4	3.1	3.1	12
AMEL (Aquatic Life)	42	221	19	—	—	11
MDEL (Aquatic Life)	119	444	41	—	—	56
MDEL/AMEL Multiplier	2.8	2.0	2.1	2.0	2.0	5.2
AMEL (Human Health)	—	—	2,200,000	1.4E-08	340	—
MDEL (Human Health)	—	—	4,600,000	2.8E-08	682	—

Pollutant	Copper	Nickel	Cyanide	Dioxin-TEQ	Chloro dibromo methane	Ammonia
Minimum of AMEL for Aq. Life vs HH	42	221	19	1.4E-08	340	11
Minimum of MDEL for Aq. Life vs HH	119	444	41	2.8E-08	682	56
Previous Order Limit – AMEL	48	—	21	1.4E-08	N/A	N/A
Previous Order Limit – MDEL	120	—	42	2.8E-08	N/A	N/A
Final Limit – AMEL	**42**	**220**	**19**	**1.4E-08**	**340**	**11**
Final Limit – MDEL	**120**	**440**	**41**	**2.8E-08**	**680**	**56**

4.3.4.2.3. **Selenium.** This Order retains the previous order's selenium mass discharge limit (monthly average of 0.47 kg/day). This limit is based on Basin Plan section 7.2.4.5 (North San Francisco Bay selenium TMDL), which caps selenium discharge to the 95th percentile of the daily selenium loads from 2000 through 2012. The Facility is expected to discharge less selenium than it did from 2000 through 2012. Although this Order retains the previous order's limit, the Regional Water Board may consider imposing a lower limit in the future when selenium discharge data representative of the Facility's modified operations become available.

4.3.4.2.4 **Chronic Toxicity.** This Order includes chronic toxicity limitations based on Toxicity Provisions section III.C.5. This Order grants a mixing zone for chronic toxicity corresponding to a dilution ratio of at least 10:1 (D=9), equivalent to an IWC of 10 percent effluent. This Order imposes a maximum daily effluent limit (MDEL) and median monthly effluent limit (MMEL) based on testing at the IWC.

4.3.4.2.5. **Acute Toxicity.** This Order retains the previous order's acute toxicity limits to ensure that existing treatment performance is maintained. All bioassays are to be performed according to the U.S. EPA approved method in 40 C.F.R. part 136, currently *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms,* 5th Edition (EPA-821-R-02-012). The test species specified in the MRP is rainbow trout (*Onchorhynchus mykiss*). Consistent with the previous order, if the Discharger can demonstrate that acute toxicity in its discharge that exceeds this Order's acute toxicity limitations is caused by ammonia in its discharge that complies with this Order's ammonia effluent limits, then such toxicity does not constitute a violation of this Order's acute toxicity effluent limitations.

4.3.4.2.6. ***Enterococcus* Bacteria.** This Order includes enterococcus effluent limitations based on the *Water Quality Control Plan for Inland Surface*

Waters, Enclosed Bays, and Estuaries of California – Part 3, Bacteria Provisions and a Water Quality Standards Variance Policy. That plan requires limitations for discharges to receiving waters with the water contact recreation beneficial use. This Order accounts for a conservative initial dilution of 10:1 (D=9) to calculate the enterococcus effluent limitation. To establish background conditions, the Discharger collected 12 receiving water samples for enterococcus at Monitoring Location RSW-002 from September 2015 through February 2016. The geometric mean of these samples was 25 MPN/100 mL, with three non-detect results estimated as the method detection limit of 1.0 MPN/100 mL. (The units of most probable number and colony forming units are considered comparable for the purposes of this calculation.)

The enterococcus effluent limitation was calculated with the following equation using SIP section 1.4 as guidance:

ECA = C + D (C – B)

where:

ECA = Effluent Concentration Allowance (effluent limitation)
C = water quality objective (30 CFU/100 mL, 110 CFU/100mL)
D = dilution factor (D = 9)
B = background concentration (25 MPN/100 mL)

This calculation results in a six-week rolling geometric mean enterococcus effluent limitation of 75 CFU/100 mL and a 90th percentile of all enterococcus bacteria samples collected in a calendar month limitation of 875 CFU/100mL.

4.3.4.2.7. **Total Coliform Bacteria.** The total coliform bacteria effluent limitations are based on Basin Plan Table 4-2A.

4.3.4.2.8. **Effluent Limitation Adjustments for Recycled Water Use.** This Order provides the Discharger with a process for applying for effluent limitation adjustments for recycled water use. These adjustments encourage wastewater recycling consistent with Basin Plan section 4.16 and State Water Board Resolutions 77-1 and 2009-0011 by accounting for increases in pollutant concentrations resulting from recycling.

4.3.4.3. **Discharge Point 003**

4.3.4.3.1. **Dilution Credits.** Pursuant to Basin Plan section 4.6.1 and SIP section 1.4.2.1, dilution credit may be limited or denied on a pollutant-by-pollutant basis. Due to the near-shore location of Discharge Point 003 and it being a surface discharge rather than a deep-water discharge, no dilution credit is granted.

4.3.4.3.2. **pH.** This Order includes pH effluent limitations (minimum 6.5 and maximum 8.5) based on Basin Plan section 3.3.9.

4.3.4.3.3. **Temperature.** Based on the findings of the studies discussed below, this Order retains the temperature limitation from the previous order (a monthly average of 110°F) to maintain existing performance, which appears to protect beneficial uses.

The State's Thermal Plan requires existing dischargers to enclosed bays to comply with limitations necessary to ensure protection of beneficial uses. The Discharger's *Thermal Plume Studies Final Report* (EA Engineering, Science, and Technology, February 1, 2001) concluded that its elevated-temperature discharge from Discharge Point 003, as permitted, did not adversely affect the beneficial uses of San Pablo Bay. A follow-up study (*Phase II Thermal Plume Study 2012 – 2013*, Tenera Environmental, September 24, 2013) evaluated the impact of the discharge, subject to the 110 °F effluent limit, on Chinook salmon and steelhead at known resting sites. That study concluded that temperature differences between control sites and resting sites were slight, on average only 0.28 °F, and that the discharge is unlikely to negatively affect resting habitat for salmonids if the Discharger complies with the existing effluent limit.

4.4. Discharge Requirement Considerations

4.4.1. **Anti-backsliding.** This Order complies with the anti-backsliding provisions of CWA sections 402(o) and 303(d)(4), and 40 C.F.R. section 122.44(l), which generally require effluent limitations in a reissued permit to be as stringent as those in the previous order. This Order does not retain technology-based mass limits for biochemical oxygen demand, chemical oxygen demand, total suspended solids, oil and grease, phenolic compounds, ammonia, sulfide, total chromium, and hexavalent chromium because of the substantial alterations to the Facility. These limits were based on 40 C.F.R. section 419, *Effluent Limitations Guidelines for the Petroleum Refining Point Source Category*. As discussed in Fact Sheet sections 1 and 2, the Facility no longer operates as a petroleum refinery; these limits do not apply to renewable fuels operations. 40 CFR 122.44 section (l)(2)(i)(A) provides an exception to anti-backsliding requirements when material and substantial alterations or additions occur to a facility and justify the application of less stringent effluent limitations, as is the case here.

This Order also does not retain water quality-based effluent limitations at Discharge Point 002 for heptachlor or at Discharge Point 003 for benzo(a)pyrene, chrysene, copper, and nickel because those pollutants do not demonstrate reasonable potential to cause or contribute to an exceedance of the water quality objectives at the respective discharge points. Eliminating these limits is consistent with State Water Board Order WQ 2001-16, which held that anti-backsliding does not necessarily dictate that a pollutant that was limited in a prior permit must be limited in a later permit, even though there is no reasonable potential that the pollutant discharge will cause or contribute to a water quality standard exceedance. The State Water Board stated that where

the anti-backsliding exception in CWA section 303(d)(4)(B) is met, the limit may be removed. The removal of the above effluent limitations here satisfies CWA section 303(d)(4)(B). As discussed in Fact Sheet section 4.4.2, removing these effluent limits will not result in degradation to water quality, and the relaxation will not result in a violation of water quality standards.

This Order replaces the previous order's *Enterococcus* bacteria effluent limits with new limits based on the *Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California – Part 3, Bacteria Provisions and a Water Quality Standards Variance Policy*. The new limits are expressed using different averaging periods than the previous limits and are therefore not directly comparable to the previous limits.

This Order imposes new chronic toxicity effluent limits and does not retain the chronic toxicity effluent limits in place prior to the new Toxicity Provisions. This complies with anti-backsliding requirements, consistent with State Water Board Order WQ 2001-06, because the new chronic toxicity effluent limits, based on the TST, are not comparable to the chronic toxicity effluent limits in the previous permit, which were based on point estimates of chronic toxicity. The AMELs and the MDELs in place prior to the new Toxicity Provisions allow for a 10:1 dilution credit. Similarly, the new MDEL and MMEL are based on an IWC of 10 precent effluent, corresponding to dilution of 10:1. Thus, the use of the TST will not relax effluent limitations.

4.4.2. **Antidegradation.** This Order complies with the antidegradation provisions of 40 C.F.R. section 131.12 and State Water Board Resolution 68-16. Compared to the previous order, this Order does not allow for an increased discharge volume or pollutant concentrations, or a reduced level of treatment. The Facility will discharge a lower average wastewater flow and lower mass of pollutants than it did when refining crude oil. The removal of the mass-based limits developed for the previous petroleum refining operations will not lower water quality because the lower flow, combined with this Order's effluent limits, will ensure that pollutant loading will decrease.

Removing the water-quality based effluent limits on the pollutants discussed in Fact Sheet section 4.4.1, above, is consistent with State and federal antidegradation requirements. Because the discharge does not contain these pollutants at levels that would cause or contribute to a violation of water quality standards, and the Facility will discharge a lower average wastewater flow and thus a lower mass of these pollutants, removing these effluent limits will not result in degradation of water quality.

4.4.3. **Stringency of Requirements for Individual Pollutants.** This Order contains both technology-based and WQBELs for individual pollutants. The technology-based limitations implement Best Professional Judgement and applicable federal technology-based requirements. The WQBELs, which are more stringent, are included as necessary to meet water quality standards.

Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement CWA requirements.

This Order's WQBELs have been derived to implement water quality objectives that protect beneficial uses. The beneficial uses and water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that WQBELs were derived from the CTR, the CTR is the applicable standard pursuant to 40 C.F.R. section 131.38. The procedures for calculating these WQBELs are based on the CTR, as implemented in accordance with the SIP, which U.S. EPA approved on May 18, 2000. U.S. EPA approved most Basin Plan beneficial uses and water quality objectives prior to May 30, 2000. Beneficial uses and water quality objectives submitted to U.S. EPA prior to May 30, 2000, but not approved by U.S. EPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to 40 C.F.R. section 131.21(c)(1). U.S. EPA approved the remaining beneficial uses and water quality objectives, so they are also applicable water quality standards pursuant to 40 C.F.R. section 131.21(c)(2).

5. RATIONALE FOR RECEIVING WATER LIMITATIONS

The receiving water limitations in sections 5.1 and 5.2 of this Order are based on Basin Plan narrative and numeric water quality objectives. The receiving water limitation in section 5.3 of this Order requires compliance with federal and State water quality standards in accordance with the CWA and regulations adopted thereunder.

6. RATIONALE FOR PROVISIONS

6.1. Standard Provisions

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

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

Attachment S contains stormwater provisions consistent with the State Water Board's General Permit for Stormwater Discharges Associated with Industrial

Activities (NPDES CAS000001) (Industrial General Permit), including requirements for the Discharger to prepare a Stormwater Pollution Prevention Plan, to evaluate BMP performance using stormwater action levels (stormwater action levels are not effluent limitations), and to submit an annual stormwater report.

6.2. Monitoring and Reporting Provisions

CWA section 308 and 40 C.F.R. sections 122.41(h), 122.41(j)-(l), 122.44(i), and 122.48 require that NPDES permits specify monitoring and reporting requirements. Water Code section 13383 also authorizes the Regional Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. The MRP establishes monitoring, reporting, and recordkeeping requirements that implement federal and State requirements. For more information, see Fact Sheet section 7.

6.3. Special Provisions

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

6.3.2. **Effluent Characterization Study and Report.** This Order does not include WQBELs for pollutants that do not demonstrate reasonable potential, but this provision requires the Discharger to evaluate monitoring data to verify that the reasonable potential analysis conclusions of this Order remain valid. This requirement is authorized pursuant to 40 C.F.R. section 122.41(h) and Water Code section 13383, and is necessary to inform the next permit reissuance and to ensure that the Discharger takes timely steps in response to any unanticipated change in effluent quality during the term of this Order.

6.3.3. **Pollutant Minimization Program.** This provision is based on Basin Plan section 4.13.2 and SIP section 2.4.5.

6.3.4. **Other Special Provisions**

6.3.4.1 **Once-Through Cooling Water Intake Structure.** To demonstrate that the submerged cylindrical wedge wire screens installed on the once-through cooling water intake structure comply with Clean Water Act section 316(b) requirements, the Discharger submitted a *Technology Installation and Operation Plan* (Tenera Environmental, February 2006) documenting the wedge wire screens' effectiveness, compliance with U.S. EPA performance standards, and installation in accordance with the manufacturer's requirements. The configuration of the wedge wire screens is estimated to virtually eliminate impingement of adult and juvenile fishes (and macroinvertebrates) and significantly reduce the entrainment of larval fishes.

The screens were installed with an orientation that maximizes their performance with respect to tidal flows, Delta outflows, and local currents at the intake structure. The location of the intake structure provides effective sweeping flow velocities that, combined with the low through-screen velocities at maximum pumping rates, minimize entrainment of larval fishes and invertebrates.

The Discharger maintains and uses a Maintenance Procedure Manual for the intake structure consisting of the following:

- Supervisor's, Maintenance, and Operator's Logs for direction, record-keeping, and trouble-shooting purposes;
- Standard Operating Procedures; and
- Electronic recordkeeping (SAP) of scheduled maintenance activities at the intake structure that are updated as needed.

This Order requires the Discharger to continue to operate, maintain, and inspect the intake structure in accordance with its Maintenance Procedure Manual. Further, this Order requires an annual report certifying proper operating and maintenance of the once-through cooling water intake structure, identifying any operational problems or necessary changes to the Maintenance Procedure Manual, and identifying work planned or completed that is beyond routine maintenance. The Discharger is to submit this annual status report annually with its annual self-monitoring report. This requirement is to ensure compliance with Clean Water Act section 316(b) and 40 C.F.R. section 125.94, subsections (a) and (c)(2).

6.3.4.2. **Stormwater Requirements**

6.3.4.2.1. **Stormwater Pollution Prevention Plan (SWPPP).** This provision is based on Basin Plan section 4.8 and mirrors the requirements of *General Permit for Storm Water Discharges Associated with Industrial Activities* (State Water Board Order No. 2014-0057-DWQ) and U.S. EPA's NPDES *Stormwater Multi-Sector General Permit for Industrial Activities* (Federal Register Volume 65, Number 210, October 30, 2000).

6.3.4.2.2. **Stormwater Best Management Practices (BMP) Plan**. This provision is based on U.S. EPA regulations at 40 C.F.R. section 122.44(k), which refer to U.S. EPA's *Guidance Manual for Developing Best Management Practices (BMPs)* (October 1993, EPA 833-B-93-004). The Discharger bases its BMPs on its *Best Management Practices Manual,* which it incorporates by reference into its Stormwater Pollution Prevention Plan.

6.3.4.2.3. **Annual Stormwater Report.** This provision is necessary to evaluate the Discharger's compliance with the above stormwater requirements.

6.3.4.3. **Copper Action Plan.** This provision is based on Basin Plan section 7.2.1.2 and is necessary to ensure that use of copper site-specific objectives is consistent with antidegradation policies. This Order requires the Discharger to implement pretreatment, source control, and pollution prevention for identified sources. Additional actions may be necessary depending on the three-year rolling mean copper concentration in San Pablo Bay. Data the San Francisco Estuary Institute compiled for 2015-2019 indicate no degradation of San Francisco Bay water quality with respect to copper (sfei.org/pages/copper-site-specific-objective-3-year-rolling-averages-0).

6.3.4.4. **Cyanide Action Plan.** This provision is based on Basin Plan section 4.7.2.2 and is necessary to ensure that use of cyanide site-specific objectives is consistent with antidegradation policies.

6.3.4.5. **Average Annual Selenium Load.** This provision is based on Basin Plan section 7.2.4.5. The information will be used to confirm that selenium loads are consistent with wasteload allocations. The requirements regarding treatment of estimated and non-detect values are consistent with the load calculations performed for the North San Francisco Bay Selenium TMDL.

6.3.4.6. **Conditions for Recycled Water Use Effluent Limitations Adjustment.** This provision protects beneficial uses by requiring the Discharger to ensure that recycled water use adjustments, if any are applied, will not cause toxicity. This provision does not authorize any increase in pollutant mass to the receiving water. It authorizes recycling of treated wastewater that could otherwise be discharged to the receiving water without further treatment.

6.3.4.7. **Conditions for Selenium Removal Plant Shutdown.** This provision is necessary to confirm that shutting down the Selenium Removal Plant will not cause non-compliance with this Order's selenium discharge requirements.

CWA section 1318(a) and Water Code section 13383 authorize this provision. CWA section 1318(a) authorizes the collection of information necessary to carry out the CWA's objectives, including but not limited to developing or assisting in the development of any effluent limitation, other limitation, prohibition, effluent standard, pretreatment standard, or standard of performance. Water Code section 13383 authorizes the Regional Water Board to establish monitoring, reporting, and recordkeeping requirements for NPDES dischargers. It also authorizes the Regional Water Board to require NPDES dischargers to provide other information as may be reasonably required.

6.3.4.8. **Conditions for Ceasing Powdered Activated Carbon Addition.** This provision, based on Water Code sections 13267 and 13383, is necessary to confirm that ceasing powdered activated carbon addition will not cause non-compliance with this Order's requirements relating to discharge of toxicity and toxic substances.

CWA section 1318(a) and Water Code section 13383 authorize this provision. CWA section 1318(a) authorizes the collection of information necessary to carry out the CWA's objectives, including but not limited to developing or assisting in the development of any effluent limitation, other limitation, prohibition, effluent standard, pretreatment standard, or standard of performance. Water Code section 13383 authorizes the Regional Water Board to establish monitoring, reporting, and recordkeeping requirements for NPDES dischargers. It also authorizes the Regional Water Board to require NPDES dischargers to provide other information as may be reasonably required.

6.3.4.9. **Updated Thermal Plume Monitoring Study – Discharge Point 003.** This provision is needed to comply with CWA section 316(b) and 40 C.F.R. parts 122 and 125 requirements for cooling water intakes. Under the Thermal Plan, cooling water discharged at Discharge Point 003 is "thermal waste" used for the purpose of transporting heat and is an existing discharge (see Fact Sheet § 3.3.7). The Basin Plan and Thermal Plan require existing discharges to enclosed bays to be protective of beneficial uses.

The Discharger submitted several reports on the cooling water discharge at Discharge Point 003 and consequent thermal plume's effects on the beneficial uses of San Pablo Bay during previous permit cycles:

- *Thermal Plume Studies Final Report* (EA Engineering, Science, and Technology, February 1, 2001) concluded that the discharge did not adversely affect San Pablo Bay beneficial uses, although there was indication that some species living in the water column avoided the thermal plume.

- *Cooling Water Discharge Thermal Plume Study, 2006-2007* (Tenera Environmental, September 27, 2007) characterized the thermal plume using tidal, meteorological, bathymetric, and temperature data collected from May 2006 to July 2007 at 33 monitoring stations located onshore and in San Pablo Bay. That report recommended a Phase 2 study, to include:

  (1) assessment of potential biological effects of the thermal plume,

  (2) continued thermal plume monitoring, and

  (3) temperature monitoring at the large, shallow cove immediately south of Point Pinole (and Discharge Point 003), which had potential to produce a natural plume of elevated-temperature water via solar heating.

- *Phase II Thermal Plume Study 2012 – 2013* (Tenera Environmental, September 24, 2013) evaluated the impact of the discharge, subject to the 110°F effluent limit, on Chinook salmon and steelhead at known

resting sites. That study concluded that temperature differences between control sites and resting sites were slight, on average only 0.28 F, and that the discharge is unlikely to negatively affect resting habitat for salmonids if the Discharger complies with the existing effluent limit.

The Discharger also submitted the *Technology Installation and Operation Plan* (ConocoPhillips, February 2006) discussed in Fact Sheet section 6.3.4.1.

The Regional Water Board, pursuant to federal law and regulation[1], submitted the Discharger's permit reissuance application to the National Marine Fisheries Service and U.S. Fish and Wildlife Service (the Services) for review. The Services did not require corrections to the federally listed species and critical habitat present or recommend any additional measures to protect aquatic life. However, U.S. Fish and Wildlife Service recommended updating the latest thermal plume study to reflect current conditions and potential effects on the delta smelt (*Hypomesus transpacificus*) and the San Francisco Bay-Delta distinct population segment of the longfin smelt (*Spirinchus thaleichthys*). The delta smelt is federally listed as threatened. The San Francisco Bay-Delta population of the longfin smelt is a candidate for federal listing as endangered; a listing decision is expected in 2024. This provision is necessary to ensure that beneficial uses are protected from thermal waste discharges and is consistent with the recommendation from U.S. Fish & Wildlife Service.

7. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

The following provides the rationale for the monitoring and reporting requirements in the MRP.

7.1 Monitoring Requirements Rationale

7.1.1. Influent Monitoring

7.1.1.1 **Monitoring Location INF-001.** Flow monitoring is required to determine whether the once-through cooling water system is operating as designed.

[1] Section 316(b) of the Clean Water Act, as amended; the Code of Federal Regulations, Title 40, Parts 122 and 125; Endangered Species Act Section 7 Consultation: Programmatic Biological Opinion on the U.S. EPA's Issuance and Implementation of the Final Regulations Section 316(b) of the Clean Water Act (May 19, 2014); and U.S. EPA's instructional memorandum to water division directors (December 11, 2014).

7.1.1.2 **Monitoring Location INF-002.** This Order allows adjustments for recycled water use. Monitoring at the recycled water intake will provide data necessary to calculate such adjustments.

7.1.2. **Effluent Monitoring.** Effluent monitoring is necessary to evaluate compliance with this Order's effluent limitations and to support future reasonable potential analyses. Flow monitoring at Monitoring Locations EFF-002 and EFF-003 is necessary to evaluate compliance with Prohibition 3.1 and the permitted flow described in Table F-1, and to calculate mass discharges. Standard observations at Monitoring Locations EFF-002 and EFF 003 are necessary to confirm that the Facility is properly operated and maintained.

7.1.3. **Toxicity Monitoring.** Acute and chronic toxicity tests are necessary to evaluate compliance with this Order's effluent limitations, evaluate whether the Toxicity Provisions' chronic toxicity water quality objectives are met, and to conduct future reasonable potential analyses. Chronic toxicity tests are also necessary to evaluate whether Toxicity Reduction Evaluations are needed. The Discharger submitted a chronic toxicity species screening on September 19, 2023, with its updated reissuance application, which satisfies the minimum screening requirements in Toxicity Provisions section III.C.2.a.

Toxicity Provisions section III.C.4.b.i(A) requires a routine chronic toxicity monitoring frequency of monthly for non-stormwater NPDES dischargers authorized to discharge at a rate of 5.0 MGD or greater unless the Regional Water Board approves a reduced monitoring frequency under Toxicity Provisions section III.C.4.b.i(B). This Order approves a reduced routine chronic toxicity monitoring frequency of quarterly because, as required by Toxicity Provisions section III.C.4.b.i(B), the Discharger has for the last five years:

1) complied with the previous order's toxicity requirements;
2) conducted at least ten chronic aquatic toxicity tests at an effluent concentration at or above the IWC;
3) analyzed or reanalyzed the results using the TST; and
4) not had a result of "fail."

The Discharger did not detect chronic toxicity under the previous order, monitoring quarterly using mysid shrimp (*Americamysis bahia*). The Discharger submitted the results of the twenty chronic toxicity monitoring tests (ten each at the survival and growth endpoints) conducted at the IWC from 2019 through 2023 re-analyzed using the TST. All results were "pass". This Order, as required by Toxicity Provisions section III.C.4.b.i(B), also requires that the routine chronic toxicity monitoring frequency revert to monthly if the Discharger fails to comply with this Order's chronic toxicity requirements or has a chronic toxicity test result of "fail" at the IWC.

7.1.4. **Receiving Water Monitoring.** The Discharger is required to continue participating in the Regional Water Monitoring Program, which involves collecting data on pollutants and toxicity in San Francisco Bay water, sediment, and biota. Receiving water monitoring is also necessary to evaluate the near field impacts of the discharge on the receiving water and to calculate appropriate ammonia water quality objectives.

7.1.5. **Other Monitoring Requirements.** Pursuant to CWA section 308, U.S. EPA requires some dischargers to participate in a Discharge Monitoring Report-Quality Assurance (DMR-QA) Study Program that evaluates the analytical abilities of laboratories that perform or support NPDES permit-required monitoring. The program applies to discharger laboratories and contract laboratories, and evaluates each laboratory's ability to analyze wastewater samples to produce quality data that ensure the integrity of the NPDES program. There are two options to comply: (1) the Discharger may obtain and analyze DMR-QA samples, or (2) pursuant to a waiver U.S. EPA issued to the State Water Board, the Discharger may submit results from the most recent Water Pollution Performance Evaluation Study. MRP section 1.4 requires the Discharger to ensure that the results of the DMR-QA Study or most recent Water Pollution Performance Evaluation Study are submitted to the State Water Board, which forwards the results to U.S. EPA.

7.2. Monitoring Requirements Summary. The table below summarizes routine monitoring requirements. This table is for informational purposes only. The actual requirements are specified in the MRP and elsewhere in this Order. In addition to undertaking the monitoring below, the Discharger must also conduct receiving water monitoring by continuing to participate in the Regional Monitoring Program.

Table F-14. Monitoring Requirements Summary

Parameter	Influent INF-001	Influent INF-002 [1]	Effluent EFF-002	Effluent EFF-003	Effluent EFF-004	Receiving Waters RSW-002 through RSW-003
Flow Rate	Continuous/ D	Continuous/ D	Continuous/ D	Continuous/ D	—	—
pH	—	—	Continuous	1/Month	2/Year	1/Quarter
Temperature	—	—	Continuous	Continuous	—	1/Quarter
Total Organic Carbon	—	—	—	1/Month	2/Year	—
Dissolved Oxygen	—	—	—	—	—	1/Quarter
Total Coliform Bacteria	—	—	1/Week	—	—	—
Enterococcus Bacteria	—	—	1/Week	—	—	—
Chlorine, Total Residual	—	—	1/Day	[2]	—	—
BOD_5	—	1/Month	1/Week	—	[3, 4]	—

Parameter	Influent INF-001	Influent INF-002 [1]	Effluent EFF-002	Effluent EFF-003	Effluent EFF-004	Receiving Waters RSW-002 through RSW-003
TSS	—	1/Week	1/Week	—	[3, 4]	—
COD	—	—	—	—	[3, 4]	—
Oil and Grease	—	1/Month	1/Month	—	2/Year	—
Total Ammonia, as N	—	1/Month	1/Month	—	—	1/Quarter
Un-ionized Ammonia	—	—	—	—	—	1/Quarter
Cyanide	—	1/Month	1/Month	—	—	—
Acute Toxicity	—	—	1/Week	—	—	—
Chronic Toxicity	—	—	1/Quarter [5]	—	—	—
Copper, Total Recoverable	—	1/Month	1/Month	—	—	—
Chromium, Total	—	—	—	—	[3, 4]	—
Chromium, Hexavalent	—	—	—	—	[3, 4]	—
Nickel, Total Recoverable	—	1/Month	1/Month	—	—	—
Nitrate-nitrite	—	—	1/Month	—	—	—
Phosphorus, Total	—	—	1/Month	—	—	—
Phenolic Compounds	—	—	—	—	[3, 4]	—
Selenium, Total Recoverable	—	1/Week	1/Week	1/Year	—	—
Chlorodibromo methane	—	1/Month	1/Month	—	—	—
2,3,7,8-TCDD and congeners	—	2/Year	2/Year	—	—	—
TOC	—	—	—	1/Month	2/Year	—
Salinity	—	—	—	—	—	1/Quarter
Hardness	—	—	—	—	—	1/Quarter
Remaining Priority Pollutants	—	—	2/Year	1/Year	—	—
Standard Observations	—	—	1/Day	1/Month	1/Month	1/Quarter
Flow Rate	Continuous/ D	Continuous/ D	Continuous/ D	Continuous/ D	—	—
pH	—	—	Continuous	1/Month	2/Year	1/Quarter
Temperature	—	—	Continuous	Continuous	—	1/Quarter
Dissolved Oxygen	—	—	—	—	—	1/Quarter
Total Coliform Bacteria	—	—	1/Week	—	—	—

Parameter	Influent INF-001	Influent INF-002 [1]	Effluent EFF-002	Effluent EFF-003	Effluent EFF-004	Receiving Waters RSW-002 through RSW-003
Enterococcus Bacteria	—	—	1/Week	—	—	—
Chlorine, Total Residual	—	—	1/Day	[2]	—	—
BOD_5	—	1/Month	1/Month	—	[3, 4]	—
TSS	—	1/Month	1/Month	—	[3, 4]	—
COD	—	—	—	—	[3, 4]	—
Oil and Grease	—	1/Month	1/Month	—	2/Year	—
Total Ammonia, as N	—	1/Month	1/Month	—	—	1/Quarter
Un-ionized Ammonia	—	—	—	—	—	1/Quarter
Cyanide	—	2/Year	1/Month	—	—	—
Acute Toxicity	—	—	1/Week	—	—	—
Chronic Toxicity	—	—	1/Quarter [5]	—	—	—
Copper, Total Recoverable	—	1/Week	1/Week	—	—	—
Nickel, Total Recoverable	—	—	1/Month	—	—	—
Selenium, Total Recoverable	—	1/Week	1/Week	1/Year	—	—
Chlorodibromo methane	—	1/Month	1/Month	—	—	—
2,3,7,8-TCDD and congeners	—	2/Year	2/Year	—	—	—
TOC	—	—	—	1/Month	2/Year	—
Salinity	—	—	—	—	—	1/Quarter
Hardness	—	—	—	—	—	1/Quarter
Remaining Priority Pollutants	—	—	2/Year	1/Year	—	—
Standard Observations	—	—	1/Day	1/Month	1/Month	1/Quarter

Footnotes:

[1] Sampling at INF-002 is required when the Discharger is using recycled water in place of raw water and for those constituents for which the Discharger wants to receive recycled water use credits.

[2] Monitoring for total residual chlorine at Monitoring Location EFF-003 is required every 2 hours if intake chlorination occurs or if potable water is used as a substitute for once-through cooling water. If potable water is used to supplement once-through cooling water, monitoring for total residual chlorine is required daily.

[3] As soon as the Discharger becomes aware of a violation of an oil and grease or TOC effluent limitation in Table 4 of this Order, daily monitoring for this parameter at the affected outfalls is required during each daylight storm until two consecutive samples show compliance with oil and grease and TOC effluent limitations.

[4] Monitoring for this parameter is not required until the Discharger becomes aware of a violation of an oil and grease or TOC effluent limitation in Table 4 of this Order. Then monitoring for this parameter is required during each daylight storm at the affected outfalls until two consecutive samples show compliance with oil and grease and TOC effluent limitations in Table 6a.

[5] If the Discharger fails to comply with the chronic toxicity requirements of this Order or has a chronic toxicity test result of "fail" at the IWC, the routine monitoring frequency will revert to once per month.

8. PUBLIC PARTICIPATION

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

8.1. Notification of Interested Parties. The Regional Water Board notified the Discharger and interested agencies and persons of its intent to prescribe WDRs for the discharge and provided an opportunity to submit written comments and recommendations. The public had access to the agenda and any changes in dates and locations through the Regional Water Board's website (waterboards.ca.gov/sanfranciscobay).

8.2. Written Comments. Interested persons were invited to submit written comments concerning the tentative WDRs as explained through the notification process. Comments were to be submitted either in person or by mail to the Executive Office at the Regional Water Board at 1515 Clay Street, Suite 1400, Oakland, California 94612, to the attention of John Madigan.

Written comments were due at the Regional Water Board office by 5:00 p.m. on May 8, 2024.

8.3. Public Hearing. The Regional Water Board held a public hearing on the tentative WDRs during its meeting at the following date and time:

Date: June 12, 2024
Time: 9:00 a.m.

Contact: John Madigan, (510) 622-2405, john.madigan@waterboards.ca.gov

Interested persons were provided notice of the hearing and information on how to participate. At the public hearing, the Regional Water Board heard testimony pertinent to the discharge and Order.

Dates and venues can change. The Regional Water Board's website is (waterboards.ca.gov/sanfranciscobay), where one can access the current agenda for changes.

8.4. Reconsideration of Waste Discharge Requirements. Any person aggrieved by this Regional Water Board action may petition the State Water Board to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23, sections 2050. The State Water Board must receive the petition at the following address within 30 calendar days of the date of Regional Water Board action:

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

A petition may also be filed by email at waterqualitypetitions@waterboards.ca.gov.

For instructions on how to file a water quality petition for review, see the Water Board's petition instructions (waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instr.shtml).

8.5. Information and Copying. The Report of Waste Discharge, related supporting documents, and comments received are on file and may be inspected at the Regional Water Board address above at any time online or by making an appointment with the Regional Water Board's custodian of records. Document copying may be arranged by calling (510) 622-2300 or emailing Melinda.Wong@waterboards.ca.gov.

8.6. Register of Interested Persons. Any person interested in being placed on the mailing list for information regarding the WDRs and NPDES permit should contact the Regional Water Board, reference the Facility, and provide a name, address, and phone number.

8.7. Additional Information. Requests for additional information or questions regarding this Order should be directed to John Madigan, (510) 622-2405, john.madigan@waterboards.ca.gov.

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

Contents

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

APPLICABILITY

This document supplements the requirements of Federal Standard Provisions (Attachment D). For clarity, these provisions are arranged using to the same headings as those used in Attachment D.

1. STANDARD PROVISIONS – PERMIT COMPLIANCE

1.1. Duty to Comply – Not Supplemented

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

1.3. Duty to Mitigate – Supplement to Attachment D, Provision 1.3.

1.3.1. **Contingency Plan.** The Discharger shall maintain a Contingency Plan as prudent in accordance with current facility emergency planning. The Contingency Plan shall describe procedures to ensure that existing facilities remain in, or are rapidly returned to, operation in the event of a process failure or emergency incident, such as employee strike, strike by suppliers of chemicals or maintenance services, power outage, vandalism, earthquake, or fire. The Discharger may combine the Contingency Plan and Spill Prevention Plan (see Provision 1.3.2, below) into one document. In accordance with Regional Water Board Resolution No. 74-10, discharge in violation of the permit where the Discharger has failed to develop and implement a Contingency Plan as described below may be the basis for considering the discharge a willful and negligent violation of the permit pursuant to California Water Code section 13387. The Contingency Plan shall, at a minimum, provide for the following:

1.3.1.1. Sufficient personnel for continued facility operation and maintenance during employee strikes or strikes against contractors providing services;

1.3.1.2. Maintenance of adequate chemicals or other supplies, and spare parts necessary for continued facility operations;

1.3.1.3. Emergency standby power;

1.3.1.4. Protection against vandalism;

1.3.1.5. Expeditious action to repair failures of, or damage to, equipment, including any sewer lines;

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

1.3.1.7. Maintenance, replacement, and surveillance of physical condition of equipment and facilities, including any sewer lines.

1.3.2. **Spill Prevention Plan.** The Discharger shall maintain a Spill Prevention Plan to prevent accidental discharges and to minimize the effects of any such discharges. The Spill Prevention Plan shall do the following:

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

1.3.2.2. State when current facilities and procedures became operational and evaluate their effectiveness; and

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

1.4. Proper Operation and Maintenance – Supplement to Attachment D, Provision 1.4

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

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

1.4.3. **Proper Supervision and Operation of Publicly-Owned Treatment Works (POTWs).** POTWs shall be supervised and operated by persons possessing

certificates of appropriate grade pursuant to Title 23, section 3680, of the California Code of Regulations.

1.5. Property Rights – Not Supplemented

1.6. Inspection and Entry – Not Supplemented

1.7. Bypass – Not Supplemented

1.8. Upset – Not Supplemented

1.9. Other – Addition to Attachment D

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

1.9.2. Collection, treatment, storage, and disposal systems shall be operated in a manner that precludes public contact with wastewater. If public contact with wastewater could reasonably occur on public property, warning signs shall be posted.

1.9.3. If the Discharger submits a timely and complete Report of Waste Discharge for permit reissuance, this permit shall continue in force and effect until the permit is reissued or the Regional Water Board rescinds the permit.

2. STANDARD PROVISIONS – PERMIT ACTION – NOT SUPPLEMENTED

3. STANDARD PROVISIONS – MONITORING

3.1. Sampling and Analyses – Supplement to Attachment D, Provisions 3.1 and 3.2

3.1.1. **Certified Laboratories.** Water and waste analyses shall be performed by a laboratory certified for these analyses in accordance with California Water Code section 13176.

3.1.2. **Minimum Levels.** For the 126 priority pollutants, the Discharger should use the analytical methods listed in Table B unless the Monitoring and Reporting Program (MRP, Attachment E) requires a particular method or minimum level (ML). All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements.

3.1.3. **Monitoring Frequency.** The MRP specifies the minimum sampling and analysis schedule.

3.1.3.1. **Sample Collection Timing**

3.1.3.1.1. The Discharger shall collect influent samples on varying days selected at random and shall not include any plant recirculation or other sidestream wastes, unless otherwise stipulated in the MRP. The Executive Officer

may approve an alternative influent sampling plan if it is representative of plant influent and complies with all other permit requirements.

3.1.3.1.2. The Discharger shall collect effluent samples on days coincident with influent sampling, unless otherwise stipulated by the MRP. If influent sampling is not required, the Discharger shall collect effluent samples on varying days selected at random, unless otherwise stipulated in the MRP. The Executive Officer may approve an alternative effluent sampling plan if it is representative of plant discharge and in compliance with all other permit requirements.

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

3.1.3.1.4. Effluent sampling for conventional pollutants shall occur on at least one day of any multiple-day bioassay the MRP requires. During the course of the bioassay, on at least one day, the Discharger shall collect and retain samples of the discharge. In the event that a bioassay result does not comply with effluent limitations, the Discharger shall analyze the retained samples for pollutants that could be toxic to aquatic life and for which it has effluent limitations.

3.1.3.1.4.1. The Discharger shall perform bioassays on final effluent samples; when chlorine is used for disinfection, bioassays shall be performed on effluent after chlorination and dechlorination; and

3.1.3.1.4.2. The Discharger shall analyze for total ammonia nitrogen and calculate the amount of un ionized ammonia whenever test results fail to meet effluent limitations.

3.1.3.2. **Conditions Triggering Accelerated Monitoring**

3.1.3.2.1. **Average Monthly Effluent Limitation Exceedance.** If the results from two consecutive samples of a constituent monitored in a particular month exceed the average monthly effluent limitation for any parameter (or if the required sampling frequency is once per month or less and the monthly sample exceeds the average monthly effluent limitation), the Discharger shall, within 24 hours after the results are received, increase its sampling frequency to daily until the results from the additional sampling show that the parameter complies with the average monthly effluent limitation.

3.1.3.2.2. **Maximum Daily Effluent Limitation Exceedance.** If a sample result exceeds a maximum daily effluent limitation, the Discharger shall, within 24 hours after the result is received, increase its sampling frequency to daily until the results from two samples collected on consecutive days show compliance with the maximum daily effluent limitation.

3.1.3.2.3. **Acute Toxicity.** If final or intermediate results of an acute bioassay indicate a violation or threatened violation (e.g., the percentage of surviving test organisms of any single acute bioassay is less than 70 percent), the Discharger shall initiate a new test as soon as practical or as described in applicable State Water Board plan provisions that become effective after adoption of these Regional Standard Provisions. The Discharger shall investigate the cause of the mortalities and report its findings in the next self-monitoring report.

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

3.1.3.2.5. **Bypass.** Except as indicated below, if a Discharger bypasses any portion of its treatment facility, it shall monitor flows and collect samples at affected discharge points and analyze samples for all constituents with effluent limitations on a daily basis for the duration of the bypass. The Discharger need not accelerate chronic toxicity monitoring. The Discharger also need not collect and analyze samples for mercury, dioxin-TEQ, and PCBs after the first day of the bypass. The Discharger may satisfy the accelerated acute toxicity monitoring requirement by conducting a flow-through test or static renewal test that captures the duration of the bypass (regardless of the method specified in the MRP). If bypassing disinfection units only, the Discharger shall only monitor bacteria indicators daily.

3.1.3.2.5.1. **Bypass for Essential Maintenance.** If a Discharger bypasses a treatment unit for essential maintenance pursuant to Attachment D section 1.7.2, the Executive Officer may reduce the accelerated monitoring requirements above if the Discharger (i) monitors effluent at affected discharge points on the first day of the bypass for all constituents with effluent limitations, except chronic toxicity; and (ii) identifies and implements measures to ensure that the bypass will continue to comply with effluent limitations.

3.1.3.2.5.2. **Approved Wet Weather Bypasses.** If a Discharger bypasses a treatment unit or permitted outfall during wet weather with Executive Officer approval pursuant to Attachment D section 1.7.4, the Discharger shall monitor flows and collect and retain samples for affected discharge points on a daily basis for the duration of the bypass. The Discharger shall analyze daily for TSS using 24 hour composites (or more frequent increments) and for bacteria indicators with effluent limitations using grab samples. If TSS exceeds 45 mg/L in any

composite sample, the Discharger shall also analyze daily the retained samples for all other constituents with effluent limitations, except oil and grease, mercury, PCBs, dioxin-TEQ, and acute and chronic toxicity. Additionally, at least once each year, the Discharger shall analyze the retained samples for one approved bypass for all other constituents with effluent limitations, except oil and grease, mercury, PCBs, dioxin-TEQ, and acute and chronic toxicity. This monitoring shall be in addition to the minimum monitoring specified in the MRP.

3.2. Standard Observations – Addition to Attachment D

3.2.1. **Receiving Water Observations.** The following requirements only apply when the MRP requires standard observations of receiving waters. Standard observations shall include the following:

3.2.1.1. **Floating and Suspended Materials (e.g., oil, grease, algae, and other macroscopic particulate matter) —** presence or absence, source, and size of affected area.

3.2.1.2. **Discoloration and Turbidity** — color, source, and size of affected area.

3.2.1.3. **Odor** — presence or absence, characterization, source, and distance of travel.

3.2.1.4. **Beneficial Water Use** — estimated number of water-associated waterfowl or wildlife, fisherpeople, and other recreational activities.

3.2.1.5. **Hydrographic Condition** — time and height of high and low tides (corrected to nearest National Oceanic and Atmospheric Administration location for the sampling date and time).

3.2.1.6. **Weather Conditions** — wind direction, air temperature, and total precipitation during five days prior to observation.

3.2.2. **Wastewater Effluent Observations.** The following requirements only apply when the MRP requires standard observations of wastewater effluent. Standard observations shall include the following:

3.2.2.1. **Floating and Suspended Material of Wastewater Origin** (e.g., oil, grease, algae, and other macroscopic particulate matter) — presence or absence.

3.2.2.2. **Odor** — presence or absence, characterization, source, distance of travel, and wind direction.

3.2.3. **Beach and Shoreline Observations.** The following requirements only apply when the MRP requires standard observations of beaches or shorelines. Standard observations shall include the following:

3.2.3.1. **Material of Wastewater Origin —** presence or absence, description of material, estimated size of affected area, and source.

3.2.3.2. **Beneficial Use —** estimate of number of people participating in recreational water contact, non-water contact, and fishing activities.

3.2.4. **Waste Treatment and/or Disposal Facility Periphery Observations.** The following requirements only apply when the MRP requires standard observations of the periphery of waste treatment or disposal facilities. Standard observations shall include the following:

3.2.4.1. **Odor** — presence or absence, characterization, source, and distance of travel.

3.2.4.2. **Weather Conditions** — wind direction and estimated velocity.

4. STANDARD PROVISIONS – RECORDS

4.1. Records to be Maintained – Supplement to Attachment D, Provision 4.1

The Discharger shall maintain records in a manner and at a location (e.g., the wastewater treatment plant or the Discharger's offices) such that the records are accessible to Regional Water Board staff. The minimum retention period specified in Attachment D, Provision IV, shall be extended during the course of any unresolved litigation regarding permit-related discharges, or when requested by Regional Water Board or U.S. EPA, Region IX, staff.

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

4.2. Records of Monitoring – Supplement to Attachment D, Provision 4.2

Monitoring records shall include the following:

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

4.2.2. **Disinfection Process.** For the disinfection process, records shall include the following:

4.2.2.1. For bacteriological analyses:

4.2.2.1.1. Wastewater flow rate at the time of sample collection; and

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

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

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

4.2.2.2.2. Chlorine dosage (kg/day); and

4.2.2.2.3. Dechlorination chemical dosage (kg/day).

4.2.3. **Wastewater Treatment Process Solids.** For each treatment unit process that involves solids removal from the wastewater stream, records shall include the following:

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

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

4.2.4. **Treatment Process Bypasses.** For all treatment process bypasses, including wet weather blending, records shall include the following:

4.2.4.1. Chronological log of treatment process bypasses;

4.2.4.2. Identification of treatment processes bypassed;

4.2.4.3. Beginning and ending dates and times of bypasses;

4.2.4.4. Bypass durations;

4.2.4.5. Estimated bypass volumes; and

4.2.4.6. Description of, or reference to other reports describing, the bypasses, their cause, the corrective actions taken (except for wet weather blending explicitly approved within the permit and in compliance with any related permit conditions), and any additional monitoring conducted.

4.2.5. **Treatment Plant Overflows.** The Discharger shall retain a chronological log of overflows at the treatment plant, including the headworks and all units and appurtenances downstream, and records supporting the information provided in accordance with Provision 5.5.2, below.

4.3. Claims of Confidentiality – Not Supplemented

5. STANDARD PROVISIONS – REPORTING

5.1. Duty to Provide Information – Not Supplemented

5.2. Signatory and Certification Requirements – Not Supplemented

5.3. Monitoring Reports – Supplement to Attachment D, Provision 5.3

5.3.1. **Self-Monitoring Reports.** For each reporting period established in the MRP, the Discharger shall submit a self-monitoring report to the Regional Water Board in accordance with the requirements listed in the MRP and below:

5.3.1.1. **Transmittal Letter.** Each self-monitoring report shall be submitted with a transmittal letter that includes the following:

5.3.1.1.1. Identification of all violations of effluent limitations or other waste discharge requirements found during the reporting period;

5.3.1.1.2. Details regarding the violations, such as parameters, magnitude, test results, frequency, and dates;

5.3.1.1.3. Causes of the violations;

5.3.1.1.4. Corrective actions taken or planned to resolve violations and prevent recurrences, and dates or time schedules for implementation (the Discharger may refer to previously submitted reports that address the corrective actions);

5.3.1.1.5. Explanation for any data invalidation. Data should not be submitted in a self-monitoring report if it does not meet quality assurance/quality control standards. However, if the Discharger wishes to invalidate a measurement after submitting it in a self-monitoring report, the Discharger shall identify the measurement suspected to be invalid and state the Discharger's intent to submit, within 60 days, a formal request to invalidate the measurement. The formal request shall include the original measurement in question, the reason for invalidating the measurement, all relevant documentation that supports invalidation (e.g., laboratory sheet, log entry, test results), and a discussion of the corrective actions taken or planned (with a time schedule for completion) to prevent recurrence of the sampling or measurement problem;

5.3.1.1.6. Description of blending, if any. If the Discharger blends, it shall describe the duration of blending events and certify whether the blending complied with all conditions for blending;

5.3.1.1.7. Description of other bypasses, if any. If the Discharger bypasses any treatment units (other than blending), it shall describe the duration of the bypasses and effluent quality during those times; and

5.3.1.1.8. Signature. The transmittal letter shall be signed in accordance with Attachment D, Provision 5.2.

5.3.1.2. **Compliance Evaluation Summary.** Each self-monitoring report shall include a compliance evaluation summary that addresses each parameter for which the permit specifies effluent limitations, the number of samples taken during the monitoring period, and the number of samples that exceed the effluent limitations.

5.3.1.3. **More Frequent Monitoring.** If the Discharger monitors any pollutant more frequently than required by the MRP, the Discharger shall include the results of such monitoring in the calculation and reporting of the data submitted in the self-monitoring report.

5.3.1.4. **Analysis Results**

5.3.1.4.1. **Tabulation.** Each self-monitoring report shall include tabulations of all required analyses and observations, including parameters, dates, times, sample stations, types of samples, test results, method detection limits, method minimum levels, and method reporting levels (if applicable), signed by the laboratory director or other responsible official.

5.3.1.4.2. **Multiple Samples.** Unless the MRP specifies otherwise, when determining compliance with effluent limitations (other than instantaneous effluent limitations) and more than one sample result is available, the Discharger shall compute the arithmetic mean. If the data set contains one or more results that are “Detected, but Not Quantified (DNQ) or “Not Detected” (ND), the Discharger shall instead compute the median in accordance with the following procedure:

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

5.3.1.4.2.2. The median of the data set shall be determined. If the data set has an odd number of data points, the median is the middle value. If the data set has an even number of data points, the median is the average of the two values around the middle, unless one or both of these values is ND or DNQ, in which case the median shall be the lower of the two results (where DNQ is lower than a quantified value and ND is lower than DNQ).

5.3.1.4.3. **Duplicate Samples.** The Discharger shall report the average of duplicate sample analyses when reporting for a single sample result (or the median if one or more of the duplicates is DNQ or ND [see Provision 5.3.1.4.2, above]). For bacteria indicators, the Discharger shall report the geometric mean of the duplicate analyses.

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

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

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

Table A
Minimum Levels, Toxicity Equivalency Factors, and Bioaccumulation Equivalency Factors

Dioxin or Furan Congener	Minimum Level (pg/L)	2005 Toxicity Equivalency Factor (TEF)	Bioaccumulation Equivalency Factor (BEF)
2,3,7,8-TCDD	10	1.0	1.0
1,2,3,7,8-PeCDD	50	1.0	0.9
1,2,3,4,7,8-HxCDD	50	0.1	0.3
1,2,3,6,7,8-HxCDD	50	0.1	0.1
1,2,3,7,8,9-HxCDD	50	0.1	0.1
1,2,3,4,6,7,8-HpCDD	50	0.01	0.05
OCDD	100	0.0003	0.01
2,3,7,8-TCDF	10	0.1	0.8
1,2,3,7,8-PeCDF	50	0.03	0.2
2,3,4,7,8-PeCDF	50	0.3	1.6
1,2,3,4,7,8-HxCDF	50	0.1	0.08
1,2,3,6,7,8-HxCDF	50	0.1	0.2
1,2,3,7,8,9-HxCDF	50	0.1	0.6
2,3,4,6,7,8-HxCDF	50	0.1	0.7
1,2,3,4,6,7,8-HpCDF	50	0.01	0.01
1,2,3,4,7,8,9-HpCDF	50	0.01	0.4
OCDF	100	0.0003	0.02

5.3.1.5. **Results Not Yet Available.** The Discharger shall make all reasonable efforts to obtain analytical data for required parameter sampling in a timely manner. Certain analyses may require additional time to complete analytical processes and report results. In these cases, the Discharger shall describe the circumstances in the self-monitoring report and include the data for these parameters and relevant discussions of any violations in the next self-monitoring report due after the results are available.

5.3.1.6. **Annual Self-Monitoring Reports.** By the date specified in the MRP, the Discharger shall submit an annual self-monitoring report covering the previous calendar year. The report shall contain the following:

5.3.1.6.1. Comprehensive discussion of treatment plant performance, including documentation of any blending or other bypass events, and compliance with the permit. This discussion shall include any corrective actions taken or planned, such as changes to facility equipment or operation practices that may be needed to achieve compliance, and any other actions taken or planned that are intended to improve the performance and reliability of wastewater collection, treatment, or disposal practices;

5.3.1.6.2. List of approved analyses, including the following:

5.3.1.6.2.1. List of analyses for which the Discharger is certified;

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

5.3.1.6.2.3. List of “waived” analyses, as approved;

5.3.1.6.3. Plan view drawing or map showing the Discharger’s facility, flow routing, and sampling and observation station locations; and

5.3.1.6.4. Results of facility report reviews. The Discharger shall regularly review, revise, and update, as necessary, the Operation and Maintenance Manual, Contingency Plan, Spill Prevention Plan, and Wastewater Facilities Status Report so these documents remain useful and relevant to current practices. At a minimum, reviews shall be conducted annually. The Discharger shall describe or summarize its review and evaluation procedures, recommended or planned actions, and estimated time schedule for implementing these actions. The Discharger shall complete changes to these documents to ensure that they remain up-to-date.

5.4. Compliance Schedules – Not supplemented

5.5. Twenty-Four Hour Reporting – Supplement to Attachment D, Provision 5.5

5.5.1. **Oil or Other Hazardous Material Spills**

5.5.1.1. Within 24 hours of becoming aware of a spill of oil or other hazardous material not contained onsite and completely cleaned up, the Discharger shall report as follows:

5.5.1.1.1. If the spill exceeds reportable quantities for hazardous materials listed in 40 C.F.R. part 302. The Discharger shall call the California Office of Emergency Services (800 852-7550).

5.5.1.1.2. If the spill does not exceed reportable quantities for hazardous materials listed in 40 C.F.R., part 302, the Discharger shall call the Regional Water Board (510-622-2369).

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

5.5.1.2.1. Date and time of spill, and duration if known;

5.5.1.2.2. Location of spill (street address or description of location);

5.5.1.2.3. Nature of material spilled;

5.5.1.2.4. Quantity of material spilled;

5.5.1.2.5. Receiving water body affected, if any;

5.5.1.2.6. Cause of spill;

5.5.1.2.7. Estimated size of affected area;

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

5.5.1.2.9. Corrective actions taken to contain, minimize, or clean up the spill;

5.5.1.2.10. Future corrective actions planned to prevent recurrence, and implementation schedule; and

5.5.1.2.11. Persons or agencies notified.

5.5.2. **Unauthorized Municipal Wastewater Treatment Plant Discharges**1F[1]

5.5.2.1. **Two-Hour Notification.** For any unauthorized discharge that enters a drainage channel or surface water, the Discharger shall, as soon as possible, but not later than two hours after becoming aware of the discharge, notify the California Office of Emergency Services (800-852-7550) and the local health officer or director of environmental health with jurisdiction over the affected water body. Notification shall include the following:

5.5.2.1.1. Incident description and cause;

5.5.2.1.2. Location of threatened or involved waterways or storm drains;

5.5.2.1.3. Date and time that the unauthorized discharge started;

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

5.5.2.1.5. Level of treatment prior to discharge (e.g., raw wastewater, primary-treated wastewater, or undisinfected secondary-treated wastewater); and

5.5.2.1.6. Identity of person reporting the unauthorized discharge.

5.5.2.2. **Five-Day Written Report.** Within five business days following the two-hour notification, the Discharger shall submit a written report that includes, in addition to the information listed in Provision 5.5.2.1, above, the following:

5.5.2.2.1. Methods used to delineate the geographical extent of the unauthorized discharge within receiving waters;

5.5.2.2.2. Efforts implemented to minimize public exposure to the unauthorized discharge;

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

5.5.2.2.4. Corrective measures taken to minimize the impact of the unauthorized discharge;

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

5.5.2.2.5. Measures to be taken to minimize the potential for a similar unauthorized discharge in the future;

5.5.2.2.6. Summary of Spill Prevention Plan or Operation and Maintenance Manual modifications to be made, if necessary, to minimize the potential for future unauthorized discharges; and

5.5.2.2.7. Quantity and duration of the unauthorized discharge, and the amount recovered.

5.6. Planned Changes – Not supplemented

5.7. Anticipated Noncompliance – Not supplemented

5.8. Other Noncompliance – Not supplemented

5.9. Other Information – Not supplemented

6. STANDARD PROVISIONS – ENFORCEMENT – NOT SUPPLEMENTED

7. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS – NOT SUPPLEMENTED

8. DEFINITIONS – ADDITION TO ATTACHMENT D

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

8.1. Arithmetic Calculations

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

Geometric Mean = Anti log ($1/N \sum \text{Log } C_i$)

or

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

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

8.1.2. **Mass Emission Rate.** The rate of discharge expressed in mass. The mass emission rate is obtained from the following calculation for any calendar day:

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

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

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

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

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

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

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

8.2. Blending – the practice of bypassing biological treatment units and recombining the bypass wastewater with biologically-treated wastewater.

8.3. Composite Sample – a sample composed of individual grab samples collected manually or by an automatic sampling device on the basis of time or flow as specified in the MRP. For flow-based composites, the proportion of each grab sample included in the composite sample shall be within plus or minus five percent (+/-5%) of the representative flow of the waste stream being measured at the time of grab sample collection. Alternatively, equal volume grab samples may be individually analyzed with the flow-weighted average calculated by averaging flow-weighted ratios of each grab sample analytical result. Grab samples comprising time-based composite samples shall be collected at intervals not greater than those specified in the MRP. The quantity of each grab sample comprising a time-based composite sample shall be a set of flow proportional volumes as specified in

the MRP. If a particular time-based or flow-based composite sampling protocol is not specified in the MRP, the Discharger shall determine and implement the most representative protocol.

8.4. Duplicate Sample – a second sample taken from the same source and at the same time as an initial sample (such samples are typically analyzed identically to measure analytical variability).

8.5. Grab Sample – an individual sample collected during a short period not exceeding 15 minutes. Grab samples represent only the condition that exists at the time the sample is collected.

8.6. Overflow – the intentional or unintentional spilling or forcing out of untreated or partially-treated waste from a transport system (e.g., through manholes, at pump stations, or at collection points) upstream of the treatment plant headworks or from any part of a treatment plant.

8.7. Priority Pollutants – those constituents referred to in 40 C.F.R. part 122 as promulgated in the Federal Register, Vol. 65, No. 97, Thursday, May 18, 2000, also known as the California Toxics Rule.

8.8. Untreated waste – raw wastewater.

Table B
List of Monitoring Parameters, Analytical Methods, and Minimum Levels (µg/L)[1]

CTR No.	Pollutant / Parameter	Analytical Method[2]	GC	GC MS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGF AA	HYD RIDE	CVAA	DCP
1	Antimony	204.2	-	-	-	-	10	5	50	0.5	5	0.5	-	1000
2	Arsenic	206.3	-	-	-	20	-	2	10	2	2	1	-	1000
3	Beryllium	-	-	-	-	-	20	0.5	2	0.5	1	-	-	1000
4	Cadmium	200 or 213	-	-	-	-	10	0.5	10	0.25	0.5	-	-	1000
5a	Chromium (III)	SM 3500	-	-	-	-	-	-	-	-	-	-	-	-
5b	Chromium (VI)	SM 3500	-	-	-	10	5	-	-	-	-	-	-	1000
	Chromium (total)[3]	SM 3500	-	-	-	-	50	2	10	0.5	1	-	-	1000
6	Copper	200.9	-	-	-	-	25	5	10	0.5	2	-	-	1000
7	Lead	200.9	-	-	-	-	20	5	5	0.5	2	-	-	10,000
8	Mercury	1631[4]	-	-	-	-	-	-	-	-	-	-	-	-
9	Nickel	249.2	-	-	-	-	50	5	20	1	5	-	-	1000
10	Selenium	200.8 or SM 3114B or C	-	-	-	-	-	5	10	2	5	1	-	1000
11	Silver	272.2	-	-	-	-	10	1	10	0.25	2	-	-	1000
12	Thallium	279.2	-	-	-	-	10	2	10	1	5	-	-	1000
13	Zinc	200 or 289	-	-	-	-	20	-	20	1	10	-	-	-
14	Cyanide	SM 4500 CN^- C or I	-	-	-	5	-	-	-	-	-	-	-	-
15	Asbestos (only required for dischargers to MUN waters)[5]	0100.2[6]	-	-	-	-	-	-	-	-	-	-	-	-
16	2,3,7,8-TCDD and 17 congeners (Dioxin)	1613	-	-	-	-	-	-	-	-	-	-	-	-
17	Acrolein	603	2.0	5	-	-	-	-	-	-	-	-	-	-
18	Acrylonitrile	603	2.0	2	-	-	-	-	-	-	-	-	-	-
19	Benzene	602	0.5	2	-	-	-	-	-	-	-	-	-	-
33	Ethylbenzene	602	0.5	2	-	-	-	-	-	-	-	-	-	-
39	Toluene	602	0.5	2	-	-	-	-	-	-	-	-	-	-
20	Bromoform	601	0.5	2	-	-	-	-	-	-	-	-	-	-
21	Carbon Tetrachloride	601	0.5	2	-	-	-	-	-	-	-	-	-	-

CTR No.	Pollutant / Parameter	Analytical Method[2]	GC	GC MS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGF AA	HYD RIDE	CVAA	DCP
22	Chlorobenzene	601	0.5	2	-	-	-	-	-	-	-	-	-	-
23	Chlorodibromomethane	601	0.5	2	-	-	-	-	-	-	-	-	-	-
24	Chloroethane	601	0.5	2	-	-	-	-	-	-	-	-	-	-
25	2-Chloroethylvinyl Ether	601	1	1	-	-	-	-	-	-	-	-	-	-
26	Chloroform	601	0.5	2	-	-	-	-	-	-	-	-	-	-
75	1,2-Dichlorobenzene	601	0.5	2	-	-	-	-	-	-	-	-	-	-
76	1,3-Dichlorobenzene	601	0.5	2	-	-	-	-	-	-	-	-	-	-
77	1,4-Dichlorobenzene	601	0.5	2	-	-	-	-	-	-	-	-	-	-
27	Dichlorobromomethane	601	0.5	2	-	-	-	-	-	-	-	-	-	-
28	1,1-Dichloroethane	601	0.5	1	-	-	-	-	-	-	-	-	-	-
29	1,2-Dichloroethane	601	0.5	2	-	-	-	-	-	-	-	-	-	-
30	1,1-Dichloroethylene or 1,1-Dichloroethene	601	0.5	2	-	-	-	-	-	-	-	-	-	-
31	1,2-Dichloropropane	601	0.5	1	-	-	-	-	-	-	-	-	-	-
32	1,3-Dichloropropylene or 1,3-Dichloropropene	601	0.5	2	-	-	-	-	-	-	-	-	-	-
34	Methyl Bromide or Bromomethane	601	1.0	2	-	-	-	-	-	-	-	-	-	-
35	Methyl Chloride or Chloromethane	601	0.5	2	-	-	-	-	-	-	-	-	-	-
36	Methylene Chloride or Dichloromethane	601	0.5	2	-	-	-	-	-	-	-	-	-	-
37	1,1,2,2-Tetrachloroethane	601	0.5	1	-	-	-	-	-	-	-	-	-	-
38	Tetrachloroethylene	601	0.5	2	-	-	-	-	-	-	-	-	-	-
40	1,2-Trans-Dichloroethylene	601	0.5	1	-	-	-	-	-	-	-	-	-	-
41	1,1,1-Trichloroethane	601	0.5	2	-	-	-	-	-	-	-	-	-	-
42	1,1,2-Trichloroethane	601	0.5	2	-	-	-	-	-	-	-	-	-	-
43	Trichloroethene	601	0.5	2	-	-	-	-	-	-	-	-	-	-
44	Vinyl Chloride	601	0.5	2	-	-	-	-	-	-	-	-	-	-
45	2-Chlorophenol	604	2	5	-	-	-	-	-	-	-	-	-	-
46	2,4-Dichlorophenol	604	1	5	-	-	-	-	-	-	-	-	-	-
47	2,4-Dimethylphenol	604	1	2	-	-	-	-	-	-	-	-	-	-

CTR No.	Pollutant / Parameter	Analytical Method[2]	GC	GC MS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGF AA	HYD RIDE	CVAA	DCP
48	2-Methyl-4,6-Dinitrophenol or Dinitro-2-methylphenol	604	10	5	-	-	-	-	-	-	-	-	-	-
49	2,4-Dinitrophenol	604	5	5	-	-	-	-	-	-	-	-	-	-
50	2-Nitrophenol	604	-	10	-	-	-	-	-	-	-	-	-	-
51	4-Nitrophenol	604	5	10	-	-	-	-	-	-	-	-	-	-
52	3-Methyl-4-Chlorophenol	604	5	1	-	-	-	-	-	-	-	-	-	-
53	Pentachlorophenol	604	1	5	-	-	-	-	-	-	-	-	-	-
54	Phenol	604	1	1	-	50	-	-	-	-	-	-	-	-
55	2,4,6-Trichlorophenol	604	10	10	-	-	-	-	-	-	-	-	-	-
56	Acenaphthene	610 HPLC	1	1	0.5	-	-	-	-	-	-	-	-	-
57	Acenaphthylene	610 HPLC	-	10	0.2	-	-	-	-	-	-	-	-	-
58	Anthracene	610 HPLC	-	10	2	-	-	-	-	-	-	-	-	-
60	Benzo(a)Anthracene or 1,2 Benzanthracene	610 HPLC	10	5	-	-	-	-	-	-	-	-	-	-
61	Benzo(a)Pyrene	610 HPLC	-	10	2	-	-	-	-	-	-	-	-	-
62	Benzo(b) Fluoranthene or 3,4 Benzofluoranthene	610 HPLC	-	10	10	-	-	-	-	-	-	-	-	-
63	Benzo(ghi)Perylene	610 HPLC	-	5	0.1	-	-	-	-	-	-	-	-	-
64	Benzo(k)Fluoranthene	610 HPLC	-	10	2	-	-	-	-	-	-	-	-	-
74	Dibenzo(a,h)Anthracene	610 HPLC	-	10	0.1	-	-	-	-	-	-	-	-	-
86	Fluoranthene	610 HPLC	10	1	0.05	-	-	-	-	-	-	-	-	-
87	Fluorene	610 HPLC	-	10	0.1	-	-	-	-	-	-	-	-	-
92	Indeno(1,2,3-cd)Pyrene	610 HPLC	-	10	0.05	-	-	-	-	-	-	-	-	-
100	Pyrene	610 HPLC	-	10	0.05	-	-	-	-	-	-	-	-	-
68	Bis(2-Ethylhexyl)Phthalate	606 or 625	10	5	-	-	-	-	-	-	-	-	-	-
70	Butylbenzyl Phthalate	606 or 625	10	10	-	-	-	-	-	-	-	-	-	-
79	Diethyl Phthalate	606 or 625	10	2	-	-	-	-	-	-	-	-	-	-
80	Dimethyl Phthalate	606 or 625	10	2	-	-	-	-	-	-	-	-	-	-
81	Di-n-Butyl Phthalate	606 or 625	-	10	-	-	-	-	-	-	-	-	-	-
84	Di-n-Octyl Phthalate	606 or 625	-	10	-	-	-	-	-	-	-	-	-	-
59	Benzidine	625	-	5	-	-	-	-	-	-	-	-	-	-
65	Bis(2-Chloroethoxy)Methane	625	-	5	-	-	-	-	-	-	-	-	-	-

CTR No.	Pollutant / Parameter	Analytical Method[2]	GC	GC MS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGF AA	HYD RIDE	CVAA	DCP
66	Bis(2-Chloroethyl)Ether	625	10	1	-	-	-	-	-	-	-	-	-	-
67	Bis(2-Chloroisopropyl) Ether	625	10	2	-	-	-	-	-	-	-	-	-	-
69	4-Bromophenyl Phenyl Ether	625	10	5	-	-	-	-	-	-	-	-	-	-
71	2-Chloronaphthalene	625	-	10	-	-	-	-	-	-	-	-	-	-
72	4-Chlorophenyl Phenyl Ether	625	-	5	-	-	-	-	-	-	-	-	-	-
73	Chrysene	625	-	10	5	-	-	-	-	-	-	-	-	-
78	3,3'-Dichlorobenzidine	625	-	5	-	-	-	-	-	-	-	-	-	-
82	2,4-Dinitrotoluene	625	10	5	-	-	-	-	-	-	-	-	-	-
83	2,6-Dinitrotoluene	625	-	5	-	-	-	-	-	-	-	-	-	-
85	1,2-Diphenylhydrazine[7]	625	-	1	-	-	-	-	-	-	-	-	-	-
88	Hexachlorobenzene	625	5	1	-	-	-	-	-	-	-	-	-	-
89	Hexachlorobutadiene	625	5	1	-	-	-	-	-	-	-	-	-	-
90	Hexachlorocyclopentadiene	625	5	5	-	-	-	-	-	-	-	-	-	-
91	Hexachloroethane	625	5	1	-	-	-	-	-	-	-	-	-	-
93	Isophorone	625	10	1	-	-	-	-	-	-	-	-	-	-
94	Naphthalene	625	10	1	0.2	-	-	-	-	-	-	-	-	-
95	Nitrobenzene	625	10	1	-	-	-	-	-	-	-	-	-	-
96	N-Nitrosodimethylamine	625	10	5	-	-	-	-	-	-	-	-	-	-
97	N-Nitrosodi-n-Propylamine	625	10	5	-	-	-	-	-	-	-	-	-	-
98	N-Nitrosodiphenylamine	625	10	1	-	-	-	-	-	-	-	-	-	-
99	Phenanthrene	625	-	5	0.05	-	-	-	-	-	-	-	-	-
101	1,2,4-Trichlorobenzene	625	1	5	-	-	-	-	-	-	-	-	-	-
102	Aldrin	608	0.005	-	-	-	-	-	-	-	-	-	-	-
103	α-BHC	608	0.01	-	-	-	-	-	-	-	-	-	-	-
104	β-BHC	608	0.005	-	-	-	-	-	-	-	-	-	-	-
105	γ-BHC (Lindane)	608	0.02	-	-	-	-	-	-	-	-	-	-	-
106	δ-BHC	608	0.005	-	-	-	-	-	-	-	-	-	-	-
107	Chlordane	608	0.1	-	-	-	-	-	-	-	-	-	-	-
108	4,4'-DDT	608	0.01	-	-	-	-	-	-	-	-	-	-	-
109	4,4'-DDE	608	0.05	-	-	-	-	-	-	-	-	-	-	-
110	4,4'-DDD	608	0.05	-	-	-	-	-	-	-	-	-	-	-

CTR No.	Pollutant / Parameter	Analytical Method[2]	GC	GC MS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGF AA	HYD RIDE	CVAA	DCP
111	Dieldrin	608	0.01	-	-	-	-	-	-	-	-	-	-	-
112	Endosulfan (alpha)	608	0.02	-	-	-	-	-	-	-	-	-	-	-
113	Endosulfan (beta)	608	0.01	-	-	-	-	-	-	-	-	-	-	-
114	Endosulfan Sulfate	608	0.05	-	-	-	-	-	-	-	-	-	-	-
115	Endrin	608	0.01	-	-	-	-	-	-	-	-	-	-	-
116	Endrin Aldehyde	608	0.01	-	-	-	-	-	-	-	-	-	-	-
117	Heptachlor	608	0.01	-	-	-	-	-	-	-	-	-	-	-
118	Heptachlor Epoxide	608	0.01	-	-	-	-	-	-	-	-	-	-	-
119-125	PCBs: Aroclors 1016, 1221, 1232, 1242, 1248, 1254, 1260	608	0.5	-	-	-	-	-	-	-	-	-	-	-
126	Toxaphene	608	0.5	-	-	-	-	-	-	-	-	-	-	-

Footnotes:

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

[2] The suggested method is the U.S. EPA Method unless otherwise specified (SM = Standard Methods). The Discharger may use another U.S. EPA-approved or recognized method if that method has a level of quantification below the applicable water quality objective. Where no method is suggested, the Discharger has the discretion to use any standard method.

[3] Analysis for total chromium may be substituted for analysis of chromium (III) and chromium (VI) if the concentration measured is below the lowest hexavalent chromium criterion (11 ug/l).

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

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

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

[7] Detected as azobenzene.

ATTACHMENT S– STORMWATER PROVISIONS, MONITORING, AND REPORTING REQUIREMENTS

CONTENTS

TABLE

ATTACHMENT S – STORMWATER PROVISIONS, MONITORING, AND REPORTING REQUIREMENTS

APPLICABILITY

These stormwater provisions only apply to facilities that do not direct all stormwater flows from proves areas to a wastewater treatment plant's headwork or do not enroll in NPDES Permit CAS000001 (General Permit for Stormwater Discharges Associated with Industrial Activities).

1. STORMWATER PROVISIONS – PERMIT COMPLIANCE

1.1. Stormwater Pollution Prevention Plan (SWPPP)

The Discharger shall prepare a SWPPP that includes the following elements:

1.1.1. Facility name and contact information;

1.1.2. Site map;

1.1.3. List of industrial materials;

1.1.4. Description of potential sources;

1.1.5. Assessment of potential pollutant sources;

1.1.6. Minimum Best Management Practices (BMPs);

1.1.7. Advanced BMPs, if applicable;

1.1.8. Monitoring implementation plan;

1.1.9. Annual comprehensive facility compliance evaluation; and

1.1.10. Date SWPPP initially prepared and dates of each SWPPP amendment.

The SWPPP shall be designed in accordance with good engineering practices to achieve the following objectives:

- Identify and evaluate all pollutant sources that may affect stormwater discharge quality;
- Identify, assign, and implement control measures and management practices to reduce or prevent pollutants in stormwater discharges; and
- Identify and describe conditions or circumstances that may require revisions to the SWPPP.

The SWPPP shall be retained onsite, revised whenever necessary, and made available upon request of any Regional Water Board representative. The SWPPP may be combined with the Spill Prevention Plan (Attachment G section 1.3.2).

1.2. Site Map

The Discharger shall prepare one or more site maps that include notes, legends, a north arrow, and other data as appropriate to ensure the map is clear, legible and understandable, including the following:

1.2.1 The facility boundary, stormwater drainage areas within the facility boundary, and portions of any drainage area impacted by discharges from surrounding areas (the maps shall include the flow direction of each drainage area, on-facility surface water bodies, areas of soil erosion, and locations of nearby water bodies [e.g., rivers, lakes, wetlands] or municipal storm drain inlets that may receive the facility's industrial stormwater discharges and authorized non-stormwater discharges);

1.2.2. Locations of stormwater collection and conveyance systems, associated discharge locations, and direction of flow (the maps shall include sample locations if different than the discharge locations);

1.2.3. Locations of stormwater collection and conveyance systems, associated discharge locations, and direction of flow (the maps shall include sample locations if different than the discharge locations);

1.2.4. I dentification of all impervious areas, including paved areas, buildings, covered storage areas, or other roofed structures;

1.2.5. Locations where materials are directly exposed to precipitation and the locations where identified significant spills or leaks have occurred; and

1.2.6. Areas of industrial activity (the maps shall identify all industrial storage areas and storage tanks, shipping and receiving areas, fueling areas, vehicle and equipment storage and maintenance areas, material handling and processing areas, waste treatment and disposal areas, dust or particulate generating areas, cleaning and material reuse areas, and other areas of industrial activity that may have potential pollutant sources).

1.3. List of Industrial Materials

The SWPPP shall contain a list of industrial materials handled at the facility and the locations where each material is stored, received, shipped, and handled, as well as the typical quantities and handling frequency.

1.4. Potential Pollutant Sources

The Discharger shall describe and assess potential stormwater pollutant sources, including the following:

1.4.1. **Industrial Processes.** Industrial processes may include manufacturing, cleaning, maintenance, recycling, and disposal. The SWPPP shall describe the type, characteristics, and approximate quantity of industrial materials used and areas protected by containment structures and the corresponding containment capacity.

1.4.2. **Material Handling and Storage Areas.** The SWPPP shall describe the type, characteristics, and quantity of industrial materials handled or stored; shipping, receiving, and loading procedures; spill and leak prevention and response procedures; and areas protected by containment structures and the corresponding containment capacity.

1.4.3. **Dust and Particulate Generating Activities.** The SWPPP shall describe the discharge locations, source type, and characteristics of the dust or particulate pollutant.

1.4.4. **Significant Spills and Leaks.** The Discharger shall evaluate the facility for areas where spills and leaks can occur. The SWPPP shall list any industrial materials spilled or leaked in significant quantities and discharged from the facility's stormwater conveyance system within the previous five years, including but not limited to any chemicals identified in 40 C.F.R. section 302 as reported on U.S. EPA Form R and any oil and hazardous substances discharged in excess of reportable quantities (40 C.F.R. §§ 110, 117, and 302). The SWPPP shall also list any industrial materials spilled or leaked in significant quantities that had the potential to be discharged from the facility's stormwater conveyance system within the previous five years. For each listed industrial material spill and leak, the SWPPP shall include the location, characteristics, and approximate quantity of the material spilled or leaked; the approximate quantity of the material discharged; the cleanup or remedial actions taken or planned; the approximate quantity of remaining material that could be discharged; and the preventive measures taken to ensure that spills or leaks do not reoccur.

1.4.5. **Non-Stormwater Discharges.** The SWPPP shall describe all non-stormwater discharges, including the source, quantity, frequency, characteristics, and associated drainage area, and indicate whether these discharges are authorized or unauthorized.

1.4.6. **Erodible Surfaces.** The SWPPP shall describe any facility locations where soil erosion may be caused by industrial activity, contact with stormwater,

authorized and unauthorized non-stormwater discharges, or run-on from areas surrounding the facility.

1.5. Assessment of Potential Pollutant Sources

The SWPPP shall include a narrative assessment of all areas of industrial activity with potential industrial pollutant sources, including, at a minimum, the following:

1.5.1. Facility areas with likely sources of pollutants;

1.5.2. Pollutants likely to be present in industrial stormwater discharges;

1.5.3. Approximate quantity, physical characteristics (e.g., liquid, powder, solid), and locations of each industrial material handled, produced, stored, recycled, or disposed;

1.5.4. Degree to which the pollutants associated with such materials may be exposed to, and mobilized by, contact with stormwater;

1.5.5. Direct and indirect pathways by which pollutants may be exposed to stormwater;

1.5.6. Sampling, visual observation, and inspection records;

1.5.7. Effectiveness of existing BMPs to reduce or prevent pollutants in industrial stormwater discharges; and

1.5.8. Estimated effectiveness of implementing, to the extent feasible, minimum BMPs to reduce or prevent pollutants in industrial stormwater discharges.

Based upon the assessment, the SWPPP shall identify facility areas where the minimum BMPs described in Provision 1.6, below, will not adequately reduce or prevent pollutants in stormwater discharges and any necessary advanced BMPs, as described in Provision 1.7, below, for those areas.

1.6. Minimum Best Management Practices (BMPs)

The Discharger shall, to the extent feasible, implement and maintain the following BMPs:

1.6.1. **Good Housekeeping.** The Discharger shall do the following:

1.6.1.1. Observe all outdoor areas associated with industrial activity, including stormwater discharge locations, drainage areas, conveyance systems, waste handling and disposal areas, and perimeter areas affected by off-facility materials or stormwater run-on to determine housekeeping needs. Any

identified debris, waste, spills, tracked materials, or leaked materials shall be cleaned and disposed of properly;

1.6.1.2. Minimize or prevent material tracking;

1.6.1.3. Minimize dust generated from industrial materials or activities;

1.6.1.4. Ensure that all facility areas impacted by rinse or wash waters are cleaned as soon as possible;

1.6.1.5. Cover all stored industrial materials that can be readily mobilized by contact with stormwater;

1.6.1.6. Contain all stored non-solid industrial materials or wastes (e.g., particulates, powders, shredded paper) that can be transported or dispersed by the wind or contact with stormwater;

1.6.1.7. Prevent disposal of any rinse or wash waters or industrial materials into the stormwater conveyance system;

1.6.1.8. Minimize stormwater discharges from non-industrial areas (e.g., stormwater flows from employee parking areas) that contact industrial areas of the facility; and,

1.6.1.9. Minimize authorized non-stormwater discharges from non-industrial areas (e.g., potable water, fire hydrant testing) that contact areas of the sanitary or industrial facility.

1.6.2. **Preventative Maintenance.** The Discharger shall (1) identify all equipment and systems used outdoors that may spill or leak pollutants, (2) observe the identified equipment and systems to detect leaks or identify conditions that may result in the development of leaks, (3) establish an appropriate schedule for maintenance of identified equipment and systems, and (4) establish procedures for prompt maintenance and repair of equipment and maintenance of systems when conditions exist that may result in the development of spills or leaks.

1.6.3. **Spill and Leak Prevention and Response.** The Discharger shall (1) establish procedures and controls to minimize spills and leaks; (2) develop and implement spill and leak response procedures to prevent industrial materials from discharging through the stormwater conveyance system (spilled or leaked industrial materials shall be cleaned promptly and disposed of properly); (3) identify and describe all necessary and appropriate spill and leak response equipment, locations of spill and leak response equipment, and spill or leak response equipment maintenance procedures; and (4) identify and train appropriate spill and leak response personnel.

1.6.4. **Material Handling and Waste Management.** The Discharger shall do the following:

1.6.4.1. Prevent or minimize handling of industrial materials or wastes that can be readily mobilized by contact with stormwater during a storm;

1.6.4.2. Contain all stored non-solid industrial materials or wastes (e.g., particulates, powers, shredded paper) that can be transported or dispersed by the wind or contact with stormwater;

1.6.4.3. Cover industrial waste disposal containers and industrial material storage containers that contain industrial materials when not in use;

1.6.4.4. Divert run-on and stormwater generated from within the facility away from all stockpiled materials;

1.6.4.5. Clean all spills of industrial materials or wastes that occur during handling in accordance with spill response procedures; and,

1.6.4.6. Observe and clean, as appropriate, any outdoor material or waste handling equipment or containers that can be contaminated by contact with industrial materials or wastes.

1.6.5. **Erosion and Sediment Control.** The Discharger shall (1) implement effective wind erosion controls; (2) provide effective stabilization for inactive areas, finished slopes, and other erodible areas prior to a forecasted storms; (3) maintain effective perimeter controls and stabilize site entrances and exits to sufficiently control discharges of erodible materials; and (4) divert run-on and stormwater generated from within the facility away from erodible materials.

1.6.6. **Employee Training.** The Discharger shall ensure that all personnel implementing the SWPPP are properly trained with respect to BMP implementation, BMP effectiveness evaluations, visual observations, and monitoring activities. The Discharger shall identify which personnel need to be trained, their responsibilities, and the type of training they are to receive and maintain documentation of completed training and the personnel that received the training with the SWPPP.

1.6.7. **Quality Assurance and Record Keeping.** The Discharger shall (1) develop and implement management procedures to ensure that appropriate personnel implement all SWPPP elements; (2) develop methods of tracking and recording BMP implementation; and (3) maintain BMP implementation records, training records, and records related to any spills and clean-up related response activities for a minimum of five years.

1.7. Action Levels and Advanced BMPs

If the Discharger samples total suspended solids (TSS), oil and grease, or pH in excess of an action level in Table S-1, the Discharger shall review the SWPPP to identify appropriate modifications to existing BMPs or additional BMPs as necessary to reduce pollutant discharge concentrations to levels below the action level. The Discharger shall revise the SWPPP accordingly before the next storm, if possible, or as soon as practical, and in no event later than three months following the exceedance.

Table S-1. Stormwater Action Levels

Parameter	Unit	Instantaneous Action Level	Annual Action Level
Total Suspended Solids	mg/L	400	100
Oil and Grease	mg/L	25	15
pH	s.u.	6.0-9.0[1]	—-

Footnotes:

[1] Values below or above this range require action.

If, upon subsequent monitoring, the pollutants measured in Table S-1 continue to exceed their respective action levels, the Discharger shall further evaluate its BMPs and update its SWPPP accordingly to include advanced BMPs in addition to the minimum BMPs described in Provision 1.6, above. The Discharger shall, to the extent feasible, implement and maintain any advanced BMPs identified pursuant to Provision 1.5.8, above, as necessary to reduce or prevent discharges of pollutants in stormwater discharges in a manner that reflects best industry practice considering technological availability and economic practicability and achievability. Advanced BMPs may include one or more of the following:

1.7.1. **Exposure Minimization BMPs**. These include storm resistant shelters (either permanent or temporary) that prevent the contact of stormwater with identified industrial materials.

1.7.2. **Stormwater Containment and Discharge Reduction BMPs.** These include BMPs that divert, infiltrate, reuse, contain, retain, or reduce the volume of stormwater runoff.

1.7.3. **Treatment Control BMPs.** These include mechanical, chemical, biologic, or any other treatment technology that will meet the treatment design standard.

1.8. BMP Descriptions

The SWPPP shall identify each BMP being implemented at the facility, including the following:

1.8.1. The pollutants the BMP is designed to reduce or prevent;

1.8.2. The frequency, times of day, or conditions when the BMP is scheduled for implementation;

1.8.3. The locations within each area of industrial activity or industrial pollutant source where the BMP shall be implemented;

1.8.4. The individual responsible for implementing the BMP;

1.8.5. The procedures, including maintenance procedures, and instructions to implement the BMP effectively; and

1.8.6. The equipment and tools necessary to implement the BMP effectively.

1.9. Annual Comprehensive Facility Compliance Evaluation

The Discharger shall conduct one annual facility evaluation for each reporting year (July 1 to June 30). If the Discharger conducts an annual evaluation fewer than 8 months, or more than 16 months, after it conducts the previous annual evaluation, it shall document the justification for doing so. The Discharger shall revise the SWPPP, as appropriate, and implement the revisions within 90 days of the annual evaluation. At a minimum, the annual evaluations shall consist of the following:

1.9.1. A review of all sampling, visual observation, and inspection records conducted during the previous reporting year;

1.9.2. An inspection of all areas of industrial activity and associated potential pollutant sources for evidence of, or the potential for, pollutants entering the stormwater conveyance system;

1.9.3. An inspection of all drainage areas previously identified as having no exposure to industrial activities and materials;

1.9.4. An inspection of equipment needed to implement the BMPs; and

1.9.5. An assessment of any other factors needed to comply with the requirements of the Annual Stormwater Report (see Provision 3.1, below).

2. STORMWATER PROVISIONS – MONITORING

2.1. Monthly Visual Observations

2.1.1. At least once per month, the Discharger shall visually observe each drainage area for the following:

2.1.1.1. The presence or indication of prior, current, or potential unauthorized non-stormwater discharges and their sources;

2.1.1.2. Authorized non-stormwater discharges, sources, and associated BMPs; and

2.1.1.3. Outdoor industrial equipment and storage areas, outdoor industrial activities areas, BMPs, and all other potential sources of industrial pollutants.

2.1.2. The monthly visual observations shall be conducted during daylight hours of scheduled facility operating hours and on days without precipitation.

2.1.3. The Discharger shall provide an explanation in the Annual Stormwater Report for uncompleted monthly visual observations (see Provision 3.1, below).

2.2. Sampling Event Visual Observations

Sampling event visual observations shall be conducted at the same time sampling occurs at a discharge location. At each discharge location where a sample is obtained, the Discharger shall observe the discharge of stormwater associated with industrial activity.

2.2.1. The Discharger shall ensure that visual observations of stormwater discharged from containment sources (e.g., secondary containment or storage ponds) are conducted at the time that the discharge is sampled.

2.2.2. If the Discharger employs volume-based or flow-based treatment BMPs, it shall sample any bypass that occurs while the visual observations and sampling of stormwater discharges are conducted.

2.2.3. The Discharger shall visually observe and record the presence or absence of floating and suspended materials, oil and grease, discolorations, turbidity, odors, trash/debris, and sources of any discharged pollutants.

2.2.4. If a discharge location is not visually observed during the sampling event, the Discharger shall record which discharge locations were not observed during sampling or that there was no discharge from the discharge location.

2.2.5. The Discharger shall provide an explanation in the Annual Stormwater Report for uncompleted sampling event visual observations (see Provision 4.1, below).

2.3. Visual Observation Records

The Discharger shall maintain records of all visual observations. Records shall include the date, approximate time, locations observed, presence and probable source of any observed pollutants, name of persons who conducted the

observations, and any response actions and/or additional SWPPP revisions necessary in response to the visual observations.

2.4. SWPPP Revisions

The Discharger shall revise its BMPs as necessary when the visual observations indicate pollutant sources have not been adequately addressed.

2.5. Sampling and Analysis

2.5.1. The Discharger shall collect and analyze stormwater samples as specified in the MRP.

2.5.2. Samples shall be (1) representative of stormwater associated with industrial activities and any commingled authorized non-stormwater dischargers; or (2) associated with the discharge of contained stormwater.

2.5.3. On a facility-specific basis, the Discharger shall also analyze additional parameters that serve as indicators of the presence of all industrial pollutants identified in the pollutant source assessment. These additional parameters may be modified (added or removed) in accordance with any updated SWPPP pollutant source assessment.

3. STORMWATER PROVISIONS – REPORTING

3.1. Annual Stormwater Report

The results of the Discharger's Annual Comprehensive Facility Compliance Evaluation shall be reported in the Annual Stormwater Report to the Regional Water Board no later than July 30. The Discharger shall include in the Annual Stormwater Report the following:

3.1.1. A compliance checklist that indicates whether the Discharger has complied with or addressed all applicable requirements of the SWPPP;

3.1.2. An explanation for any non-compliance requirements within the reporting year, as indicated in the compliance checklist;

3.1.3. An identification, including page numbers and sections, of all revisions made to the SWPPP within the reporting year; and

3.1.4. The date(s) of the annual evaluation.

4. STORMWATER PROVISIONS – DEFINTIONS

4.1. Authorized Non-Stormwater Discharges – non-stormwater discharges are authorized if they meet the following conditions:

4.1.1. Fire-hydrant and fire prevention or response system flushing;

4.1.2. Potable water sources, including potable water related to the operation, maintenance, or testing of potable water systems;

4.1.3. Drinking fountain water and atmospheric condensate, including refrigeration, air conditioning, and compressor condensate;

4.1.4. Irrigation drainage and landscape watering, provided that all pesticides, herbicides, and fertilizers have been applied in accordance with manufacturer's labels;

4.1.5. Uncontaminated natural springs, groundwater, foundation drainage, footing drainage;

4.1.6. Seawater infiltration where the seawater is discharged back into the source; or,

4.1.7. Incidental windblown mist from cooling towers that collects on rooftops or adjacent portions of the facility, but not intentional discharges from cooling towers (e.g., "piped" cooling tower blowdown or drains).

4.2. Stormwater – stormwater runoff, snow melt runoff, and surface runoff and drainage, excluding infiltration and runoff from agricultural land.