STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

STAFF SUMMARY REPORT (Marcos De la Cruz)
MEETING DATE: December 13, 2017

ITEM: **6**

SUBJECT: **General Waste Discharge Requirements for Discharge or Reclamation of Extracted and Treated Groundwater Resulting from the Cleanup of Groundwater Polluted by Volatile Organic Compounds (VOCs), Fuel Leaks, Fuel Additives, and Other Related Wastes (VOC and Fuel General Permit)** – Reissuance of General NPDES Permit

CHRONOLOGY: February 2012 – General Permit issued.

DISCUSSION: This Revised Tentative Order (Appendix A) would reissue a general permit that regulates discharges from facilities that treat extracted groundwater at sites where groundwater has been polluted by VOCs, fuel leaks, fuel additives, or other related compounds. Discharges from these facilities occur at active or closed cleanup sites, such as fuel stations and construction sites. The Revised Tentative Order includes effluent limitations and monitoring requirements to control pollutant discharges, encourage reclamation of treated groundwater, and ensure permit compliance.

The Revised Tentative Order differs from the 2012 permit in that it contains lower technology-based effluent limits (TBELs) for many VOCs and fuel components and new water quality-based effluent limits (WQBELs) for some metals. The lower TBELs reflect current information and are necessary to improve how dischargers manage their treatment system performance. The new WQBELs are necessary to accommodate discharges that inadvertently contain metals above water quality standards. This would allow such dischargers to remain enrolled under this general permit; otherwise, these dischargers might need to apply for individual permits.

We received numerous comments (Appendix B) on a tentative order circulated for public review. The most significant comments requested that the Board retain the existing TBELs and not impose the new WQBELs. Barring that, the comments requested additional time to comply with the new requirements. As explained in our response (Appendix C), we revised the tentative order in a number of ways, including postponing the proposed effective date to July 1, 2018, so as to provide additional time to comply. We anticipate that some dischargers may wish to speak at the Board hearing on this matter.

RECOMMEN-
DATION: Adoption of the Revised Tentative Order

FILE: CW-790546

APPENDICES: A. Revised Tentative Order
B. Comments
C. Response to Comments

Appendix A
Revised Tentative Order

ORDER No. R2-2017-00XX
NPDES PERMIT No. CAG912002

GENERAL WASTE DISCHARGE REQUIREMENTS FOR Discharge or Reclamation of Extracted and Treated Groundwater Resulting from the Cleanup of Groundwater Polluted by Volatile Organic Compounds (VOCs), Fuel Leaks, Fuel Additives, and Other Related Wastes (VOC and Fuel General Permit)

Table 1. Administrative Information

This Order was adopted by the California Regional Water Quality Control Board, San Francisco Bay Region (Regional Water Board), on:	
This Order shall become effective on:	**July 1, 2018**
This Order shall expire on:	**June 30, 2023**
CIWQS Place Number	**790546**
CIWQS Regulatory Measure Number	**412210**
The U.S. Environmental Protection Agency (U.S. EPA) and the Regional Water Board have classified the discharges under this general National Pollutant Discharge Elimination System (NPDES) permit (General Permit) as minor discharges based on the discharges' impact to receiving waters.	
To obtain coverage under this General Permit, prospective Dischargers must submit a Notice of Intent (NOI) form as shown in Attachment B and a filing fee equivalent to the first year's annual fee. If the NOI is complete, the Executive Officer will issue an Authorization to Discharge. Dischargers enrolled under Order No. R2-2012-0012 that also submitted an NOI at the end of that order's term need not submit a new NOI form to enroll under this Order.	
Authorized Dischargers who wish to continue discharging after this Order's expiration date shall file a new completed NOI form no later than 270 days in advance of this Order's expiration date. Such discharges may become subject to a reissued order upon Executive Officer authorization.	

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

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Bruce H. Wolfe, Executive Officer

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Tables

Attachments

I. SCOPE OF GENERAL PERMIT

These Waste Discharge Requirements (WDRs) shall serve as an NPDES General Permit for the discharge or reclamation of extracted and treated groundwater resulting from the cleanup of groundwater at active or closed cleanup sites, such as fuel stations or construction sites. These groundwater treatment facilities extract or treat groundwater polluted by volatile organic compounds (VOCs), fuel leaks, fuel additives, or other related wastes (e.g., semi-volatile organic compounds [SVOCs], polycyclic aromatic hydrocarbons [PAHs], and metals).

This Order covers discharges from these facilities to any surface waters, such as creeks, streams, rivers (including flood control channels), lakes, or San Francisco Bay. Such discharges may occur directly to surface waters or through constructed storm drain systems.

This General Permit does not cover:

1. Discharges to sanitary sewer systems;
2. Sewage;
3. Discharges covered under an individual NPDES permit or WDRs; or
4. Discharges to the Pacific Ocean.

The Fact Sheet (Attachment F) provides additional information describing covered discharges.

Dischargers typically use aeration or granular activated carbon (GAC) systems, or both, to treat their groundwater prior to discharge. Facilities that employ other types of treatment that effectively remove VOCs, fuel-related pollutants, or other related wastes may also be authorized pursuant to this Order subject to Executive Officer approval.

To obtain coverage under this Order, a Discharger must complete a Notice of Intent (NOI) form (Attachment B) that, among other things, describes the treatment system installed at its facility.

II. FINDINGS

The Regional Water Board finds:

A. Legal Authorities. This Order serves as WDRs pursuant to California Water Code article 4, chapter 4, division 7 (commencing with § 13260). This Order is also issued pursuant to federal Clean Water Act (CWA) section 402 and implementing regulations adopted by U.S. EPA and Water Code chapter 5.5, division 7 (commencing with § 13370).

B. Background and Rationale for Requirements. The Regional Water Board developed the requirements in this Order based on information obtained through monitoring and reporting programs and other available information. The Fact Sheet contains background information and rationale for the requirements in this Order and is hereby incorporated into and constitutes findings for this Order. Attachments A through F and G are also incorporated into this Order.

C. Provisions and Requirements Implementing State Law. Some discharge prohibitions and provisions and monitoring and reporting requirements of this Order implement State law only. They are not required under the federal CWA; consequently, violations of these provisions are subject to the enforcement remedies available under the Porter-Cologne Water Quality Control Act.

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

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

THEREFORE, IT IS HEREBY ORDERED that Order No. R2-2012-0012 (previous order) is rescinded upon the effective date of this Order, except for enforcement purposes, and in order to meet the provisions of Water Code division 7 (commencing with § 13000) and regulations adopted thereunder, and the provisions of the CWA and regulations and guidelines adopted thereunder, Dischargers authorized to discharge pursuant to this Order shall comply with the requirements in this Order. This action in no way prevents the Regional Water Board from taking enforcement action for violations of the previous order.

III. DISCHARGE PROHIBITIONS

A. Discharge of waste at a location or in a manner different than that described in an NOI and Authorization to Discharge is prohibited.

B. Discharge of silt, sand, clay, or other earthen materials in quantities sufficient to cause deleterious bottom deposits, turbidity, or discoloration in surface waters, or to unreasonably affect or threaten to affect beneficial uses, is prohibited.

C. Discharge of floating debris, oil, grease, scum, or other floating materials is prohibited.

D. Discharges to a storm drain is prohibited if it causes scouring or erosion at the point where the storm drain discharges into the receiving water, or causes or contributes to scouring of banks, excessive sedimentation, or flooding of the storm drain system or receiving water downstream of the point of discharge.

E. Discharge of pollutants so as to create pollution, contamination, or nuisance as defined by Water Code section 13050 is prohibited.

F. Bypass or overflow of untreated or partially-treated groundwater containing VOCs, fuel leaks, fuel additives, or other related wastes to waters of the State or United States from the treatment system, or any collection or transport system or pump station tributary to the treatment system, is prohibited, except as provided for in Attachment D section I.G.

G. Water reclamation consisting of recharge or reinjection is prohibited.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. All discharges from each groundwater treatment facility, including discharges to outfalls defined in an NOI and Authorization to Discharge, shall comply with the following effluent limits.

Upon becoming aware of any effluent limitation violation, the Discharger shall contain the effluent in a holding tank or shut down the extraction and treatment system until the violation is

corrected. The Discharger shall re-treat the contents of the holding tank to ensure that they comply with this Order. Alternatively, the contents can be discharged to a publicly-owned treatment works (POTW). The Discharger shall obtain permission from the POTW for any temporary or permanent discharges to the sanitary sewer.

Table 2. Effluent Limitations

Pollutant	Discharge to Receiving Waters Used as Drinking Water[1]		Discharge to Other Receiving Waters	
	Monthly Average (µg/L)	Daily Maximum (µg/L)	Monthly Average (µg/L)	Daily Maximum (µg/L)
pH	Between 6.5 and 8.5 units at all times.			
Antimony, Total Recoverable	--	6.0	4,300	8,600
Arsenic, Total Recoverable	--	10.	30.	59
Cadmium, Total Recoverable	0.90	1.8	0.90	1.8
Chromium III	--	50.	170	340
Chromium VI	--	10.	8.1	16
Copper, Total Recoverable [2]				
Lower or South SF Bay Discharge	10.	20.	10.	20.
Central SF Bay Discharge	5.4	11	5.4	11
Suisun or San Pablo Bay Discharge	7.1	14	7.1	14
Freshwater Discharge	7.0	14	7.0	14
Lead, Total Recoverable	2.6	5.2	2.6	5.2
Mercury, Total Recoverable	0.050	0.10	0.050	0.10
Nickel, Total Recoverable [2]				
Lower or South SF Bay Discharge	15	31	15	31
Central SF Bay Discharge	10.	21	10.	21
Suisun or San Pablo Bay Discharge	25	50.	25	50.
Freshwater Discharge	43	86	43	86
Selenium, Total Recoverable	4.1	8.2	4.1	8.2
Silver, Total Recoverable	1.1	2.2	1.1	2.2
Thallium, Total Recoverable	--	2.0	6.3	13
Zinc, Total Recoverable	47	95	47	95
Benzene	--	0.50	--	0.50
Chloroform	--	1.9	--	1.9
1,1-Dichloroethane	--	0.50	--	0.50
1,2-Dichloroethane	0.38	0.50	--	0.50
1,1-Dichloroethylene	0.057	0.11	--	0.50
Ethylbenzene	--	0.50	--	0.50
Tetrachloroethylene	--	0.50	--	0.50
Toluene	--	0.50	--	0.50
Cis-1,2-Dichloroethylene	--	0.50	--	0.50
Trans-1,2-Dichloroethylene	--	0.50	--	0.50
1,1,1-Trichloroethane	--	0.50	--	0.50
1,1,2-Trichloroethane	--	0.50	--	0.50
Trichloroethylene	--	0.65	--	0.65
Vinyl Chloride	--	0.50	--	0.90
Benzo(a)Anthracene	0.0044	0.0088	0.049	0.098

Pollutant	Discharge to Receiving Waters Used as Drinking Water[1]		Discharge to Other Receiving Waters	
	Monthly Average (µg/L)	Daily Maximum (µg/L)	Monthly Average (µg/L)	Daily Maximum (µg/L)
Benzo(a)Pyrene	0.0044	0.0088	0.049	0.098
Benzo(b)Fluoranthene	0.0044	0.0088	0.049	0.098
Benzo(k)Fluoranthene	0.0044	0.0088	0.049	0.098
Chrysene	0.0044	0.0088	0.049	0.098
Dibenzo(a,h)Anthracene	0.0044	0.0088	0.049	0.098
Indeno(1,2,3-cd) Pyrene	0.0044	0.0088	0.049	0.098
Total Xylenes	--	0.50	--	0.50
Methyl Tertiary Butyl Ether	--	0.50	--	0.50
TPH as gasoline	--	50	--	50
TPH as diesel	--	50	--	50
TPH as motor oil	--	100	--	100
Sulfate	250,000	500,000	--	--
Manganese	50	100	--	--
Turbidity	5.0 NTU	10. NTU	--	--
Chlorine, Total Residual	--	0.0[3]	--	0.0[3]

Abbreviations:

µg/L = micrograms per liter
NTU = nephelometric turbidity unit

Footnotes:

[1] Receiving Waters Used as Drinking Water are defined as surface waters with existing or potential beneficial uses of "Municipal and Domestic Supply" or "Groundwater Recharge," or both. Groundwater recharge uses may include recharge areas to maintain salt balance or to halt salt water intrusion into fresh water aquifers.

[2] The WQBEL for each estuarine discharge depends on the sub-embayment into which the discharge eventually flows. Freshwater WQBELs apply when the receiving water salinity is no more than one part per thousand at least 95 percent of the time.

[3] This limit shall be applied as an instantaneous maximum. There shall be no detectable residual chlorine in the effluent (as explained in MRP section IX.B.5, a non-detect result using a detection level equal or less than 0.1 milligrams per liter [mg/L] will not be considered out of compliance).

B. Discharges shall comply with the following acute toxicity limitations, with compliance measured at Monitoring Location EFF-00n as described in the MRP:

1. A 3-sample median value of not less than 90 percent survival.

2. A single sample value of not less than 70 percent survival

These acute toxicity limitations are defined as follows:

- **3- sample median.** A bioassay test showing survival of less than 90 percent represents a violation of this effluent limit if one or more of the past two bioassay tests also show less than 90 percent survival.

- **Single sample.** A bioassay test showing survival of less than 70 percent represents a violation of this effluent limit.

V. RECEIVING WATER LIMITATIONS

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

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

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

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

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

5. Alteration of temperature beyond present natural background levels;

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;

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

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

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

B. Discharge shall not cause the following limits to be exceeded in receiving waters within one foot of the water surface:

1. Dissolved Oxygen

a. For San Francisco Bay and tidal waters, the following limitations shall apply:

Downstream of Carquinez Bridge: 5.0 mg/L, minimum
Upstream of Carquinez Bridge: 7.0 mg/L, minimum

b. For non-tidal waters, the following limitations shall apply:

Cold habitat waters: 7.0 mg/L, minimum
Warm habitat waters: 5.0 mg/L, minimum

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

2. **Dissolved Sulfide.** Dissolved sulfide shall not exceed natural background levels (0.1 mg/L maximum).

3. **pH.** The pH shall not be depressed below 6.5 nor raised above 8.5, nor cause to vary from normal ambient pH by more than 0.5 pH units.

4. **Nutrients.** Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses.

C. 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.

VI. PROVISIONS

A. Standard Provisions

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

B. Monitoring and Reporting Provisions

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

C. Special Provisions

1. Reopener Provisions

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

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

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

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

d. If State Water Board-precedential decisions, new policies, new laws, or new regulations are adopted.

e. If an administrative or judicial decision on a separate NPDES permit or WDRs addresses requirements similar to those applicable to these discharges.

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

g. Or as otherwise authorized by law.

2. Application for General Permit Coverage and Authorization to Discharge

a. Notice of Intent (NOI). A prospective Discharger seeking Authorization to Discharge pursuant to this Order shall complete and submit the NOI form in Attachment B, including results for all parameters listed in NOI for section IX.A. A prospective Discharger seeking coverage for similar discharges from multiple groundwater treatment facilities may complete one NOI that describes all proposed discharges. A prospective discharger shall submit a separate fee for each non-contiguous site. Dischargers enrolled under the previous order that also submitted an NOI at the end of the previous order term need not submit new NOI forms to continue their authorization to discharge. The Executive Officer may modify the NOI form in Attachment B or require additional information prior to authorizing any discharge.

b. Facility Modifications. At least 30 days prior to any significant facility modification (e.g., change in flow rate, treatment system design, or outfall location), the Discharger proposing the modification shall submit a modified NOI form (e.g., a mark-up of the original NOI form showing all changes and including a new signature and date). The Discharger shall include a transmittal letter describing the changes, their purpose, when they are to go into effect, and any new or differnt measures taken or planned to prevent potential non-compliance with this Order's requirements.

c. NOI Review. Upon receipt of a complete NOI application for a proposed discharge, the Executive Officer will review the application to determine whether the proposed Discharger is eligible to discharge under this Order. The application shall document the following:

i. The proposed discharge results from the cleanup of groundwater polluted by VOCs, fuel leaks, fuel additives, or other related wastes;

ii. The Discharger has satisfied the requirements of Regional Water Board Resolution No. 88-160 (*Regional Water Board Position on the Disposal of Extracted Groundwater from Groundwater Cleanup Projects*); and

iii. The proposed treatment system and associated operation, maintenance, and monitoring plans are capable of ensuring that the discharge will meet the prohibitions, effluent limitations, receiving water limitations, and provisions of this Order.

d. Authorization to Discharge. If the Executive Officer concludes that a proposed Discharger is eligible for coverage under this Order, the Executive Officer will issue an Authorization to Discharge. Upon the effective date of the Authorization to Discharge, the Discharger shall comply with the requirements of this Order and its attachments. Any

non-compliance with this Order's requirements shall constitute a violation of the CWA and Water Code and may be grounds for enforcement; termination, revocation and reissuance, or modification of the Authorization to Discharge; issuance of an individual permit; or denial of an application for reissuance.

e. Application to Extend Coverage. A Discharger that intends to continue discharging after the expiration date stated on the first page of this Order shall file a new NOI form by October 3, 2022.

f. Discharge Termination. A Discharger may terminate its coverage under this Order by submitting a complete and signed Notice of Termination form (Attachment C) and stating the reason for termination. The Executive Officer may also terminate or revoke coverage under this Order for any of the causes specified for an individual permit as set forth in 40 C.F.R. section 122.28(b)(3). After providing notice and an opportunity for a hearing, coverage under this Order may be terminated or modified for cause, including, but not limited to, the following:

i. Violation of any term or condition of this Order,

ii. Misrepresentation or failure to disclose all relevant facts in obtaining coverage under this Order, or

iii. Change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

g. Need for Individual NPDES Permit. The Executive Officer may require any Discharger authorized to discharge pursuant to this Order to subsequently apply for and obtain an individual NPDES permit in the following circumstances:

i. The Discharger is not in compliance with this Order's requirements,

ii. A change has occurred in the availability of demonstrated technology or practices for the control or abatement of pollutants from the facility,

iii. Effluent limitation guidelines are promulgated for a discharge covered by this Order,

iv. A new or revised water quality control plan containing requirements applicable to a discharge is approved,

v. The requirements of 40 C.F.R. section 122.28(a) (the circumstances under which the Regional Water Board is authorized to issue a general permit) are not met, or

vi. Any other condition specified in 40 C.F.R. section 122.28(b)(3) is met.

3. Water Reclamation Specifications (Water Reclamation only)

a. Reclamation Activities. Reclaimed water quality shall be consistent with the effluent limitations applicable to the discharge. Water reclamation activities shall be described in the Discharger's NOI, including the method of any additional treatment and location and type of water reclamation.

b. Public Health. Adequate measures shall be taken to minimize public contact with reclaimed groundwater and to prevent the breeding of flies, mosquitos, and other vectors of public health significance during or after the reclamation process.

c. Public Awareness. Public warnings shall be posted to advise the public that the reclaimed water is not suitable for drinking. Signs shall be posted in the area, and all reclamation water valves and outlets shall be visibly labeled.

d. Cross-connections. There shall be no cross-connection between the potable water supply and piping containing treated groundwater intended for reclamation.

4. Construction, Reliability, Operation, and Maintenance Specifications

a. Wastewater Facilities Review and Evaluation, and Status Reports

i. The Discharger shall retain a professional engineer licensed to practice in the State of California to oversee the design, reliability, operation and maintenance, and monitoring of the treatment system to ensure compliance with this Order.

ii. The Discharger shall operate and maintain wastewater treatment facilities in a manner to ensure that all facilities are adequately staffed, supervised, financed, operated, maintained, repaired, and upgraded as necessary to provide adequate and reliable treatment and disposal of all wastewater.

iii. The Discharger shall regularly review and evaluate its wastewater facilities and operational practices in accordance with the paragraph above and, so as to adapt to the potential impacts of climate change, consistent with then-current projections of sea level rise and storm surge. The Discharger shall conduct these reviews and evaluations as an ongoing component of the administration of its wastewater facilities.

iv. The Discharger shall provide the Executive Officer, upon request, a report describing the current status of its wastewater facilities and operational practices, including any recommended or planned actions and a time schedule for these actions.

v. The Discharger shall provide a status report in each annual self-monitoring report. The status report shall describe the review and evaluation procedures, results of the review and evalution, and any capital improvement projects.

b. Operations and Maintenance Manual Review and Status Reports

i. The Discharger shall maintain Operation and Maintenance Manuals for its wastewater facilities in usable condition and make them available for reference and use by all relevant personnel and Regional Water Board staff.

ii. The Discharger shall regularly review, and revise or update as necessary, its Operation and Maintenance Manuals so they remain useful and relevant to current equipment, operational practices, instrument calibration procedures and schedules, and sampling and analysis procedures. The Discharger shall review its Operation and

Maintenance Manuals at least annually. The Discharger shall revise its Operation and Maintenance Manuals within 90 days of any significant change in treatment facility equipment, operational practices, or sampling and analysis procedures.

iii. The Discharger shall provide the Executive Officer, upon request, a report describing the current status of its Operation and Maintenance Manuals, including any recommended or planned actions and a time schedule for these actions.

iv. The Discharger shall describe its review and evaluation procedures, and applicable changes to its Operation and Maintenance Manuals, in each annual self-monitoring report.

5. No Preemption

This Order does not preempt or supersede the authority of municipalities, flood control agencies, or other agencies to prohibit, restrict, or control discharges to storm drain systems or other watercourses subject to their jurisdiction.

ATTACHMENT A – DEFINITIONS

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

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

Average Monthly Effluent Limitation (AMEL)
The highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

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

Carcinogenic
Known to cause cancer in living organisms.

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

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

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

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

Enclosed Bay
Indentation along the coast that encloses an area of oceanic water within a distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between the headlands or outermost

harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. Enclosed bays include, but are not limited to, Humboldt Bay, Bodega Harbor, Tomales Bay, Drake's Estero, San Francisco Bay, Morro Bay, Los Angeles-Long Beach Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay. Enclosed bays do not include inland surface waters or ocean waters.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

ATTACHMENT B – NOTICE OF INTENT FORM

NOTICE OF INTENT must be completed and submitted to apply for Authorization or Reauthorization with NPDES Permit No. CAG912002 (VOC and Fuel General Permit), to discharge or reclaim extracted and treated groundwater resulting from the cleanup of groundwater at active or closed cleanup sites, such as fuel stations or construction sites, to waters of the United States. These facilities are in operation to treat groundwater polluted by volatile organic compounds (VOCs), fuel leaks, fuel additives, and other related wastes (e.g., semi-volatile organic compounds [SVOCs], polycyclic aromatic hydrocarbons [PAHs], and metals).

This Notice of Intent form is for the Groundwater Treatment Facility located at (provide street address):

_____

I. CERTIFICATION

This certification shall be signed in accordance with Attachment D section V.B.2. The Discharger hereby agrees to comply with and be responsible for all the conditions specified in NPDES Permit No. CAG912002.

<table>
<tr><td colspan="3">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 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.

Signature Date</td></tr>
<tr><td colspan="3">Printed Name</td></tr>
<tr><td colspan="3">Title</td></tr>
<tr><td colspan="2">Company / Organization</td><td>Land Owner Type (Check One)
☐Public
☐Private
☐Other, specify the type:</td></tr>
<tr><td colspan="3">Address</td></tr>
<tr><td colspan="2">Email</td><td>Phone No.</td></tr>
</table>

II. APPLICATION FEE AND MAILING INSTRUCTIONS

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

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

Submit this form (with signature and attachments) via email to RB2-VOC-Fuel@waterboards.ca.gov, or as otherwise indicated at www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/general_permits.shtml.

III. DISCHARGE TYPE

Select one:

☐ This is a new discharge

☐ This discharge is currently authorized under this Order (VOC and Fuel General Permit) and this NOI is submitted for modification of the current Authorization to Discharge. CIWQS Place ID: _____

☐ This discharge is currently authorized under this Order (VOC and Fuel General Permit), which requires authorized Dischargers who need to continue discharging after June 30, 2023, to file a completed NOI no later than 270 days prior to the expiration date of this Order. CIWQS Place ID: _____

IV. PROJECT INFORMATION

Type of Site or Project: (e.g., closed fuel station, short-term construction dewatering project, closed groundwater cleanup site)
Project Tentative Completion Date:

V. UTILITY INFORMATION

I have contacted the local sanitary sewer agency serving the above named address and determined that discharging to the local sanitary sewer system is not technically and economically feasible. Please check one (if No or Not Applicable, please explain) ☐Yes ☐No: ☐Not Applicable:	
Contact Person's Name and Title	
Contact Person's Email	Contact Person's Phone No.
I have contacted the local agencies having jurisdiction over the use of the storm drain system or watercourse and informed them about this proposed discharge. Please check one (if No or Not Applicable, please explain) ☐Yes ☐No: ☐ Not Applicable:	
Contact Person's Name and Title	
Contact Person's Email	Contact Person's Phone No.

VI. FACILITY INFORMATION

A. Facility Name:			
Street Address			
City	State	Zip Code	Phone No.
Contact Person's Name and Title			
Contact Person's Email		Contact Person's Phone No.	
B. Duly Authorized Representative: The following individual (or any individual occupying the position listed below) may act as the facility's duly authorized representative and may sign and certify submittals in accordance with Attachment D section V.B.3. The individual shall be responsible for the overall operation of the facility or for facility environmental matters. **IMPORTANT**: See section XI.F.2 below for further instructions.			
Name			
Title			
Company/Organization			
Street Address			
City	State	Zip Code	Phone No.
Email			
C. Billing Information			
Name			
Street Address			
City	State	Zip Code	Phone No.
Email			
D. Design Professional Engineer's Information (see Section XI.F.4 for further instructions)			
Name	California License Number Expiration Date		
Street Address			
City	State	Zip Code	Phone No.
Email			
E. Operation and Maintenance Professional Engineer's Information (see Section XI.F.5 for further instructions)			
Name	California License Number Expiration Date		
Street Address			
City	State	Zip Code	Phone No.
Email			

VII. DISCHARGE LOCATION INFORMATION

Discharge path to Receiving Water - describe the complete path of the discharge from the exit point of the treatment system to the outfall in the receiving water – list streets, land features, and distances as necessary.

Discharge Points	Latitude[1]	Longitude[1]	Receiving Water Name
Effluent Monitoring Point (EFF-001 through EFF-*n*)			Not Applicable
Storm Drain (if applicable)			Not Applicable
Receiving Water (directly of via storm drain system)			
Upstream Receiving Water Monitoring Location (RSW-001U through RSW-*n*U)			At a point 50 feet upstream from the point of discharge into the receiving water, or if access is limited, at the first point upstream which is accessible.
	Is access unrestricted? ☐ Yes ☐ No If No, provide details:		
Downstream Receiving Water Monitoring Location (RSW-001D through RSW-*n*D)			At a point 50 feet downstream from the point of discharge into the receiving water, or if access is limited, at the first point downstream which is accessible.
	Is access unrestricted? ☐ Yes ☐ No If No, provide details:		

1. Submit latitude and longitude coordinates in decimal degrees with 5 significant figures to the right of the decimal point.

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

VIII. TREATMENT SYSTEM INFORMATION

A. General Information

Groundwater Treatment Design Capacity (gpm) as certified by a Professional Engineer licensed to practice in California.

Discharge description (describe discharge and potential pollutants of concern. Attach additional sheets if needed:

Discharge Frequency: ☐ Continuous ☐Daily ☐ Intermittent ☐Emergency (explain):

Estimated Total Water Reclaimed (%): Provide reasons if reclamation is not technically and economically feasible:	Type of Reclamation (e.g., dust control):

B. Unit Information		
Type	**Number**	**Description (e.g., depth, size, capacity, dosage)**
Extraction well(s) or sump pump(s)		
Extraction well(s) with dedicated treatment unit(s)		
Settling tank(s) in series		
Settling tank(s) in parallel		
Oil-water separator(s)		
Filter(s) for particulates in groundwater		
Air stripper(s) with air filtration[1]		
Air stripper(s) without air filtration[1]		
Other treatment units (e.g., oxidation systems, ion exchange, reverse osmosis)		
Granular activated carbon (GAC) vessel(s) in series		
Granular activated carbon (GAC) vessel(s) in parallel		
Chemical additive(s) (e.g., coagulants)		
Other tank(s) (e.g., equalization tank)		
Water reclamation tank(s)		

1. Attach applicable copy of approved BAAQMD permit to this form.

IX. DISCHARGE WATER QUALITY

For existing dischargers, summarize influent, and discharge water monitoring data collected during the past five years. Provide a separate data summary table for each discharge point (outfall). New applicants shall summarize influent data.

A. INFLUENT DISCHARGE DATA

Conventional and Non-Conventional Pollutants

Parameter	Units	Average Monthly Effluent Limitation	Maximum Daily Effluent Limitation	Maximum Concentration	Range	Method Detection Limit	Test Method	Number of Samples
Total Dissolved Solids (for construction and dewatering projects)	mg/L							
Chlorine Residual	mg/L							
1,4-Dioxane	µg/L							
Ethylene Dibromide	µg/L							
Trichloro-trifluoroethane	µg/L							

Priority Pollutants

CTR No.	Parameter	Units	Average Monthly Effluent Limitation	Maximum Daily Effluent Limitation	Maximum Concentration	Range	Method Detection Limit	Test Method	Number of Samples
1	Antimony	µg/L							
2	Arsenic	µg/L							
3	Beryllium	µg/L							
4	Cadmium	µg/L							
5a	Chromium (III)	µg/L							
5b	Chromium (VI)	µg/L							
6	Copper	µg/L							
7	Lead	µg/L							
8	Mercury	µg/L							
9	Nickel	µg/L							
10	Selenium	µg/L							
11	Silver	µg/L							
12	Thallium	µg/L							
13	Zinc	µg/L							
14	Cyanide	µg/L							
15	Asbestos	fibers/L							
16	2,3,7,8-TCDD (Dioxin)	µg/L							
17	Acrolein	µg/L							
18	Acrylonitrile	µg/L							
19	Benzene	µg/L							
20	Bromoform	µg/L							
21	Carbon Tetrachloride	µg/L							
22	Chlorobenzene	µg/L							
23	Chlorodibromomethane	µg/L							
24	Chloroethane	µg/L							
25	2-Chloroethylvinyl ether	µg/L							
26	Chloroform	µg/L							
27	Dichlorobromomethane	µg/L							
28	1,1-Dichloroethane	µg/L							
29	1,2-Dichloroethane	µg/L							
30	1,1-Dichloroethylene	µg/L							
31	1,2-Dichloropropane	µg/L							
32	1,3-Dichloropropylene	µg/L							
33	Ethylbenzene	µg/L							

CTR No.	Parameter	Units	Average Monthly Effluent Limitation	Maximum Daily Effluent Limitation	Maximum Concentration	Range	Method Detection Limit	Test Method	Number of Samples
34	Methyl Bromide	µg/L							
35	Methyl Chloride	µg/L							
36	Methylene Chloride	µg/L							
37	1,1,2,2-Tetrachloroethane	µg/L							
38	Tetrachloroethylene	µg/L							
39	Toluene	µg/L							
40	1,2-Trans-Dichloroethylene	µg/L							
41	1,1,1-Trichloroethane	µg/L							
42	1,1,2-Trichloroethane	µg/L							
43	Trichloroethylene	µg/L							
44	Vinyl Chloride	µg/L							
45	2-Chlorophenol	µg/L							
46	2,4-Dichlorophenol	µg/L							
47	2,4-Dimethylphenol	µg/L							
48	2-Methyl- 4,6-Dinitrophenol	µg/L							
49	2,4-Dinitrophenol	µg/L							
50	2-Nitrophenol	µg/L							
51	4-Nitrophenol	µg/L							
52	3-Methyl 4-Chlorophenol	µg/L							
53	Pentachlorophenol	µg/L							
54	Phenol	µg/L							
55	2,4,6-Trichlorophenol	µg/L							
56	Acenaphthene	µg/L							
57	Acenaphthylene	µg/L							
58	Anthracene	µg/L							
59	Benzidine	µg/L							
60	Benzo(a)Anthracene	µg/L							
61	Benzo(a)Pyrene	µg/L							
62	Benzo(b)Fluoranthene	µg/L							
63	Benzo(ghi)Perylene	µg/L							
64	Benzo(k)Fluoranthene	µg/L							
65	Bis(2-Chloroethoxy)Methane	µg/L							
66	Bis(2-Chloroethyl)Ether	µg/L							
67	Bis(2-Chloroisopropyl)Ether	µg/L							
68	Bis(2-Ethylhexyl)Phthalate	µg/L							
69	4-Bromophenyl Phenyl Ether	µg/L							
70	Butylbenzyl Phthalate	µg/L							
71	2-Chloronaphthalene	µg/L							
72	4-Chlorophenyl Phenyl Ether	µg/L							
73	Chrysene	µg/L							
74	Dibenzo(a,h)Anthracene	µg/L							
75	1,2-Dichlorobenzene	µg/L							
76	1,3-Dichlorobenzene	µg/L							
77	1,4-Dichlorobenzene	µg/L							
78	3,3 Dichlorobenzidine	µg/L							
79	Diethyl Phthalate	µg/L							
80	Dimethyl Phthalate	µg/L							
81	Di-n-Butyl Phthalate	µg/L							
82	2,4-Dinitrotoluene	µg/L							
83	2,6-Dinitrotoluene	µg/L							
84	Di-n-Octyl Phthalate	µg/L							
85	1,2-Diphenylhydrazine	µg/L							
86	Fluoranthene	µg/L							
87	Fluorene	µg/L							
88	Hexachlorobenzene	µg/L							
89	Hexachlorobutadiene	µg/L							
90	Hexachlorocyclopentadiene	µg/L							

CTR No.	Parameter	Units	Average Monthly Effluent Limitation	Maximum Daily Effluent Limitation	Maximum Concentration	Range	Method Detection Limit	Test Method	Number of Samples
91	Hexachloroethane	µg/L							
92	Indeno(1,2,3-cd)Pyrene	µg/L							
93	Isophorone	µg/L							
94	Naphthalene	µg/L							
95	Nitrobenzene	µg/L							
96	N-Nitrosodimethylamine	µg/L							
97	N-Nitrosodi-n-Propylamine	µg/L							
98	N-Nitrosodiphenylamine	µg/L							
99	Phenanthrene	µg/L							
100	Pyrene	µg/L							
101	1,2,4-Trichlorobenzene	µg/L							
102	Aldrin	µg/L							
103	alpha-BHC	µg/L							
104	beta-BHC	µg/L							
105	gamma-BHC	µg/L							
106	delta-BHC	µg/L							
107	Chlordane (303d listed)	µg/L							
108	4,4'-DDT (303d listed)	µg/L							
109	4,4'-DDE	µg/L							
110	4,4'-DDD	µg/L							
111	Dieldrin (303d listed)	µg/L							
112	alpha-Endosulfan	µg/L							
113	beta-Endolsulfan	µg/L							
114	Endosulfan Sulfate	µg/L							
115	Endrin	µg/L							
116	Endrin Aldehyde	µg/L							
117	Heptachlor	µg/L							
118	Heptachlor Epoxide	µg/L							
119-125	PCBs sum (303d listed)	µg/L							
126	Toxaphene	µg/L							

Other Pollutants

Parameter	Units	Average Monthly Effluent Limitation	Maximum Daily Effluent Limitation	Maximum Concentration	Range	Method Detection Limit	Test Method	Number of Samples
TPH as gasoline	µg/L							
TPH as diesel	µg/L							
TPHs (other than gasoline and diesel)	µg/L							
Sulfate	mg/L							
Manganese	µg/L							

B. EFFLUENT DISCHARGE DATA (for existing dischargers only)

Discharge Point No. _____ – Conventional and Non-Conventional Pollutants

Parameter	Units	Average Monthly Effluent Limitation	Maximum Daily Effluent Limitation	Maximum Concentration	Range	Method Detection Limit	Test Method	Number of Samples
pH	s.u.							
Turbidity	NTU							
Total Dissolved Solids (for construction and dewatering projects)	mg/L							
Dissolved Oxygen	mg/L							
Chlorine Residual	mg/L							
Acute Toxicity	% survival							
1,4-Dioxane	µg/L							
Ethylene Dibromide	µg/L							
Trichloro-trifluoroethane	µg/L							

Discharge Point No. _____ – Priority Pollutants

CTR No.	Parameter	Units	Average Monthly Effluent Limitation	Maximum Daily Effluent Limitation	Maximum Concentration	Range	Method Detection Limit	Test Method	Number of Samples
1	Antimony	µg/L							
2	Arsenic	µg/L							
3	Beryllium	µg/L							
4	Cadmium	µg/L							
5a	Chromium (III)	µg/L							
5b	Chromium (VI)	µg/L							
6	Copper	µg/L							
7	Lead	µg/L							
8	Mercury	µg/L							
9	Nickel	µg/L							
10	Selenium	µg/L							
11	Silver	µg/L							
12	Thallium	µg/L							
13	Zinc	µg/L							
14	Cyanide	µg/L							
15	Asbestos	fibers/L							
16	2,3,7,8-TCDD (Dioxin)	µg/L							
17	Acrolein	µg/L							
18	Acrylonitrile	µg/L							
19	Benzene	µg/L							
20	Bromoform	µg/L							
21	Carbon Tetrachloride	µg/L							
22	Chlorobenzene	µg/L							
23	Chlorodibromomethane	µg/L							
24	Chloroethane	µg/L							
25	2-Chloroethylvinyl ether	µg/L							
26	Chloroform	µg/L							
27	Dichlorobromomethane	µg/L							
28	1,1-Dichloroethane	µg/L							
29	1,2-Dichloroethane	µg/L							
30	1,1-Dichloroethylene	µg/L							
31	1,2-Dichloropropane	µg/L							
32	1,3-Dichloropropylene	µg/L							
33	Ethylbenzene	µg/L							
34	Methyl Bromide	µg/L							
35	Methyl Chloride	µg/L							
36	Methylene Chloride	µg/L							
37	1,1,2,2-Tetrachloroethane	µg/L							
38	Tetrachloroethylene	µg/L							

CTR No.	Parameter	Units	Average Monthly Effluent Limitation	Maximum Daily Effluent Limitation	Maximum Concentration	Range	Method Detection Limit	Test Method	Number of Samples
39	Toluene	µg/L							
40	1,2-Trans-Dichloroethylene	µg/L							
41	1,1,1-Trichloroethane	µg/L							
42	1,1,2-Trichloroethane	µg/L							
43	Trichloroethylene	µg/L							
44	Vinyl Chloride	µg/L							
45	2-Chlorophenol	µg/L							
46	2,4-Dichlorophenol	µg/L							
47	2,4-Dimethylphenol	µg/L							
48	2-Methyl- 4,6-Dinitrophenol	µg/L							
49	2,4-Dinitrophenol	µg/L							
50	2-Nitrophenol	µg/L							
51	4-Nitrophenol	µg/L							
52	3-Methyl 4-Chlorophenol	µg/L							
53	Pentachlorophenol	µg/L							
54	Phenol	µg/L							
55	2,4,6-Trichlorophenol	µg/L							
56	Acenaphthene	µg/L							
57	Acenaphthylene	µg/L							
58	Anthracene	µg/L							
59	Benzidine	µg/L							
60	Benzo(a)Anthracene	µg/L							
61	Benzo(a)Pyrene	µg/L							
62	Benzo(b)Fluoranthene	µg/L							
63	Benzo(ghi)Perylene	µg/L							
64	Benzo(k)Fluoranthene	µg/L							
65	Bis(2-Chloroethoxy)Methane	µg/L							
66	Bis(2-Chloroethyl)Ether	µg/L							
67	Bis(2-Chloroisopropyl)Ether	µg/L							
68	Bis(2-Ethylhexyl)Phthalate	µg/L							
69	4-Bromophenyl Phenyl Ether	µg/L							
70	Butylbenzyl Phthalate	µg/L							
71	2-Chloronaphthalene	µg/L							
72	4-Chlorophenyl Phenyl Ether	µg/L							
73	Chrysene	µg/L							
74	Dibenzo(a,h)Anthracene	µg/L							
75	1,2-Dichlorobenzene	µg/L							
76	1,3-Dichlorobenzene	µg/L							
77	1,4-Dichlorobenzene	µg/L							
78	3,3 Dichlorobenzidine	µg/L							
79	Diethyl Phthalate	µg/L							
80	Dimethyl Phthalate	µg/L							
81	Di-n-Butyl Phthalate	µg/L							
82	2,4-Dinitrotoluene	µg/L							
83	2,6-Dinitrotoluene	µg/L							
84	Di-n-Octyl Phthalate	µg/L							
85	1,2-Diphenylhydrazine	µg/L							
86	Fluoranthene	µg/L							
87	Fluorene	µg/L							
88	Hexachlorobenzene	µg/L							
89	Hexachlorobutadiene	µg/L							
90	Hexachlorocyclopentadiene	µg/L							
91	Hexachloroethane	µg/L							
92	Indeno(1,2,3-cd)Pyrene	µg/L							
93	Isophorone	µg/L							
94	Naphthalene	µg/L							
95	Nitrobenzene	µg/L							
96	N-Nitrosodimethylamine	µg/L							
97	N-Nitrosodi-n-Propylamine	µg/L							
98	N-Nitrosodiphenylamine	µg/L							

CTR No.	Parameter	Units	Average Monthly Effluent Limitation	Maximum Daily Effluent Limitation	Maximum Concentration	Range	Method Detection Limit	Test Method	Number of Samples
99	Phenanthrene	µg/L							
100	Pyrene	µg/L							
101	1,2,4-Trichlorobenzene	µg/L							
102	Aldrin	µg/L							
103	alpha-BHC	µg/L							
104	beta-BHC	µg/L							
105	gamma-BHC	µg/L							
106	delta-BHC	µg/L							
107	Chlordane (303d listed)	µg/L							
108	4,4'-DDT (303d listed)	µg/L							
109	4,4'-DDE	µg/L							
110	4,4'-DDD	µg/L							
111	Dieldrin (303d listed)	µg/L							
112	alpha-Endosulfan	µg/L							
113	beta-Endolsulfan	µg/L							
114	Endosulfan Sulfate	µg/L							
115	Endrin	µg/L							
116	Endrin Aldehyde	µg/L							
117	Heptachlor	µg/L							
118	Heptachlor Epoxide	µg/L							
119-125	PCBs sum (303d listed)	µg/L							
126	Toxaphene	µg/L							

Discharge Point No. _____ – Other Pollutants

Parameter	Units	Average Monthly Effluent Limitation	Maximum Daily Effluent Limitation	Maximum Concentration	Range	Method Detection Limit	Test Method	Number of Samples
TPH as gasoline	µg/L							
TPH as diesel	µg/L							
TPHs (other than gasoline and diesel)	µg/L							
Sulfate	mg/L							
Foaming Agents	µg/L							
Electric conductivity	mmhos/cm							
Manganese	µg/L							

X. ENGINEERING CERTIFICATION REPORT

Attach the engineering certification report signed and stamped by the Design Professional Engineer licensed to practice in California and as identified in section VI.D. The Engineering Certification Report shall include a location map, discharge flow path map, process flow diagram, unit spec sheets, and a description of operation and maintenance procedures. Please see the next section for further details of the documents *required* as part of the Engineering Certification Report and NOI application package.

XI. INSTRUCTIONS FOR NOTICE OF INTENT FORM

These instructions explain how to complete the NOI. Submittal of an NOI indicates a Discharger's commitment to comply with the terms of this Order.

A. Certification

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

B. Application Fee and Mailing Instructions

The NOI is incomplete without the applicable permit fee. Submit the fee by sending a check payable to "State Water Resources Control Board" to the Regional Water Board address indicated on the NOI form. A separate fee is required for each non-contiguous site. At the time of permit reissuance, the application fee was **$11,877**. The State Water Resources Control Board may modify the fee at any time. For the current fee, see http://www.waterboards.ca.gov/resources/fees/water_quality/#npdes).

Submit this form (with signatures and attachments) via email to RB2-VOC-Fuel@waterboards.ca.gov, or as otherwise indicated at www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/general_permits.shtml.

C. Discharge Type

Select one of the three options to: (1) obtain coverage under this Order as a new discharger, (2) modify the NOI as an existing discharger, or (3) renew permit coverage. Please note that the discharger shall file with the Executive Officer an amended NOI at least 30 days before making any material change in the character, location, or volume of the discharge. Requests to renew permit coverage shall be submitted at least 270 days prior to the expiration date of this Order or no later than October 3, 2022.

D. Project Information

Provide a brief description of the project and activities to be covered by this Order, including its completion date, if any.

E. Utility Information

Provide information of the local utility agencies that were contacted for the proposed discharge. Please note that Resolution No. 88-160, adopted by the Regional Water Board on October 19, 1988, urges dischargers of extracted groundwater to reclaim their effluent and that when reclamation is not technically and/or economically feasible, to discharge to a POTW.

F. Facility Information

1. **Facility name.** Provide the name of the treatment facility, street address or a description of the facility location, and information of the contact person for the facility.

2. **Duly Authorized Representative.** The person described in Attachment D section V.B.2 and signing the certification in section I of the NOI form may designate a duly authorized representative to sign permit-related submittals in accordance with Attachment D section V.B.3. Alternatively, a duly authorized representative may be designated through separate

correspondence, particularly if the NOI form language does not sufficiently limit the delegated authority. For applicants, please note that if a duly authorized representative is designated, a written authorization shall be submitted to the Regional Water Board along with the NOI. If any changes occur to the authorization, a new authorization satisfying the requirements under Attachment D section V.B.3 must be submitted to the Regional Water Board prior to or together with any reports, information, or applications signed by a duly authorized representative.

3. **Billing information.** Indicate to whom the annual permit fee should be billed.

4. **Design Professional Engineer's Information.** Provide the name and contact information of the practicing professional engineer licensed to practice in California who designed the groundwater treatment system and certified the Engineering Certification Report. The Design Professional Engineer is also responsible for certifying any proposed changes to the groundwater treatment system.

5. **Operation and Maintenance Professional Engineer's Information.** Provide the name and contact information of the professional engineer licensed to practice in California who is responsible for the operations and maintenance procedures of the treatment facility and certification of its Operations and Maintenance Manual.

G. Discharge Location Information

Provide a brief description of the discharge flow path from the exit point of the treatment system to the outfall(s) in the receiving water(s). Identify all points where the facility discharges wastewater to surface waters or storm drains, and provide latitudes and longitudes (using decimal degrees with at least five decimal places). Identify the receiving waters to which discharges flow into (permitted discharges may flow through storm drains if authorized by storm drain system owners) and confirm if access to the receiving water(s) are unrestricted. Attach additional pages as necessary.

H. Treatment System Information

1. **General information.** Provide the groundwater treatment design capacity as certified by the Design Professional Engineer licensed to practice in California and as identified in section VI.D. Additionally, provide a narrative description of potential pollutants in the discharge. Finally, specify the frequency of discharge and estimated percentage of total effluent reclaimed for any applicable activities such as dust suppression, soil compaction, irrigation of landscape or agriculture, and industrial water supply. Please note that water reclamation consisting of recharge or reinjection is not authorized under this Order.

2. **Unit information.** Provide information on the quantity and type of units in the groundwater extraction and treatment system including any applicable characteristics such as size, capacity, ratings, depth, dosages, etc.

I. Engineering Certification Report

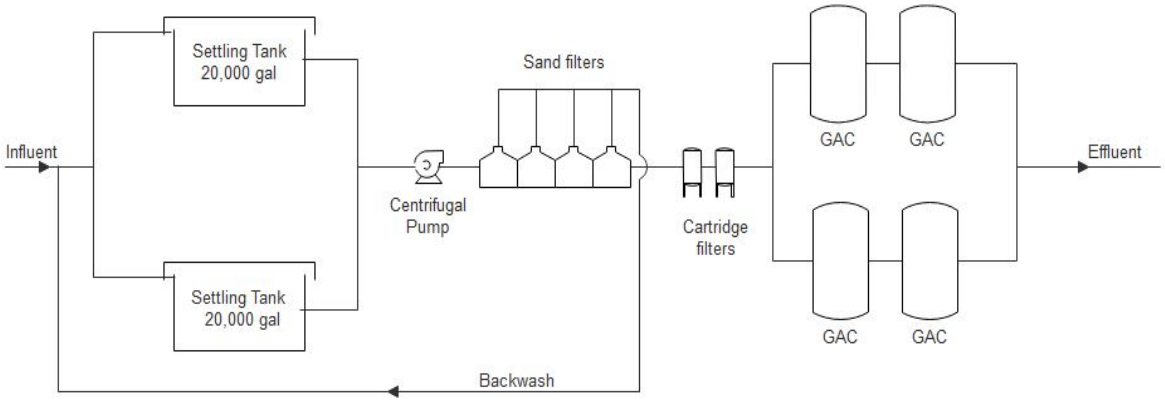
The Engineering Certification Report is a comprehensive report detailing the process and components of the groundwater extraction and treatment system. It provides a background of the site project and a narrative summary of environmental investigations regarding groundwater impacts at the site, if any. Description of treatment system components may include dewatering wells, groundwater pumps, conveyance systems, storage tanks, settling tanks, process pumps, filtering vessels, granular activated

carbon tanks, chemical injection systems, and pH adjustment equipment (common in concrete pour operations). Additionally, it shall include:

1. **Location map.** A topographic map (or maps) showing the legal facility boundaries; location of treatment units and processes; intake and discharge point locations; and receiving waters (or storm drains).

2. **Discharge flow path map.** An aerial map or satellite image illustrating the proposed path of the discharge from the point of exit of the treatment system to the point of discharge in the receiving water. All applicable streets, land features, points of entry in the storm drain system, receiving water(s), and distances should be labeled and displayed on the map.

3. **Process flow diagram.** A diagram showing the water flow from intake to discharge including all treatment system components and applicable sampling ports (see example below). Indicate how the discharge flows from where it is generated to where it exits the treatment system. Estimate approximate flows, as necessary.



4. **Unit spec sheets.** Datasheets that provide engineering characteristics of treatment system units.

5. **Operation and maintenance procedures.** A copy of the Table of Contents from the Operation and Maintenance Manual of the treatment system. Please note that the Operation and Maintenance Manual of the facility shall be submitted in the Start-up Phase Report.

The Engineering Certification Report shall certify that the proposed treatment system will treat the proposed dewatering discharge and comply with the Order's requirements. Finally, as required by the California Business and Professions Code section 6735, the report shall be prepared by, or under the supervision of, a Professional Engineer licensed to practice in California and shall be signed and stamped by the same.

ATTACHMENT C – NOTICE OF TERMINATION

Complete the Notice of Termination Form to request termination of coverage under General Waste Discharge Requirements for Discharge or Reclamation of Extracted and Treated Groundwater Resulting from the Cleanup of Groundwater Polluted by Volatile Organic Compounds (VOCs), Fuel Leaks, and Other Related Wastes (VOC and Fuel General Permit - NPDES Permit No. CAG912002).

Groundwater Treatment Facility address:_____

CIWQS Place Identification Number: _____

An electronic copy of this form shall be emailed to **RB2-VOC-Fuel@waterboards.ca.gov** and a confirmation email shall be sent to the responsible staff member as indicated at www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/general_permits.shtml.

I. REASON FOR TERMINATION (select one)

- ☐ 1. Completion of temporary groundwater dewatering project (e.g., construction project).
- ☐ 2. Groundwater cleanup work has been completed.
- ☐ 3. Method of groundwater cleanup has been changed with no need to discharge treated groundwater.
- ☐ 4. Groundwater cleanup will be stopped to start groundwater monitoring. Please attach documentation showing that the agency overseeing cleanup has no objection to cessation of groundwater extraction and treatment.
- ☐ 5. Other reason. Please specify below (e.g., discharge to POTW has been granted):

II. AGENCY APPROVAL (applicable if items 2, 3 or 4 in Section I are marked)

Name, address, email, and phone number of the agency and agency staff overseeing the cleanup work:	Have you provided a copy of this termination notice to this staff? If No, please explain. ☐Yes ☐No (explain):

I, the Discharger, certify under penalty of law that this notice is prepared under my direction or supervision and last/final date of this discharge was _____. I am aware that discharging without a discharge authorization is in violation of California Water Code.

_____

Name (print) Signature and Date

_____

Title/Organization (Discharger's Organization) Address, email and phone number

ATTACHMENT D – STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

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

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

B. Need to Halt or Reduce Activity Not a Defense

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

C. Duty to Mitigate

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

D. Proper Operation and Maintenance

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

E. Property Rights

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

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

F. Inspection and Entry

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

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

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

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

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

G. Bypass

1. Definitions

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

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

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

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

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

b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment

should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 C.F.R. § 122.41(m)(4)(i)(B)); and

c. The Discharger submitted notice to the Regional Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 C.F.R. § 122.41(m)(4)(i)(C).)

4. Approval. The Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Water Board determines that it will meet the three conditions listed in Standard Provisions—Permit Compliance I.G.3 above. (40 C.F.R. § 122.41(m)(4)(ii).)

5. Notice

a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit 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, 2020, a notice shall also be submitted electronically to the initial recipient in Standard Provisions – Reporting V.J 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).)

b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). The notice shall be sent to the Regional Water Board. As of December 21, 2020, a notice shall also be submitted electronically to the initial recipient defined in Standard Provisions – Reporting V.J 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).)

H. Upset

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

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 C.F.R. § 122.41(n)(2).)

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

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

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

c. The Discharger submitted notice of the upset as required in Standard Provisions—Reporting V.E.2.b below (24-hour notice) (40 C.F.R. § 122.41(n)(3)(iii)); and

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

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

II. STANDARD PROVISIONS—PERMIT ACTION

A. General

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

B. Duty to Reapply

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

C. Transfers

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

III. STANDARD PROVISIONS – MONITORING

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

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

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

2. The method has the lowest ML of the analytical methods approved under 40 C.F.R. part 136 or required under 40 C.F.R. chapter 1, subchapter N, 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, subchapters N, monitoring must be conducted according to a test procedure specified in this Order for such pollutants or pollutant parameters. (40 C.F.R. §§ 1221.21(e)(3), 122.41(j)(4), 122.44(i)(1)(iv).

IV. STANDARD PROVISIONS—RECORDS

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

B. Records of monitoring information shall include the following:

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

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

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

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

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

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

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

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

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

V. STANDARD PROVISIONS—REPORTING

A. Duty to Provide Information

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

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or U.S. EPA shall be signed and certified in accordance with Standard Provisions—Reporting V.B.2, V.B.3, V.B.4, and V.B.5, and V.B.6 below. (40 C.F.R. § 122.41(k).)

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

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

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

3. All reports required by this Order and other information requested by the Regional Water Board, State Water Board, or U.S. EPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

a. The authorization is made in writing by a person described in Standard Provisions—Reporting V.B.2 above (40 C.F.R. § 122.22(b)(1));

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

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

4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions—Reporting V.B.3 above must be submitted to the Regional Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 C.F.R. § 122.22(c).)

5. Any person signing a document under Standard Provisions—Reporting V.B.2 or V.B.3 above shall make the following certification:

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

6. Any person providing electronic signature for documents described in Standard Provisions – V.B.1, V.B.2, or V.B.3 that are submitted electronically shall meet all relevant requirements of Standard Provisions – Reporting V.B, 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).)

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program in this Order. (40 C.F.R. § 122.22(l)(4).)

2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or State Water Board. As of December 21, 2016, all reports and forms must be submitted electronically to the initial recipient defined in Standard Provisions – Reporting V.J 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).)

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. subchapter N, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR reporting form specified by the Regional Water Board or State Water Board. (40 C.F.R. § 122.41(l)(4)(ii).)

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

D. Compliance Schedules

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

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written 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 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, combiened 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, 2020, 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 V.J. 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).)

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

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

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

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

F. Planned Changes

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

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

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

G. Anticipated Noncompliance

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

H. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions—Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision—Reporting V.E above. For noncompliance related to combined sewer overflows, sanitary sewer overflows, or bypass events, these reports shall contain the information described in Standard Provision – Reporting V.E 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).)

I. Other Information

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

J. 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. § 127.2 (c)]. U.S. EPA will update and maintain this list. (40 C.F.R. § 122.41(l)(9).)

VI. STANDARD PROVISIONS – ENFORCEMENT

A. The Regional Water Board is authorized to enforce the terms of this Order under several provisions of the Water Code, including, but not limited to, sections 13268, 13350, 13385, 13386, and 13387.

VII. ADDITIONAL PROVISIONS—NOTIFICATION LEVELS

A. Non-Municipal Facilities

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

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

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

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

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

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

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

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

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

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

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

B. Publicly-Owned Treatment Works (POTWs)

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

1. Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to CWA sections 301 or 306 if it were directly discharging those pollutants (40 C.F.R. § 122.42(b)(1)); and

2. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of adoption of this Order. (40 C.F.R. § 122.42(b)(2).)

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

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

Contents

Tables

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

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

I. GENERAL MONITORING PROVISIONS

A. Dischargers shall comply with this MRP. The Executive Officer may amend this MRP pursuant to 40 C.F.R. sections 122.62, 122.63, and 124.5.

B. Dischargers shall conduct all monitoring in accordance with Attachment D, section III. Equivalent test methods must be more sensitive than those specified in 40 C.F.R. part 136 and must be specified in this Order or the Discharger's Authorization to Discharge. Water and waste analyses shall be performed by a laboratory certified for these analyses in accordance with Water Code section 13176.

C. All monitoring instruments, flowmeters, and equipment shall be properly calibrated according to manufacturer's instructions and maintained to ensure accurate measurements. Flow meters shall be calibrated at least once during this Order's term.

II. MONITORING LOCATIONS

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

Table E-1. Monitoring Locations

Monitoring Location Type	Monitoring Location Name[1]	Monitoring Location Description
Influent	INF-001 through INF-*n* (where *n* is a sequential number above 001)	A point in the extraction system immediately prior to the treatment unit.
Effluent	EFF-001 through EFF-*n* (where *n* is a sequential number above 001)	A point in the discharge line immediately following treatment and before the effluent joins or is diluted by any other waste stream, water body, or other substance.[2]
Receiving Water	RSW-001U through RSW-*n*U (where *n* is a sequential number above 001)[3]	A point 50 feet upstream from the point of discharge into the receiving water or, if access is limited, the first accessible point upstream.[4]
	RSW-001D through RSW-*n*D (where *n* is a sequential number above 001)[3]	A point 50 feet downstream from the point of discharge into the receiving water or, if access is limited, the first accessible point downstream.[4]
Reclaimed Water	REC-001through REC-*n* (where *n* is a sequential number above 001)	A point immediately prior to reclamation.[5]

Footnotes:

[1] The previous order used the monitoring location names as follows: INF-001, EFF-001; RSW-001U, RSW-001D, and REU-001.

[2] If discharge is to a storm drain prior to reaching the receiving water, the monitoring location shall be a point before the discharge commingles with storm drain water.

[3] If there is only one discharge outfall, the Discharger should use the names RSW-001U and RSW-001D. Otherwise, the Discharger should use RSW-001U and RSW-001D for Discharge Point No. 001, RSW-002U and RSW-002D for Discharge Point No. 002, and so on.

[4] A Discharger that cannot safely access receiving water within 50 feet of the outfall may collect samples at the nearest safe alternative location after receiving written Executive Officer concurrence. Upstream receiving water monitoring is not required where there is no upstream receiving water.

[5] Not applicable if no effluent is reclaimed or if a monitoring location upstream of Monitoring Location REC-*n* is Monitoring Location EFF-*n*.

III. INFLUENT MONITORING REQUIREMENTS

The Discharger shall monitor facility influent at Monitoring Locations INF-001 through INF-*n* in accordance with the schedule shown in Table E-2. Influent samples shall be collected on varying days selected at random and shall not include any recirculation or other sidestream wastes.

Table E-2. Minimum Monitoring Requirements

Parameter	Units	Analytical Test Method	Sample Type	Influent (INF-00 *n*)[1]	Effluent and Reclaimed Water (EFF-*n*, REC- *n*)[1]	Receiving Water (RSW-*n*U, RSW-*n*D)
Flow	GPM/GPD/ MGM	--	Continuous	--	Continuous[2]	--
Electrical Conductivity	S/m	EPA 120.1	Grab	--	SP, then 1/Month	--
pH	standard units	EPA 150.2	Grab	SP, then 1/Month	SP, then 1/Month	[3]
Temperature	ºC	--	Grab	--	SP, then 1/Month	--
Turbidity	NTU	EPA 180.1	Grab	--	SP, then 1/Month	--
Total Dissolved Solids	mg/L	--	--	--	SP, then 1/Month	--
Dissolved Oxygen	mg/L	--	--	--	--	[3]
Hardness (as CaCO3)	mg/L	EPA 130.1	Grab	--	--	[3]
Salinity	‰	--	Grab	--	--	[3]
Sulfate	mg/L	EPA 375.2	Grab	--	SP, then 1/Quarter, then 1/Year[4]	--
Manganese	µg/L	EPA 200.8	Grab	--	SP, then 1/Quarter, then 1/Year[4]	--
Total Chlorine Residual[5]	mg/L	Field Kit, EPA 330, or SM4500-Cl	Grab	SP, then 1/Quarter	SP, then 1/Month	[3]
Antimony, Total Recoverable	µg/L	EPA 204.2	Grab	[6]	[6]	[3]
Arsenic, Total Recoverable	µg/L	EPA 206.3	Grab	[6]	[6]	[3]
Beryllium, Total Recoverable	µg/L	EPA 200.9	Grab	[6]	[6]	[3]

Parameter	Units	Analytical Test Method	Sample Type	Influent (INF-00 *n*)[1]	Effluent and Reclaimed Water (EFF-*n*, REC- *n*)[1]	Receiving Water (RSW-*n*U, RSW-*n*D)
Cadmium, Total Recoverable	µg/L	EPA 200.9	Grab	[6]	[6]	[3]
Chromium III[7]	µg/L	SM3500	Grab	[6]	[6]	[3]
Chromium VI[7]	µg/L	SM3500	Grab	[6]	[6]	[3]
Copper, Total Recoverable	µg/L	EPA 200.9	Grab	[6]	[6]	[3]
Lead, Total Recoverable	µg/L	EPA 200.9	Grab	[6]	[6]	[3]
Mercury, Total Recoverable[8]	µg/L	EPA 1631	Grab	[6]	[6]	[3]
Nickel, Total Recoverable	µg/L	EPA 200.9	Grab	[6]	[6]	[3]
Selenium, Total Recoverable	µg/L	EPA 200.8 or SM 3114B or C	Grab	[6]	[6]	[3]
Silver, Total Recoverable	µg/L	EPA 200.9	Grab	[6]	[6]	[3]
Thallium, Total Recoverable	µg/L	EPA 200.9	Grab	[6]	[6]	[3]
Zinc, Total Recoverable	µg/L	EPA 200.8	Grab	[6]	[6]	[3]
Cyanide, Total	µg/L	SM 4500-CN- C or I	Grab	[6]	[6]	--
Volatile Organic Compounds (VOCs)[9]	µg/L	EPA 8260B (full list)	Grab	[6]	[6]	[3]
Semi-volatile organic compounds (SVOCs) excluding polynuclear aromatic hydrocarbons (PAHs)[5],[10]	µg/L	EPA 8270C	Grab	SP, then 1/Quarter	SP, then 1/Month	--
PAHs[5]	µg/L	EPA 610	Grab	SP, then 1/Quarter	SP, then 1/Month	[3]
TPHs as Gasoline[5],[11]	µg/L	EPA 8260B Modified or EPA 8015B Modified	Grab	SP, then 1/Quarter	SP, then 1/Month	[3]
TPHs as Diesel[5],[11]	µg/L	EPA 8015B Modified	Grab	SP, then 1/Quarter	SP, then 1/Month	[3]
TPHs other than Gasoline and Diesel[5],[11]	µg/L	EPA 8015B Modified	Grab	SP, then 1/Quarter	SP, then 1/Month	[3]

Parameter	Units	Analytical Test Method	Sample Type	Influent (INF-00 *n*)[1]	Effluent and Reclaimed Water (EFF-*n*, REC- *n*)[1]	Receiving Water (RSW-*n*U, RSW-*n*D)
Tertiary Amyl Methyl Ether (TAME), DiIsopropyl Ether (DIPE), Ethyl Tertiary Butyl Ether (ETBE), Tertiary Butyl Alcohol (TBA), Ethanol, and Methanol[5]	µg/L	EPA 1625 Modified	Grab	SP, then 1/Year	SP, then 1/Year	--
All other pollutants such as foaming agents[12]	various	--	Grab	SP, then 1/Month, then 1/Quarter, then 1/Year[13]	SP, then 1/Month, then 1/Quarter, then 1/Year[13]	[3]
Acute Toxicity	% survival	See MRP section V	Grab	--	1/Quarter, then 1/Year[14]	--
Standard Observations	--	--	--	--	SP, then 1/Month[15]	[3]

Abbreviations

GPM = gallons per minute
GPD = gallons per day
MGM = million gallons per month
NTU = nephelometric turbidity units
% survival = percent survival
mg/L = milligrams per liter
µg/L = micrograms per liter
‰ = parts per thousand
S/m = Siemens per meter
SM = Standard Method
SP = Start-up Phase

Footnotes:

[1] When "Start-up Phase" is indicated, parameters shall be monitored once on the first day of start-up and once on the fifth day of start-up, and then at the frequency indicated.

[2] Flows shall be measured continuously in gallons per minute (GPM). Flows shall be recorded as gallons per day (GPD), and million gallons per month (MGM). Flows shall be monitored at each outfall or reclamation discharge point by a flow meter or as estimated if no flow meter is in place. The Executive Officer may require the Discharger to install flow meters.

[3] Receiving water shall be monitored whenever there is an effluent limit violation. Receiving water monitoring shall occur on the same calendar day as effluent confirmation monitoring. Receiving water samples shall be analyzed for each violated effluent parameter.

[4] If discharging to receiving waters used as drinking water, sulfate and manganese shall be monitored during the start-up phase, quarterly for the first year of operation, and annually thereafter. No monitoring is required if discharging to other receiving waters.

[5] Chlorine residual, cyanide, VOCs, SVOCs, PAHs, TPHs (as gasoline, diesel), TPHs other than gasoline and diesel, TAME, DIPE, ETBE, TBA, ethanol, and methanol shall be monitored in influent and effluent if known to be present in the influent.

[6] VOCs, metals and cyanide shall be monitored as follows:

(A) Sites contaminated *only* with VOCs: VOCs shall be monitored at the influent on start-up phase, then quarterly. VOCs shall be monitored at the effluent on start-up phase, then monthly. Metals and cyanide shall be monitored at the influent and effluent on start-up phase, then annually.

(B) Sites contaminated with fuel and fuel-related compounds (including fuel-related VOCs): Dischargers shall monitor the influent on start-up phase, then twice per year. Dischargers shall monitor the effluent on start-up phase, then quarterly.

[7] Analysis for total chromium may be substituted for analysis of chromium (III) and chromium (VI) if the concentration measured is below the lowest hexavalent chromium criterion (11 µg/L).

[8] If the discharge exceeds the effluent limitation for mercury, the Discharger shall re-sample and analyze using ultra-clean techniques as described in U.S. EPA methods 1669 and 1631 to eliminate the possibility of artefactual contamination of the sample.

[9] The analytes shall include those listed in *USEPA SW-846 Test Method 8260 B: Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry* (December 1996) except internal standard and surrogate compounds.

[10] Monitoring of bis(2-ethylhexyl)phthalate shall be performed using ultra clean sampling techniques for re-evaluation during future permit reissuance.

[11] TPHs shall be analyzed without silica-gel cleanup.

[12] All other pollutants, such as foaming agents shall be monitored at the influent and effluent if known to be present in the influent

[13] After the start-up phase, parameters shall be monitored monthly for the first year of operation, quarterly for the second year of operation, and annually thereafter.

[14] Acute toxicity shall be monitored quarterly for the first year of operation and annually thereafter.

[15] For reclaimed water only.

IV. EFFLUENT MONITORING REQUIREMENTS

A. When discharging, the Discharger shall monitor the discharge at Monitoring Locations EFF-001 through EFF-00*n* in accordance with Table E-2. Effluent sampling shall occur concurrently (within 30 minutes) with any influent sampling unless the Executive Officer stipulates otherwise. All parameters listed in Table E-2 shall be monitored at least once per permit term.

B. Grab samples shall be collected on random days during periods of daytime maximum flow (if flow varies significantly during the day).

C. When any type of bypass occurs, grab samples shall be collected daily for the duration of the bypass for all constituents at all affected discharge points that have effluent limits.

D. If monitoring results indicate a violation of any effluent limitation, the Discharger shall take a confirmation effluent sample and receiving water samples within 24 hours of becoming aware of the violation. The Discharger shall have the confirmation sample analyzed by expedited methods and obtain results within 24 hours of sample collection. The Discharger shall request the shortest turnaround time possible if results cannot be obtained within 24 hours. If the confirmation sampling results also violate the effluent limit, the Discharger shall cease discharge until it has corrected the cause of the violation. In this case, both the initial and confirmation results are violations. However, if the confirmation sample indicates compliance, only the initial exceedance is a violation and the Discharger may continue discharging. The Discharger shall not discharge when a known effluent limit violation exists just to comply with receiving water monitoring requirements.

V. ACUTE TOXICITY TESTING REQUIREMENTS

The Discharger shall monitor acute toxicity at Monitoring Locations EFF-001 through EFF-*n* as follows:

A. Compliance with the acute toxicity effluent limitations shall be evaluated by measuring survival of test organisms exposed to 96-hour static renewal bioassays. Samples shall be collected on days coincident with effluent sampling.

B. Rainbow trout (*Oncorhynchus mykiss*) shall be the test species when the effluent is discharged to freshwater receiving waters. Sheepshead minnow (*Cyprinodon variegatus*) shall be the test species when the effluent is discharged to estuarine or marine receiving waters. If the Discharger was enrolled under the previous order, it may use the test species specified at that time until further notice. The Executive Officer may specify a more sensitive species or, if testing a particular species proves unworkable, the most sensitive species available.

C. All bioassays shall be performed according to 40 C.F.R. part 136, currently *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, 5th Edition (EPA-821-R-02-012), with exceptions granted in writing by the Executive Officer and the Environmental Laboratory Accreditation Program upon a Discharger request with justification.

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

E. Bioassay water monitoring shall include, on a daily basis, pH, dissolved oxygen, ammonia (if toxicity is observed), temperature, hardness, and alkalinity. These results shall be reported. If final or intermediate results of an acute bioassay test indicate a violation or threatened violation (e.g., the percentage of surviving test organisms is less than 70 percent), the Discharger shall initiate a new test as soon as practical and shall investigate the cause of the mortalities and report its findings in the next self-monitoring report. The Discharger shall repeat the test until a test fish survival rate of 90 percent or greater is observed. If the control fish survival rate is less than 90 percent, the bioassay test shall be restarted with new fish and shall continue as soon as practical until an acceptable test is completed (i.e., the control fish survival rate is 90 percent or greater).

VI. RECLAMATION MONITORING REQUIREMENTS

The Discharger shall monitor reclaimed water at Monitoring Locations REC-001 through REC-*n* as shown in Table E-2.

VII. RECEIVING WATER MONITORING REQUIREMENTS

The Discharger shall monitor receiving waters at Monitoring Locations RSW-001U through RSW-*n*U and RSW-001D through RSW-*n*D as indicated in Table E-2.

A. For tidally-influenced receiving waters, samples shall be collected within 1 hour following low slack water. Where sampling at lower slack water period is not practical, sampling shall be performed during higher slack water period.

B. Samples shall be collected within one foot of the surface of the receiving water body. The Discharger shall explain any deviation from this requirement in each monitoring report if this requirement cannot be met.

C. Receiving water monitoring is not required when there is no water in the receiving water other than the discharge.

VIII. OTHER MONITORING REQUIREMENTS

A. Startup Phase Monitoring

During the initial start-up for the treatment system, influent and effluent sampling shall occur on the first and fifth days of operation as set forth in Table E-2 (weekend days may be excluded).

1. On the first day of start-up, the system shall be allowed to run until at least three to five well or sump volumes are removed and until three consecutive readings for pH, conductivity, and temperature are within five percent of each other. Then, influent and effluent shall be sampled and submitted for analysis. Prior to receiving the results of the initial sampling, all effluent shall be discharged into a holding tank (i.e., contained, not discharged to the receiving water) or the sanitary sewer until monitoring indicates that the discharge is within the effluent limits set forth in this Order. The treatment system may be shut down after the first day's sampling to await the analytical results and thereby reduce the storage needed. If the treatment system is shut down more than 120 hours during the initial start-up (e.g., awaiting analytical results), the start-up procedures and sampling shall be repeated. If the monitoring results indicate that the discharge would violate the effluent limits set forth in this Order, any stored effluent shall be retreated until monitoring results indicate compliance or be disposed of in accordance with applicable regulations.

2. If the initial sampling indicates compliance, the treatment system shall be operated and discharge to the storm drain or receiving water may commence for five calendar days. On the fifth calendar day of discharge, the influent and effluent shall be sampled again and submitted for analysis. Discharge may continue as long as the analytical results are received within 120 hours of sampling and the monitoring continues to indicate compliance. Otherwise, the initial start-up procedures and sampling must be repeated.

3. In cases of shutdowns exceeding 120 hours and unrelated to scheduled maintenance operations, any restart shall follow these initial start-up procedures if the Discharger reported any effluent limit violation during the previous three years.

B. Chemical Additives Monitoring

If applicable, the Discharger shall conduct monitoring related to chemical use as required in its Authorization to Discharge, treatment system design specifications, and Operations and Maintenance Manual.

C. Standard Observations

1. **Groundwater Treatment Systems**. At a monthly frequency, Dischargers shall conduct standard observations at their groundwater treatment systems as follows:
   - **a.** Odor: presences or absence, characterization, source, distance of travel, and wind direction.
   - **b.** Weather condition:
     - **i.** Air temperature;
     - **ii.** Wind direction and estimated velocity; and
     - **iii.** Total precipitation during the five days prior to observation.
   - **c.** Deposits, discolorations, or plugging in the conveyance system that could adversely affect the system reliability or performance.
   - **d.** Operation of valves, outlets, sprinkler heads, and/or pressure shutoff valves in conveyance system.

2. **Reclaimed Water**. At the frequency set forth in Table E-2, Dischargers shall conduct standard observations at Monitoring Locations REC-001 through REC-*n* as follows:

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

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

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

   d. Weather condition:

      i. Air temperature;

      ii. Wind direction and estimated velocity; and

      iii. Total precipitation during the five days prior to observation.

   e. Deposits, discolorations, or plugging in the conveyance system that could adversely affect system reliability or performance.

   f. Operation of valves, outlets, sprinkler heads, and pressure shutoff valves in conveyance system.

3. **Receiving Water**. Receiving water shall be monitored whenever there is an effluent limit violation. Dischargers shall conduct standard observations at Monitoring Locations RSW-001 through RSW-*n* as follows:

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

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

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

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

   e. Hydrographic condition, if relevant:

      i. Time and height of corrected high and low tides (corrected to nearest National Oceanic and Atmospheric Administration location for the sampling data and time of sample and collection); and

      ii. Depth of water columns.

   f. Weather condition:

      i. Air temperature;

      ii. Wind direction and estimated velocity; and

iii. Total precipitation during the five days prior to observation.

D. Minimum Levels

1. **Total Residual Chlorine**. The Discharger shall calibrate and maintain total residual chlorine analyzers to reliably quantify values of 0.1 mg/L and greater. This 0.1 mg/L shall be the minimum level (ML) and reporting limit (RL) for total residual chlorine.

2. **Metals**. Metals shall be analyzed for total (unfiltered) constituents with reporting levels not exceeding the Minimum Levels (MLs) specified in Attachment G.

3. **All Other Pollutants**. All other pollutants shall use reporting levels not exceeding the Minimum Levels (MLs) specified in Attachment G

IX. REPORTING

A. General Reporting Requirements

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

B. Self-Monitoring Reports

1. **Format.** Dischargers shall submit Self-Monitoring Reports (SMRs) and cover letters via email to RB2-VOC-Fuel@waterboards.ca.gov and as further detailed in their Authorizations to Discharge. At any time during the term of this Order, the State or Regional Water Board may notify Dischargers to electronically submit SMRs using the State Water Board's California Integrated Water Quality System (CIWQS) website (http://www.waterboards.ca.gov/ciwqs/index.html). The CIWQS website will provide additional information for SMR submittal in the event of a planned service interruption for electronic submittal.

2. **Due Dates and Contents.** Dischargers shall submit start-up phase SMRs, semi-annual SMRs, and annual SMRs by the due dates, and with the contents, specified below:

   a. **Start-up Phase SMRs –** Start-up Phase SMRs shall be due 45 days after the end of the calendar quarter in which the discharge started. The Start-up Phase SMR shall contain the following items:

      i. All applicable items described in Attachment D sections V.B and V.C.

      ii. A transmittal letter that includes the following:

         (a) CIWQS ID and GeoTracker ID (if any) for the permitted facility;

         (b) Clear identification of any violations of this Order or clear statement that there were no violations;

         (c) Detailed description of any violations, their causes, and corrective actions taken or planned to resolve them and prevent recurrence;

(d) Any claims of data invalidation (Data should not be submitted with an SMR if it does not meet quality assurance/quality control standards); and

(e) Signature (The transmittal letter shall be signed in accordance with Attachment D section V.B).

iii. Results of analyses and observations as follows:

(a) Calculations for all limitations expressed as averages shall use an arithmetic mean unless otherwise specified in MRP section IX.B.5;

(b) Summary of treatment system status during the reporting period (e.g., in operation or on standby) and reason for any non-routine treatment system shut down;

(c) Statement of maximum discharge flow (gpm) during start-up phase;

(d) Electronic spreadsheet containing all numerical monitoring results, including any field results (The numerical results shall include information, such as source of sample [i.e., influent, effluent], constituent, analytical method, calculation type, laboratory qualifier, units, MDL, RL, sampling date, analysis date, report name, and applicable comments or observations, if any; a Discharger shall identify any special methods and have prior Executive Officer approval); and

(e) A tabular summary of applicable Standard Observations.

iv. If the Discharger monitors any pollutant more frequently than required by this Order, the Discharger shall include the results of such monitoring in the calculations and reporting for the applicable SMR.

v. Laboratory reports with analytical resuts.

vi. Operations and Maintenance Manual that lists facility and regulatory personnel, and describes all equipment, recommended operational strategies, process control monitoring, and maintenance activities. The Operations and Maintenance Manual shall be signed and stamped by the licensed professional engineer identified in Provision VI.C.4 of the Order.

b. Semi-Annual SMRs — Semi-annual SMRs shall be due on August 15 and February 15 after each calendar semi-annual period. Semi-annual SMRs shall contain the following:

i. Applicable items described in Standard Provisions V.B and V.C.

ii. Transmittal letter attached to each semi-annual SMR that includes the following:

(a) CIWQS ID and GeoTracker ID (if any) of the permitted facility.

(b) Operating status of the treatment facility during the reporting period.

(c) Clear identification of any violations of the Order or a clear statement that there were no violations.

(d) Detailed description of any permit violations, their causes, and corrective actions taken or planned to resolve the violations and prevent recurrences. If previous reports address the corrective actions, reference to the earlier reports is satisfactory.

(e) Any claims for data invalidation. Data should not be submitted in an SMR if it does not meet quality assurance/quality control standards. However, if the Discharger wishes to invalidate any measurement after it was submitted in an SMR, a letter shall identify the measurement suspected to be invalid and state the Discharger's intent to submit, within 60 days, a formal request to invalidate the measurement. This request shall include the original measurement in question, the reason for invalidating the measurement, all relevant documentation that supports invalidation [e.g., laboratory sheet, log entry, test results], and the corrective actions taken or planned [with a time schedule for completion] to prevent recurrence of the sampling or measurement problem.

(f) **Signature.** The transmittal letter shall be signed in accordance with Standard Provision V.B.

iii. Introductory section with site background information (e.g., location, cleanup status). A summary table for each monitored parameter with respective monitoring frequencies shall be included. A summary table of parameters removed from the monitoring program, with the corresponding last date of monitoring, shall also be included.

iv. Results of analyses and observations as follows:

(a) Tabulated data showing daily effluent flow for each day of the month, in gallons per (GPD), and total gallons for the month, in million gallons per month (MGM).

(b) Calculations for all limitations that require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in section IX.B.4 of the MRP.

(c) A summary of treatment system status during the reporting (e.g., in operation/on standby) and reason(s) for non-routine treatment system shut down.

(d) A statement of maximum discharge flowrate (gpm) during the reporting period.

(e) An electronic spreadsheet containing all numerical monitoring results (analytical and field). The numerical results shall include information such as source of sample (i.e., influent, effluent), constituent, analytical method, calculation type, laboratory qualifier, units, MDL, RL, sampling date, analysis date, report name and applicable comments or observations, if any. Any special methods shall be identified and should have prior approval of the Executive Officer.

(f) A tabular summary of all applicable Standard Observations required in the MRP.

(g) Tabular summary of mass removal of pollutant(s), with effluent limitations, in treatment system during the reporting period. Total quantities shall be reported in kilograms (kg).

(h) Tabular summary of total effluent reclaimed during the reporting period, if any. Total volumes shall be reported in million gallons (MG) per month and reporting period.

(i) Semi-annual SMRs shall include all new monitoring results obtained since the last SMR was submitted. If the analytical data for samples collected during a calendar semi-annual period are unavailable for incorporation into that semi-annaul SMR, then the data shall be included in the next semi-annual SMR.

v. Field instrument calibration records shall be included in an appendix.

vi. Complete description of maintenance activities performed on the treatment system consistent with the latest Operations and Maintenance Manual submitted to the Regional Water Board. The Operations and Maintenance Manual shall be available to all personnel responsible for operation and maintenance activities.

vii. If the Discharger monitors any pollutant more frequently than required by this Order, the Discharger shall include the results of such monitoring in the calculations and reporting for the applicable SMR.

viii. The Discharger shall report in the SMR the results for all monitoring specified in this MRP. If there has been no discharge during the entire reporting period, semi-annual and annual reports must still be submitted to report the status of the discharge.

c. Annual Reports — Annual reports shall be due February 15 and cover the previous calendar year. Annual reports shall be included in semi-annual SMRs and contain the items described below:

i. Annual compliance summary.

ii. The annual flow in million gallons per year (MGY).

iii. Date of most recent flow meter calibration. Date for next flow meter calibration. Flow meters shall be calibrated once per permit term by a third party. Calibration certifications shall be included in an appendix.

iv. Comprehensive discussion of performance of the treatment system during the reporting period. This summary shall include any corrective actions taken or planned, such as changes to equipment or operations that may be needed to achieve compliance. In addition, the Discharger shall discuss any other actions taken or planned that are intended to improve the performance and reliability of the Discharger's practices.

v. Graphical summaries of monitoring data for parameters that exceeded effluent limitations. The Discharger shall identify trends, if any, in pollutant concentrations

found in influent and effluent for the previous year and since effective date of initial discharge.

vi. Tabular summary of total effluent reclaimed during the annual reporting period, if any. Total volumes shall be reported in million gallons (MG) per annual reporting period and since effective date of initial discharge.

vii. Submittals required by Special Provision VI.C.3 of the Order.

viii. The Annual Report shall document that the annual fee has been paid.

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

Table E-3. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period[1]
Continuous	First day of discharge	All times while the facility is discharging
SP	Start-up date	First day of start-up phase through last day of start-up phase.
1/Month	First day of calendar month following the last day of start-up phase.	First day of calendar month through last day of calendar month
1/Quarter	Closest of January 1, April 1, July 1, or October 1 following (or on) the last day of start-up phase.	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31
2/Year	Closest of January 1 or July 1 following (or on) the last day of the start-up period.[2]	January 1 through June 30 July 1 through December 31
1/Year	January 1 following (or on) the last day of the start-up period.	January 1 through December 31

Footnote:

[1] Reporting begins on the effective date of Authorization to Discharge.

[2] Monitoring conducted during the term of the previous order may be used to satisfy monitoring required with this sampling frequency.

4. **RL and MDL Reporting**. Dischargers shall report with each sample result the Reporting Level (RL) and Method Detection Limit (MDL) as set forth in this Order or as determined by the procedure in 40 C.F.R. part 136. Dischargers may select any analytical methods described in 40 C.F.R. part 136; however, RLs shall be below applicable water quality objectives (see Fact Sheet Table F-5) and effluent limitations (see Table 2 of the Order). Otherwise, RLs shall be as low as possible. Dischargers shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

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

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

may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (± a percentage of the reported value), numerical ranges (low to high), or any other means the laboratory considers appropriate.

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

d. Dischargers shall instruct laboratories to establish calibration standards so that the lowest calibration standard is at or below the minimum level (ML) specified below (or its equivalent if there is differential treatment of samples relative to calibration standards). At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve. The MLs for priority pollutants are included in Attachment G.

5. Compliance Determination

a. Compliance with effluent limitations shall be determined using sample reporting protocols defined above and in the Fact Sheet and Attachments A and G. For purposes of reporting and administrative enforcement, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of a pollutant is greater than the effluent limitation and greater than or equal to the reporting level (RL).

b. When determining compliance with an average effluent limitation and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of detected but not quantified (DNQ) or nondetect (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

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

ii. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

C. Discharge Monitoring Reports

Dischargers shall submit Discharge Monitoring Reports (DMRs) as required.

D. Violations and Unauthorized Discharges

1. The Discharger shall report by telephone and email to the Regional Water Board staff (see Authorization to Discharge) who oversees the implementation of this Order within 24 hours of becoming aware of a bypass or violation of this Order.

2. The Discharger shall report spills to the California Office of Emergency Services (telephone 800-852-7550) only when spills are in accordance with applicable reportable quantities for hazardous materials.

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

a. Date and time of violation or spill, and duration if known;

b. Location of violation or spill (street address or description of location, include map if necessary);

c. Nature of violation or material spilled;

d. Quantity of any material involved;

e. Receiving water body affected, if any;

f. Cause of violation or spill;

g. Estimated size of affected area;

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

i. Corrective actions taken to correct violation or to contain, minimize, or clean up spill;

j. Future corrective actions planned to prevent recurrence and implementation schedule;

k. Spill Prevention, Control and Countermeasure Plan (SPCC) in effect, if any; and

l. Persons or agencies notified.

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 II.B of the Order, the California Regional Water Quality Control Board, San Francisco Bay Region (Regional Water Board) incorporates this Fact Sheet as its findings supporting the issuance of the Order.

I. PERMIT INFORMATION

A. This Order regulates the discharge or reclamation (or both discharge and reclamation) of extracted and treated groundwater resulting from the cleanup of groundwater at active or closed cleanup sites, such as fuel stations or construction sites. These groundwater treatment facilities extract and treat groundwater polluted by volatile organic compounds (VOCs), fuel leaks, fuel additives, and other related wastes (e.g., semi-volative organic compounds [SVOCs], polycyclic aromatic hydrocarbons [PAHs], and metals). This Order reissues NPDES General Permit No. CAG912002, which the Regional Water Board issued through Order No. R2-2012-0012 (previous order) on February 8, 2012.

B. Site owners and operators that complete a Notice of Intent (NOI) form (Attachment B) and apply for Authorization to Discharge under this Order, and that are granted such authorization, are hereinafter called "Dischargers." For purposes of this Order, references to "discharger" or "permittee" in applicable federal and State laws, regulations, plans, and policies are held to be equivalent to references to any Discharger herein. About 75 facilities were enrolled under the previous order at any one time.

II. FACILITY DESCRIPTION

A. Groundwater Treatment

The facilities that may be covered under this Order are groundwater treatment facilities that extract and treat groundwater polluted mainly by VOCs or fuel components, or both. Covered facilities may include active or closed cleanup sites, such as fuel stations or construction sites. This Order addresses discharges from these facilities to any surface waters, including creeks, streams, rivers (including flood control channels), lakes, or San Francisco Bay. Such discharges may occur directly to surface waters or through constructed storm drain systems.

Groundwater treatment facilities typically use aeration or granular activated carbon (GAC) systems, or both, to treat extracted groundwater prior to discharge. Facilities that employ other types of treatment that effectively remove VOCs or fuel-related pollutants may also be authorized pursuant to this Order subject to Executive Officer approval. The most common VOC pollutants these treatment systems treat are tetrachloroethylene and trichloroethylene. The most common fuel-related pollutants are benzene, ethylbenzene, toluene, total xylenes, methyl tertiary butyl ether (MTBE), and other petroleum hydrocarbons collectively called "total petroleum hydrocarbons" (TPHs). Other VOCs, SVOCs, or metals may also be of concern. Concentrations of other organic pollutants are usually below detectable levels.

B. Water Reclamation

Regional Water Board Resolution No. 88-160 (adopted October 19, 1988) urges Dischargers of extracted groundwater from site cleanup projects to reclaim their treated groundwater. The resolution states that, when reclamation is not technically and economically feasible, treated effluent should be directed to a publicly-owned treatment works (POTW). Only if neither reclamation nor discharge to a POTW is technically and economically feasible, and if receiving water beneficial uses are not adversely affected, the Regional Water Board may authorize the discharge of treated and extracted groundwater in accordance with Waste Discharge Requirements (WDRs).

This Order allows reclamation of extracted treated groundwater in conjunction with discharge to surface waters. Reclamation of extracted treated groundwater can take many forms, such as irrigation of landscaping or agriculture, dust control or soil compaction on construction sites, and industrial water supply.

C. Discharge Points and Receiving Waters

Dischargers may discharge to any San Francisco Bay Region surface waters, including estuarine and tidally-influenced waters. Reclaimed water may be discharged to groundwaters or other waters of the State. Groundwater treatment facilities typically discharge effluent through storm drain systems, rivers, or creeks. The NOI form in Attachment B requires each Discharger to specify its discharge locations and to provide a map or diagram indicating the discharge path to surface waters.

D. Existing Requirements

The previous order included the following effluent limitations:

Table F-1. Previous Effluent Limitations

		Discharge to Receiving Waters used as Drinking Water Source[1]		Discharge to Other Receiving Waters	
Pollutant	**Units**	**Daily Maximum**	**Average Monthly**	**Daily Maximum**	**Average Monthly**
Benzene	µg/L	1	---	5	---
Carbon Tetrachloride	µg/L	0.50	0.25	5	4.4
Chloroform	µg/L	5	---	5	--
1,1-Dichloroethane	µg/L	5	---	5	---
1,2-Dichloroethane	µg/L	0.5	0.38	5	---
1,1-Dichloroethylene	µg/L	0.11	0.057	5	3.2
Ethylbenzene	µg/L	5	---	5	---
Methylene Chloride	µg/L	5	4.7	5	---
Tetrachloroethylene (PCE)	µg/L	1.6	0.8	5	---
Toluene	µg/L	5	---	5	---
Cis-1,2-Dichloroethylene	µg/L	5	---	5	---
Trans-1,2-Dichloroethylene	µg/L	5	---	5	---
1,1,1-Trichloroethane	µg/L	5	---	5	---
1,1,2-Trichloroethane	µg/L	1.2	0.6	5	---
Trichloroethylene (TCE)	µg/L	5	2.7	5	---

		Discharge to Receiving Waters used as Drinking Water Source[1]		Discharge to Other Receiving Waters	
Pollutant	**Units**	**Daily Maximum**	**Average Monthly**	**Daily Maximum**	**Average Monthly**
Vinyl Chloride	µg/L	0.5	---	1	---
Total Xylenes	µg/L	5	---	5	---
Methyl Tertiary Butyl Ether (MTBE)	µg/L	5	---	5	---
Total Petroleum Hydrocarbons [TPHs (as gasoline or as diesel)]	µg/L	50	---	50	---
Ethylene Dibromide (1,2-Dibromoethane)	µg/L	0.05	---	5	---
Trichlorotrifluoroethane	µg/L	5	---	5	---
Total Residual Chlorine	mg/L	0.0	---	0.0	---

Abbreviations:

mg/L = milligrams per liter
µg/L = micrograms per liter

Footnote:

[1] Drinking water sources are defined as surface waters with the existing or potential beneficial uses of "municipal and domestic supply" or "groundwater recharge," or both. (Groundwater recharge uses may include recharge areas to maintain salt balance or to halt saltwater intrusion into freshwater aquifers.)

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

A. Legal Authorities

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

B. California Environmental Quality Act

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

C. State and Federal Regulations, Policies, and Plans

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

- Agricultural Supply
- Areas of Special Biological Significance
- Cold Freshwater Habitat
- Ocean, Commercial and Sport Fishing
- Estuarine Habitat
- Freshwater Replenishment
- Groundwater Recharge
- Industrial Service Supply
- Marine Habitat
- Fish Migration
- Municipal and Domestic Supply
- Navigation
- Industrial Process Supply
- Preservation of Rare or Endangered Species
- Water Contact Recreation
- Non-Contact Water Recreation
- Shellfish Harvesting
- Fish Spawning
- Warm Freshwater Habitat
- Wildlife Habitat

2. **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. This plan supersedes other narrative sediment quality objectives and establishes new sediment quality objectives and related implementation provisions for specifically defined sediments in most bays and estuaries. This Order implements the sediment quality objectives of this plan.

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

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

5. **Safe Clean Water.** In compliance with Water Code section 106.3, it is State of California policy that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes. This Order promotes that policy by requiring Dischargers to meet applicable water quality objectives, including maximum contaminant levels (MCLs) designed to protect human health, and to ensure that water is safe for domestic use. As explained in Fact Sheet section IV.C.3.d, the reasonable potential analysis for treated groundwater facilities considered MCLs.

6. **Antidegradation Policy.** Federal regulations at 40 C.F.R. section 131.12 requires that state water quality standards include an antidegradation policy consistent with the federal policy.

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

7. **Anti-Backsliding Requirements.** CWA sections 402(o) and 303(d)(4) and 40 C.F.R. section 122.44(l) restrict backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed. This Order retains effluent limitations no less stringent than those established by previous orders.

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

D. Impaired Waters on CWA 303(d) List

In October 2011, U.S. EPA approved a revised list of impaired waters prepared pursuant to CWA section 303(d), which requires identification of specific waters where it is expected that water quality standards will not be met after implementation of technology-based effluent limitations on point sources. Where it has not done so already, the Regional Water Board plans to adopt total maximum daily loads (TMDLs) for pollutants on the 303(d) list. TMDLs establish wasteload allocations for point sources and load allocations for non-point sources and are established to achieve the water quality standards for the impaired waters. Specific waters on the 303(d) list impaired by pollutants within the scope of this Order include such waters as Castro Cove in Richmond, Central San Francisco Bay, Mission Creek, Islais Creek, and Oakland Inner Harbor. This Order is not expected to contribute to any water quality impairment because the effluent limitations included in this Order are based on water quality objectives protective of receiving water beneficial uses. Facilities that discharge to waters with applicable TMDLs may be required to obtain coverage under an individual permit.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

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

maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of receiving waters.

Several specific factors affecting the development of limitations and requirements in this Order are discussed as follows:

A. Discharge Prohibitions

1. Prohibitions in this Order

a. Discharge Prohibition III.A (No discharge other than as described in NOI and Authorization to Discharge): This prohibition is based on 40 C.F.R. section 122.21(a) and Water Code section 13260, which require filing an application and Report of Waste Discharge before discharge can occur. Discharges not described in an NOI and Authorization to Discharge are prohibited.

b. Discharge Prohibition III.B (No discharge of earthen materials): This prohibition is based on Basin Plan Table 4-1, Discharge Prohibition 9, which prohibits discharges of silt, sand, clay, or other earthen materials in quantities sufficient to cause deleterious bottom deposits, turbidity, or discoloration in surface waters, or to unreasonably affect or threaten to affect beneficial uses.

c. Discharge Prohibition III.C (No discharge of floating materials): This prohibition is based on Basin Plan Table 4-1, Discharge Prohibitions 8, which prohibits discharges of floating oil or other floating materials in quantities sufficient to cause deleterious bottom deposits, turbidity, or discoloration in surface waters. It is also based on Basin Plan Table 4-1, Discharge Prohibitions 13, which prohibits discharges of oil or any residuary product of petroleum, except in accordance with WDRs.

d. Discharge Prohibition III.D (No storm drain discharge causing scouring, erosion, excessive sedimentation, or flooding): This prohibition is based on the sediment and erosion control goals of Basin Plan section 4.19 and is consistent with the Municipal Regional Stormwater NPDES Permit (Permit No. CAS612008, Order No. R2-2015-0049).

e. Discharge Prohibition III.E (No discharge causing pollution, contamination, or nuisance): This prohibition is based on Water Code section 13050, which prohibits the creation of pollution, contamination, or a nuisance conditions as the result of discharges.

f. Discharge Prohibition III.F (No bypass or overflow of untreated or partially treated groundwater). This prohibition is based on 40 C.F.R. section 122.41(m), which generally prohibits bypasses. Attachment D section I.G provides for circumstances whereby bypasses may be approved.

g. Discharge Prohibition III.G (No water reclamation consisting of recharge or reinjection): This prohibition clarifies that water reclamation activities consisting of recharge or reinjection are beyond the scope of this Order.

2. Exception to Shallow Water and Dead-End Slough Discharge Prohibition

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

- 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;
- A discharge is approved as part of a reclamation project; or
- Net environmental benefits will be derived as a result of the discharge; or
- A discharge is approved as part of a groundwater cleanup project and, in accordance with Resolution No. 88-160 "Regional Board Position on the Disposal of Extracted Groundwater from Groundwater Clean-Up Projects," it has been demonstrated that neither reclamation nor discharge to a POTW is technically and economically feasible, and the Discharger has provided certification of the adequacy and reliability of treatment facilities and a plan that describes procedures for proper operation and maintenance of all treatment facilities.

The Basin Plan further states:

> Significant factors to be considered by the Regional Water Board in reviewing requests for exceptions will be the reliability of the discharger's system in preventing inadequately treated wastewater from being discharged to the receiving water and the environmental consequences of such discharges.

This Order requires Dischargers to document in their NOIs that neither reclamation nor discharge to a POTW is technically and economically feasible. In addition, Dischargers are required to document how they will reliably prevent discharges of inadequately-treated waste as prohibited by Discharge Prohibition III.F.

B. Technology-Based Effluent Limitations

1. Scope and Authority

CWA section 301(b) and 40 C.F.R. section 122.44 require that permits include conditions meeting technology-based requirements at a minimum and any more stringent effluent

limitations necessary to meet water quality standards. The CWA requires that technology-based effluent limitations (TBELs) be established based on several levels of control:

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

b. Best available technology economically achievable (BAT). BAT represents the best existing performance of treatment technologies that are economically achievable within an industrial point source category. BAT standards apply to toxic and non-conventional pollutants.

c. Best conventional pollutant control technology (BCT). BCT represents the control from existing industrial point sources of conventional pollutants, including biochemical oxygen demand, total suspended solids, fecal coliform, pH, and oil and grease. BCT standards are established after considering a two-part reasonableness test. The first test compares the relationship between the costs of attaining a reduction in effluent discharge and the resulting benefits. The second test examines the cost and level of reduction of pollutants from the discharge from publicly owned treatment works to the cost and level of reduction of such pollutants from a class or category of industrial sources. Effluent limitations must be reasonable under both tests.

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

The CWA requires U.S. EPA to develop effluent limitations, guidelines, and standards representing application of BPT, BAT, BCT, and NSPS. CWA section 402(a)(1) and 40 C.F.R. section 125.3 authorize the use of best professional judgment (BPJ) to derive technology-based effluent limitations on a case-by-case basis when U.S. EPA has not promulgated effluent limitations, guidelines, and standards. When best professional judgment is used, the Regional Water Board must consider specific factors outlined in 40 C.F.R. section 125.3.

2. Applicable Limitations

The TBELs in this Order are based on BPJ, considering all reasonably available and pertinent data and information. The treatment systems regulated by this Order remove organic compounds, including VOCs and petroleum compounds, using such technologies as air stripping and activated carbon. Nationwide, U.S. EPA reports that granular activated carbon adsorption systems (GAC) are the most commonly used groundwater treatment method (Virginia State Water Control Board. USEPA Model General Permit and the Fact Sheet for Permit No. VAG83, December, 1997). Air stripping and GAC, used separately or in conjunction with one another, can achieve pollutant removal efficiencies between 95 and 99.5 percent for groundwater pump-and-treat waste streams (U.S. EPA. A Citizen's Guide to Activated Carbon Treatment, USEPA 542-F-12-001, September 2012). When properly designed and operated, these treatment systems can lower the concentration of all VOC and fuel-related pollutants with TBELs to levels below analytical detection limits.

This Order's TBELs are based on the Basin Plan and historical discharge data submitted by Dischargers enrolled under the previous order. The TBELs are the 99th percentile effluent concentration for each pollutant and are expressed as maximum daily effluent limitations. Considering all reported data, 99 percent are below the 99th percentile. Although there have been occasional exceedances, Dischargers generally manage their treatment systems such that compliance with these TBELs is feasible; many Dischargers have never exceeded these concentrations. Based on the historical record, there is only a 1 percent chance that a particular effluent sample would exceed the 99th percentile.

The TBELs are derived from effluent data collected between 2015 and 2016 at 30 permitted facilities. The data were censored to include only the following:

- Effluent data from GAC treatment systems,
- Effluent data reported with corresponding influent data above method detection limits,
- Effluent data not exceeding previous effluent limitations, and
- Effluent data reported with corresponding reporting levels and method detection limits.

When the 99th percentile can only be estimated because it is below the corresponding reporting level or SIP minimum level, the TBEL selected is the lowest corresponding SIP minimum level or, if no SIP minimum level is available, the lowest corresponding reporting level found among the available monitoring data.

Table F-2. Technology-Based Effluent Limitations

Pollutant	Maximum Daily Effluent Limit (µg/L)
Benzene	0.50 [2]
Chloroform	1.9 [1]
1,1-Dichloroethane	0.50 [2]
1,2-Dichloroethane	0.50 [2]
1,1-Dichloroethylene	0.50 [2]
Ethylbenzene	0.50 [2]
Tetrachloroethylene	0.50 [2]
Toluene	0.50 [2]
Cis-1,2-Dichloroethylene	0.50 [2]
Trans-1,2-Dichloroethylene	0.50 [2]
1,1,1-Trichloroethane	0.50 [2]
1,1,2-Trichloroethane	0.50 [2]
Trichloroethylene	0.65 [1]
Vinyl Chloride	0.90 [1]
Total Xylenes	0.50 [3]
MTBE	0.50 [3]
TPH as gasoline	50 [3]
TPH as diesel	50 [1]
TPH as motor oil	100 [3]
Total Residual Chlorine	0.0 [4]
pH	6.5 – 8.5 [4]

Abbreviation:

µg/L = micrograms per liter

Footnotes:

[1] Based on 99th percentile

[2] Based on lowest SIP minimum level

[3] Based on lowest reporting level reported

[4] Based on Basin Plan Table 4-2

In establishing these TBELs, the Regional Water Board considered the factors specified in 40 C.F.R. section 125.3(d), as indicated in the table below:

Table F-3. Factors Considered Pursuant to 40 C.F.R. section 125.3(d)(1) and (3)

Factors	Considerations
Cost relative to benefits	The cost of imposing these TBELs is reasonable given that existing dischargers can comply with them with existing practicable and economically achievable treatment technologies. Some dischargers may need to modify their existing treatment processes, but most will not. Overall, the limited cost associated with implementing the TBELs is warranted to minimize pollutant discharges and create a level playing field for the discharger community.
Cost of effluent reduction	The cost of achieving effluent reductions is reasonable because most dischargers are already employing practicable and economically achievable treatment technologies that comply with the TBELs; therefore, such technologies are readily available and affordable.
Age of equipment and facilities	Most dischargers already employ treatment technologies that comply with the TBELs, regardless of the age of their existing equipment and facilities. Those that do not will need to upgrade or replace their systems, or seek to discharge under an individual permit.
Processes employed	Most dischargers already employ treatment technologies that comply with the TBELs; therefore, the processes dischargers can employ to comply with the TBELs are readily available.
Engineering aspects of application of control techniques	Most dischargers already employ treatment technologies that comply with the TBELs; therefore, the engineering aspects of such technologies have been largely resolved. Available controls are practicable and capable of meeting the TBELs.
Process changes	Some dischargers may need to modify their existing treatment processes, but most will not.
Non-water-quality environmental impact (including energy requirements)	Some dischargers may need to modify their existing treatment processes, such as replacing air stripping technologies with GAC. The environmental impact of such changes would likely be insignificant, but could involve lower air emissions (as fewer VOCs are released through air stripping) and more solid waste disposal (as more GAC is used).

C. Water Quality-Based Effluent Limitations

1. Scope and Authority

This Order contains water quality-based effluent limitations (WQBELs) that implement water quality objectives that protect beneficial uses. CWA section 301(b) and 40 C.F.R. section 122.44(d) require that permits include limitations more stringent than federal technology-based requirements where necessary to achieve applicable water quality standards. According to 40 C.F.R. section 122.44(d)(1)(i), permits must include effluent limitations for all pollutants that are or may be discharged at levels that have a reasonable

potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective, WQBELs must be established using (1) U.S. EPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting a narrative criterion, supplemented with relevant information (40 C.F.R. § 122.44[d][1][vi]). The process for determining reasonable potential and calculating WQBELs is intended to achieve applicable water quality objectives and criteria and to protect designated uses of receiving waters as specified in the Basin Plan. This Order imposes WQBELs for pollutants with reasonable potential to cause or contribute to exceedances of water quality standards. For parameters with both TBELs and WQBELs, the more stringent limits apply.

2. Beneficial Uses and Water Quality Criteria and Objectives

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

a. Basin Plan. The Basin Plan specifies numeric water quality objectives for many pollutants to protect aquatic life and municipal and agricultural water supplies. These include, among others, primary and secondary MCLs (see Basin Plan sections 3.3.21 and 3.3.22).

b. CTR. The CTR specifies numeric aquatic life and human health criteria for numerous priority pollutants. These criteria apply to inland surface waters and enclosed bays and estuaries. Some human health criteria are for consumption of "water and organisms" and others are for consumption of "organisms only." Waters with the municipal or domestic supply beneficial use designation are subject to the "water and organisms" criteria.

c. NTR. The NTR establishes numeric aquatic life criteria for a number of pollutants for San Francisco Bay waters upstream to and including Suisun Bay and the San Joaquin-Sacramento River Delta.

d. Sediment Quality Objectives. The *Water Quality Control Plan for Enclosed Bays and Estuaries—Part 1, Sediment Quality* contains a narrative water quality objective: "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.

e. Receiving Water Salinity. Basin Plan section 4.6.2 (like the CTR and the NTR) states that the salinity characteristics (i.e., freshwater versus saltwater) of the receiving water are to be considered in determining the applicable water quality objectives. Freshwater criteria apply to discharges to waters with salinities equal to or less than one part per thousand (ppt) at least 95 percent of the time. Saltwater criteria apply to discharges to

waters with salinities equal to or greater than 10 ppt at least 95 percent of the time in a normal water year. For discharges to waters with salinities between these two categories, or tidally-influenced freshwaters that support estuarine beneficial uses, the applicable water quality objectives are the lower of the salt or freshwater objectives (the latter calculated based on ambient hardness) for each substance.

Receiving waters for the discharges this Order covers include San Francisco Bay, other estuarine and tidally-influenced waters, and inland freshwaters. In most cases, the reasonable potential analyses and WQBELs are based on the more stringent of the freshwater and saltwater criteria to fully protect all receiving waters. The reasonable potential analyses for copper and nickel also include analyses for discharges to freshwater, where saltwater criteria do not apply.

The Basin Plan implements State Water Board Resolution No. 88-63, which establishes State policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply (MUN). Because of the marine influence on all reaches of San Francisco Bay and other tidally-influenced waters, total dissolved solids levels exceed 3,000 mg/L and thereby meet an exception to State Water Board Resolution No. 88-63. For this reason, waters with and without the MUN designation are considered separately below with respect to the need for, and calculation of, WQBELs.

f. Receiving Water Hardness. Some freshwater objectives for metals are hardness dependent (as hardness increases, the toxicity of certain metals decreases). In determining the freshwater water quality objectives that depend on hardness, a hardness value of 100 mg/L as $CaCO_3$ was used, which is conservative and generally protective of aquatic life in all circumstances contemplated by this permit. Mean and median hardness data collected through the Surface Water Ambient Monitoring Program are 250 mg/L and 232 mg/L. Values less than 100 mg/L were found primarily in Marin County, where dewatering activities rarely occur.

g. Site Specific Translators. NPDES regulations at 40 C.F.R. 122.45(c) require that effluent limitations for metals be expressed as total recoverable metal. Since water quality objectives for metals are typically expressed as dissolved metal, translators must be used to convert metals concentrations from dissolved to total recoverable and vice versa. The CTR includes default translators; however, site-specific conditions, such as water temperature, pH, suspended solids, and organic carbon affect the form of metal (dissolved, non-filterable, or otherwise) present in the water and therefore available to cause toxicity. In general, the dissolved form of the metal is more available and more toxic to aquatic life than non-filterable forms. Site-specific translators can be developed to account for site-specific conditions, thereby preventing exceedingly stringent or under protective water quality objectives.

This Order covers discharges to various receiving waters; therefore, site-specific conditions vary. CTR default translators were used for all metals, except for copper and nickel within the context of San Francisco Bay. The Suisun Bay, San Pablo Bay, Central San Francisco Bay, and Lower San Francisco Bay translators specified in Basin Plan Table 7.2.1-2 were used for copper. The South San Francisco Bay translators specified in Basin Plan Table 7.2.1-1 were used for copper and nickel. The North and Central San

Francisco Bay translators for nickel recommended by the Clean Estuary Partnership's *North of Dumbarton Bridge Copper and Nickel Development and Selection of Final Translators (2005)* were used for Suisun Bay, San Pablo Bay, Central San Francisco Bay, and Lower San Francisco Bay.

Table F-4. Copper and Nickel Translators

San Francisco Bay Segment	Copper		Nickel	
	AMEL Translator	MDEL Translator	AMEL Translator	MDEL Translator
Suisun Bay and San Pablo Bay	0.38	0.66	0.27	0.57
Central and Lower San Francisco Bays	0.73	0.87	0.65	0.85
South San Francisco Bay	0.53	0.53	0.44	0.44

3. Need for WQBELs

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

a. Methodology. SIP section 1.3 sets forth the methodology used for priority pollutants to assess whether they have reasonable potential to exceed water quality objectives. In this Order, this methodology is also applied to non-priority pollutants as guidance in determining reasonable potential. The analysis begins with identifying the maximum effluent concentration (MEC) observed for each pollutant based on available effluent concentration data and the ambient background concentration (B). SIP section 1.4.3 states that ambient background concentrations are either the maximum ambient concentration observed or, for water quality objectives intended to protect human health, the arithmetic mean of observed concentrations. There are three triggers in determining reasonable potential:

i. Trigger 1 is activated if the maximum effluent concentration is greater than or equal to the lowest applicable water quality criterion (MEC $\geq$ water quality criterion).

ii. Trigger 2 is activated if the ambient background concentration observed in the receiving water is greater than the water quality criterion (B > water quality criterion) *and* the pollutant is detected in any effluent sample.

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

b. Effluent Data. Effluent data from 74 facilities enrolled under the previous order during 2015 were used to characterize discharges and determine whether they have reasonable potential to cause or contribute to an exceedance of water quality criteria.

c. Ambient Background Data. The SIP states that, when calculating WQBELs, ambient background concentrations are to be either the observed maximum ambient water column concentrations or, for water quality objectives intended to protect human health from carcinogenic effects, the arithmetic mean of observed ambient water concentrations. Because the receiving waters for discharges from the facilities covered under this permit are varied, and because receiving waters are not expected to contain significant

concentrations of VOCs or fuel-related pollutants, receiving water background concentrations were not considered for this analysis.

d. Reasonable Potential Analyses. Reasonable potential analyses were conducted for discharges of groundwater treated to remove VOCs and fuel-related pollutants. The MECs for detected parameters and most stringent applicable water quality criteria are presented in the following tables, along with the analysis results (yes or no) for each pollutant. Reasonable potential was not determined for all pollutants because there are not applicable criteria for all pollutants and monitoring data are unavailable for others. When additional data become available, further analysis will be conducted to determine whether WQBELs are necessary.

Reasonable potential based on Trigger 3 has been determined for antimony, cadmium, chromium III, silver, sulfate, and thallium.

Table F-5. Reasonable Potential Analysis

CTR No.	Pollutant[1]	Unit	Governing Criteria	MEC or Minimum DL[2]	Result[3]
1	**Antimony**	**µg/L**	**6.0**	**2.3**	**Yes[4]**
2	**Arsenic**	**µg/L**	**10**	**14**	**Yes**
4	**Cadmium**	**µg/L**	**1.1**	**0.49**	**Yes[4]**
5a	**Chromium (III)**	**µg/L**	**50**	**38**	**Yes[4]**
5b	**Chromium (VI)**	**µg/L**	**10**	**38**	**Yes**
6	**Copper**				
	South SF Bay Discharge	**µg/L**	**13**	**18**	**Yes**
	Central and Lower SF Bay Discharge	**µg/L**	**8.2**	**18**	**Yes**
	Suisun or San Pablo Bay Discharge	**µg/L**	**14**	**18**	**Yes**
	Freshwater Discharge	**µg/L**	**9.0**	**18**	**Yes**
7	**Lead**	**µg/L**	**3.2**	**20**	**Yes**
8	**Mercury**	**µg/L**	**0.050**	**10**	**Yes**
9	**Nickel**				
	South SF Bay Discharge	**µg/L**	**19**	**130**	**Yes**
	Central and Lower SF Bay Discharge	**µg/L**	**13**	**130**	**Yes**
	Suisun or San Pablo Bay Discharge	**µg/L**	**30**	**130**	**Yes**
	Freshwater Discharge	**µg/L**	**52**	**130**	**Yes**
10	**Selenium**	**µg/L**	**5.0**	**22**	**Yes**
11	**Silver**	**µg/L**	**2.2**	**0.15**	**Yes[4]**
12	**Thallium**	**µg/L**	**1.7**	**0.73**	**Yes[4]**
13	**Zinc**	**µg/L**	**86**	**230**	**Yes**
14	Cyanide	µg/L	5.2	2.3	No
19	Benzene	µg/L	1.0	0.9	No
21	Carbon Tetrachloride	µg/L	0.3	ND	No
22	Chlorobenzene	µg/L	680	5.5	No
26	Chloroform	µg/L	No Criteria	4.6	No
27	Dichlorobromomethane	µg/L	0.56	0.35	No

CTR No.	Pollutant[1]	Unit	Governing Criteria	MEC or Minimum DL[2]	Result[3]
28	1,1-Dichloroethane	µg/L	5.0	3.1	No
29	**1,2-Dichloroethane**	**µg/L**	**0.38**	**1.8**	**Yes**
30	**1,1-Dichloroethylene**	**µg/L**	**0.06**	**12**	**Yes**
32	1,3-Dichloropropylene	µg/L	0.50	0.011	No
33	Ethylbenzene	µg/L	300	0.09	No
35	Methyl Chloride	µg/L	No Criteria	0.77	No
36	Methylene Chloride	µg/L	4.7	1.6	No
38	**Tetrachloroethylene**	**µg/L**	**0.80**	**7.4**	**Yes**
39	Toluene	µg/L	150	125	No
40	1,2-Trans-Dichloroethylene	µg/L	10	0.76	No
41	1,1,1-Trichloroethane	µg/L	200	0.6	No
42	1,1,2-Trichloroethane	µg/L	0.60	ND	No
43	**Trichloroethylene**	**µg/L**	**2.7**	**270**	**Yes**
44	**Vinyl Chloride**	**µg/L**	**0.50**	**1.9**	**Yes**
45	2-Chlorophenol	µg/L	120	0.48	No
57	Acenaphthylene	µg/L	No Criteria	0.03	No
58	Anthracene	µg/L	9,600	0.86	No
60	**Benzo(a)Anthracene**	**µg/L**	**0.0044**	**0.8**	**Yes**
61	**Benzo(a)Pyrene**	**µg/L**	**0.0044**	**0.43**	**Yes**
62	**Benzo(b)Fluoranthene**	**µg/L**	**0.0044**	**0.25**	**Yes**
63	Benzo(ghi)Perylene	µg/L	No Criteria	0.07	No
64	**Benzo(k)Fluoranthene**	**µg/L**	**0.0044**	**0.78**	**Yes**
68	Bis(2-Ethylhexyl)Phthalate	µg/L	1.8	7.3	Ud[5]
69	4-Bromophenyl Phenyl Ether	µg/L	No Criteria	0.45	No
73	**Chrysene**	**µg/L**	**0.0044**	**0.58**	**Yes**
74	**Dibenzo(a,h)Anthracene**	**µg/L**	**0.0044**	**0.33**	**Yes**
76	1,3-Dichlorobenzene	µg/L	400	0.017	No
79	Diethyl Phthalate	µg/L	23,000	0.2	No
86	Fluoranthene	µg/L	300	0.32	No
92	**Indeno(1,2,3-cd) Pyrene**	**µg/L**	**0.0044**	**0.23**	**Yes**
94	Naphthalene	µg/L	No Criteria	0.56	No
99	Phenanthrene	µg/L	No Criteria	0.6	No
100	Pyrene	µg/L	960	0.36	No
	1,2-Cis-Dichloroethylene	**µg/L**	**6**	**180**	**Yes**
	Sulfate	**mg/L**	**250**	**120**	**Yes[4]**
	Turbidity	**NTU**	**5**	**19**	**Yes**
	Barium	mg/L	1	0.84	No
	Manganese	µg/L	**50**	**1,900**	**Yes**
	Total Xylenes	µg/L	1,750	0.38	No
	Methyl Tertiary Butyl Ether (MTBE)	µg/L	13	4.4	No
	Total Petroleum Hydrocarbons (TPH)	µg/L	No Criteria	4,200	No

CTR No.	Pollutant[1]	Unit	Governing Criteria	MEC or Minimum DL[2]	Result[3]
	Ethylene Dibromide	µg/L	0.05	ND	No
	Trichlorotrifluoroethane	µg/L	1,200	1.6	No

Footnotes:

[1] This list contains the CTR priority pollutants and, when data are available, other pollutants for which water quality objectives exist to protect municipal supply, groundwater recharge, or agricultural supply beneficial uses.

[2] The Maximum Effluent Concentration (MEC) is the actual detected concentration unless preceded by a "<" sign, in which case the value shown is the minimum detection level (DL).

[3] Results = Yes, if MEC ≥ WQC or Trigger 3;
= No, if MEC < WQC or all effluent data are undetected;
= Unknown (U), if no water quality criteria are available or data are insufficient.

[4] Determination based on Trigger 3. Reasonable potential has been determined based on groundwater quality data communicated by prospective permit enrollees which show that standard treatment for VOCs, fuel leaks, or fuel-related pollutants may not treat these pollutants below water quality criterion.

[5] Effluent data indicates exceedances of water quality criteria for bis(2-ethylhexyl)phthalate. However bis(2-ethylhexyl)phthalate is a common laboratory contaminant and is not anticipated to be a pollutant of concern for the type of effluent this Order allows. This Order requires sampling for bis(2-ethylhexyl)phthalate to be performed using ultra clean sampling techniques for re-evaluation during future permit permit reissuance.

e. Acute Toxicity. This Order contains WQBELs for acute toxicity because Basin Plan Table 4-3 requires them.

f. Reasonable Potential Analysis for Sediment Quality Objectives. Pollutants in some receiving water sediments may be present in quantities that alone or in combination are toxic to benthic communities. Efforts are underway to identify stressors causing such conditions. However, to date there is no evidence directly linking compromised sediment conditions to the discharges subject to this Order; therefore the Regional Water Board cannot draw a conclusion about the reasonable potential for the discharges to cause or contribute to exceedances of sediment quality objectives. Nevertheless, the Regional Monitoring Program continues to monitor San Francisco Bay sediment and seeks to identify stressors responsible for degraded sediment quality. Thus far, the monitoring has provided only limited information about potential stressors and sediment transport. The Regional Water Board is exploring appropriate requirements to impose on dischargers in the region so as to obtain additional information that may inform future reasonable potential analyses.

4. WQBEL Calculations

The table below summarizes the WQBEL calculations based on human health, aquatic life, and drinking water standards (MCLs). WQBELs were calculated for each pollutant determined to have reasonable potential to cause or contribute to an exceedance of a water quality objective. As explained below, in most cases, the calculations are based on the procedures specified in SIP section 1.4. The most stringent WQBELs are shown in bold.

Table F-6. Summary of WQBELs

Pollutant	CTR-Human Health				CTR-Aquatic Life		MCLs	
	Discharges to Receiving Waters Used as Drinking Water		Discharges to Other Receiving Waters		Discharges to All Receiving Waters		Discharges to Receiving Waters Used as Drinking Water	
	AMEL (µg/L)	**MDEL (µg/L)**	**AMEL (µg/L)**	**MDEL (µg/L)**	**AMEL (µg/L)**	**MDEL (µg/L)**	**AMEL (µg/L)**	**MDEL (µg/L)**
Antimony, Total Recoverable	14	28	**4,300**	**8,600**	---	---	**6.0**	**12**
Arsenic, Total Recoverable	---	---	---	---	**30.**	**59**	**10.**	**20**
Cadmium, Total Recoverable	---	---	---	---	**0.90**	**1.8**	---	---
Chromium III	---	---	---	---	**170**	**340**	**50**	**100**
Chromium VI	---	---	---	---	**8.1**	**16**	10	20
Copper, Total Recoverable								
South SF Bay	1,300	2,600	---	---	**10**	**20**	1,300	2,600
Central or Lower SF Bay	1,300	2,600	---	---	**5.4**	**11**	1,300	2,600
Suisun or San Pablo Bay	1,300	2,600	---	---	**7.1**	**14**	1,300	2,600
Freshwater	1,300	2,600	---	---	**7.0**	**14**	1,300	2,600
Lead, Total Recoverable	---	---	---	---	**2.6**	**5.2**	15	30
Mercury, Total Recoverable	**0.05**	**0.10**	**0.05**	**0.10**	---	---	2.0	4.0
Nickel, Total Recoverable								
South SF Bay	610	1,200	4,600	9,200	**15**	**31**	100	200
Central or Lower SF Bay	610	1,200	4,600	9,200	**10**	**21**	100	200
Suisun or San Pablo Bay	610	1,200	4,600	9,200	**25**	**50**	100	200
Freshwater	610	1,200	4,600	9,200	**43**	**86**	100	200
Selenium, Total Recoverable	---	---	---	---	**4.1**	**8.2**	50	100
Silver, Total Recoverable	---	---	---	---	**1.1**	**2.2**	---	---
Thallium, Total Recoverable	---	---	**6.3**	**13**	---	---	**2.0**	**4.0**
Zinc, Total Recoverable	---	---	---	---	**47**	**95**	---	---
1,2-Dichloroethane	**0.38**	**0.76** [1]	**99**	**200**	---	---	0.50	1.0
1,1-Dichloroethylene	**0.057**	**0.11**	**3.2**	**6.4**	---	---	6.0	12
Tetrachloroethylene	**0.8**	**1.6**	**8.9**	**18**	---	---	5.0	10
Cis-1,2-Dichloroethylene	---	---	---	---	---	---	**6.0**	**12**
Trichloroethylene	**2.7**	**5.4**	**81**	**160**	---	---	5.0	10
Vinyl Chloride	2.0	4.0	**530**	**1,100**	---	---	**0.50**	**1.0**
Benzo(a)Anthracene	**0.0044**	**0.0088**	**0.049**	**0.098**	---	---	---	---

Pollutant	CTR-Human Health				CTR-Aquatic Life		MCLs	
	Discharges to Receiving Waters Used as Drinking Water		Discharges to Other Receiving Waters		Discharges to All Receiving Waters		Discharges to Receiving Waters Used as Drinking Water	
	AMEL (µg/L)	**MDEL (µg/L)**	**AMEL (µg/L)**	**MDEL (µg/L)**	**AMEL (µg/L)**	**MDEL (µg/L)**	**AMEL (µg/L)**	**MDEL (µg/L)**
Benzo(a)Pyrene	**0.0044**	**0.0088**	**0.049**	**0.098**	---	---	0.20	0.40
Benzo(b)Fluoranthene	**0.0044**	**0.0088**	**0.049**	**0.098**	---	---	---	---
Benzo(k)Fluoranthene	**0.0044**	**0.0088**	**0.049**	**0.098**	---	---	---	---
Chrysene	**0.0044**	**0.0088**	**0.049**	**0.098**	---	---	---	---
Dibenzo(a,h)Anthracene	**0.0044**	**0.0088**	**0.049**	**0.098**	---	---	---	---
Indeno(1,2,3-cd) Pyrene	**0.0044**	**0.0088**	**0.049**	**0.098**	---	---	---	---
Sulfate	---	---	---	---	---	---	**250,000**	**500,000**
Manganese	---	---	---	---	---	---	**50**	**100**
Turbidity	---	---	---	---	---	---	**5.0 (NTU)**	**10 (NTU)**

Abbreviations:

µg/L = micrograms per liter

NTU = nephelometric turbidity unit

Footnote:

[1] The calculated MDEL for 1,2-dichloroethane of 0.76 µg/L is less stringent than the MDEL of 0.5 µg/L established in the previous order. The MDEL of 0.5 µg/L has been retained from the previous order to avoid backsliding.

a. Mixing Zones and Dilution. This Order does not establish any mixing zone for any discharge; therefore, the WQBELs are calculated without accounting for any dilution credits. This Order authorizes discharges to many types of receiving waters, the majority of which are anticipated to be storm drain systems that discharge to rivers, creeks, and streams. Many of these receiving waters are likely dry during the summer months, and thus dilution credits are inappropriate.

b. WQBELs Based on Human Health Criteria. WQBELs for pollutants that demonstrate reasonable potential based on CTR human health criteria are calculated in accordance with SIP section 1.4. The average monthly effluent limitations (AMELs) are set equal to the criteria. The maximum daily effluent limitations (MDELs) are calculated by multiplying the AMEL by an MDEL/AMEL multiplier of 2.01, which is derived from a default effluent data coefficient of variation (CV) of 0.60.

c. WQBELs Based on Aquatic Life Criteria. WQBELs for pollutants that demonstrate reasonable potential based on Basin Plan and CTR aquatic life criteria are calculated in accordance with SIP section 1.4 with a default coefficient of variation of 0.6.

Table F-7. Aquatic Life-Based WQBELs

Pollutant	Arsenic	Cadmium	Chromium III	Chromium VI
Units	µg/L	µg/L	µg/L	µg/L
Criteria –Acute	69	3.9	1,737	16
Criteria –Chronic	36	1.1	207	11
No. of samples per month	4	4	4	4
ECA acute	69	3.9	1,737	16

Pollutant	Arsenic	Cadmium	Chromium III	Chromium VI
Units	µg/L	µg/L	µg/L	µg/L
ECA chronic	36	1.1	207	11
CV (selected)	0.6	0.6	0.6	0.6
ECA acute mult99	0.32	0.32	0.32	0.32
ECA chronic mult99	0.53	0.53	0.53	0.53
LTA acute	22	1.3	558	5.2
LTA chronic	19	0.6	109	6.0
minimum of LTAs	19	1.3	109	5.2
AMEL mult95	1.6	1.6	1.6	1.6
MDEL mult99	3.1	3.1	3.1	3.1
AMEL (aq life)	30	0.9	170	8.1
MDEL(aq life)	59	1.8	340	16
MDEL/AMEL Multiplier	2.01	2.01	2.01	2.01
AMEL (human hlth)	-----	-----	-----	-----
MDEL (human hlth)	-----	-----	-----	-----
minimum of AMEL for Aq. life vs HH	30	0.9	170	8.1
Final limit - AMEL	30	0.9	170	8.1
Final limit - MDEL	59	1.8	340	16

Abbreviation:

µg/L = micrograms per liter

Table F-7. Aquatic Life-Based WQBELs (Continued)

Pollutant	Lead	Selenium	Silver	Zinc
Units	µg/L	µg/L	µg/L	µg/L
Criteria –Acute	82	20	2.2	95
Criteria –Chronic	3.2	5	-----	86
No. of samples per month	4	4	4	4
ECA acute	82	20	2.2	95
ECA chronic	3.2	5	-----	86
CV (selected)	0.6	0.6	0.6	0.6
ECA acute mult99	0.32	0.32	0.32	0.32
ECA chronic mult99	0.53	0.53	0.53	0.53
LTA acute	26	6.4	0.70	31
LTA chronic	1.7	2.6	-----	45
minimum of LTAs	1.7	2.6	0.70	31
AMEL mult95	1.6	1.6	1.6	1.6
MDEL mult99	3.1	3.1	3.1	3.1
AMEL (aq life)	2.6	4.1	1.1	47
MDEL(aq life)	5.2	8.2	2.2	95
MDEL/AMEL Multiplier	2.01	2.01	2.01	2.01
AMEL (human hlth)	-----	-----	-----	-----
MDEL (human hlth)	-----	-----	-----	-----
minimum of AMEL for Aq. life vs HH	2.6	4.1	1.1	47
Final limit - AMEL	2.6	4.1	1.1	47
Final limit - MDEL	5.2	8.2	2.2	95

Abbreviation:
µg/L = micrograms per liter

Table F-8. Aquatic Life-Based WQBELs (Copper)

Pollutant	Copper	Copper	Copper	Copper
Units	µg/L	µg/L	µg/L	µg/L
Basis and criteria type	CTR aquatic life (freshwater)	Basin Plan SSO South SF Bay	Basin Plan SSO Central and Lower SF Bays	Basin Plan SSO San Pablo and Suisun Bays
Criteria –Acute	14	-----	-----	-----
Criteria –Chronic	9.0	-----	-----	-----
SSO Criteria – Acute	-----	10.8	9.4	9.4
SSO Criteria – Chronic	-----	6.9	6.0	6.0
Site Specific Translator – MDEL	-----	0.53	0.87	0.66
Site Specific Translator - AMEL	-----	0.53	0.73	0.38
No. of samples per month	4	4	4	4
ECA acute	14	20	11	14
ECA chronic	9.3	13	8.2	16
CV (selected)	0.6	0.6	0.6	0.6
ECA acute mult99	0.32	0.32	0.32	0.32
ECA chronic mult99	0.53	0.53	0.53	0.53
LTA acute	4.5	6.5	3.5	4.6
LTA chronic	4.9	6.9	4.3	8.3
minimum of LTAs	4.5	6.5	3.5	4.6
AMEL mult95	1.6	1.6	1.6	1.6
MDEL mult99	3.1	3.1	3.1	3.1
AMEL (aq life)	7.0	10	5.4	7.1
MDEL(aq life)	14	20	11	14
MDEL/AMEL Multiplier	2.01	2.01	2.01	2.01
AMEL (human hlth)	1,300	1,300	1,300	1,300
MDEL (human hlth)	2,608	2,613	2,613	2,613
minimum of AMEL for Aq. life vs HH	7.0	10	5.4	7.1
Final limit - AMEL	7.0	10	5.4	7.1
Final limit - MDEL	14	20	11	14

Abbreviation:
µg/L = micrograms per liter

Table F-9. Aquatic Life-Based WQBELs (Nickel)

Pollutant	Nickel	Nickel	Nickel	Nickel
Units	µg/L	µg/L	µg/L	µg/L
Basis and criteria type	CTR aquatic life (freshwater)	Basin Plan SSO South SF Bay	Basin Plan SSO Central and Lower SF Bays	Basin Plan SSO San Pablo and Suisun Bays
Criteria –Acute	470	-----	-----	-----
Criteria –Chronic	52	-----	-----	-----
SSO Criteria – Acute	-----	74	74	74
SSO Criteria – Chronic	-----	8.2	8.2	8.2
Site Specific Translator – MDEL	-----	0.44	0.85	0.57
Site Specific Translator - AMEL	-----	0.44	0.65	0.27
No. of samples per month	4	4	4	4

Pollutant	Nickel	Nickel	Nickel	Nickel
Units	µg/L	µg/L	µg/L	µg/L
ECA acute	470	170	87	130
ECA chronic	52	19	13	30
CV (selected)	0.6	0.6	0.6	0.6
ECA acute mult99	0.32	0.32	0.32	0.32
ECA chronic mult99	0.53	0.53	0.53	0.53
LTA acute	151	54	28	24
LTA chronic	28	9.8	6.7	16
minimum of LTAs	28	9.8	6.7	16
AMEL mult95	1.6	1.6	1.6	1.6
MDEL mult99	3.1	3.1	3.1	3.1
AMEL (aq life)	43	15	10	25
MDEL(aq life)	86	31	21	50
MDEL/AMEL Multiplier	2.01	2.01	2.01	2.01
AMEL (human hlth)	610	610	610	610
MDEL (human hlth)	1,200	1,200	1,200	1,200
minimum of AMEL for Aq. life vs HH	43	15	10	25
Final limit - AMEL	43	15	10	25
Final limit - MDEL	86	31	21	50

Abbreviation:

µg/L = micrograms per liter

d. WQBELs Based on MCLs. WQBELs for pollutants that demonstrate reasonable potential based on the MCLs listed in the California Code of Regulations, title 22, sections 64431, 64444, and 64449 are calculated using SIP section 1.4 as guidance. These limits apply to discharges to waters with the MUN or GWR designations. The AMELs are set equal to the MCLs. The MDELs are calculated by multiplying the AMEL by an MDEL/AMEL multiplier of 2.01, which is derived from a default effluent data CV of 0.60.

e. Acute Toxicity WQBELs. The acute toxicity WQBELs are based on Basin Plan Table 4-3 (continuous discharge/quarterly or annual tests).

D. Discharge Requirement Considerations

1. **Anti-backsliding**. This Order complies with the anti-backsliding provisions of CWA sections 402(o) and 303(d)(4) and 40 C.F.R. section 122.44(l), which generally require effluent limitations in a reissued permit to be as stringent as those in the previous permit. The requirements of this Order are at least as stringent as those in the previous order. Effluent limitations for carbon tetrachloride, ethylene dibromide, and trichlorotrifluoroethane have not been retained in this Order because no reasonable potential was found and discharge monitoring data indicate that they are rarely detected. State Water Board Order WQ 2001-16 found that anti-backsliding does not require a permit in such circumstances.

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

level of treatment or less stringent effluent limitations. It holds Dischargers to the same performance or better.

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

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

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

The receiving water limits are based on the water quality objectives listed in Basin Plan chapter 3 and are intended to ensure that receiving waters meet water quality standards in accordance with the CWA and regulations adopted thereunder.

VI. RATIONALE FOR PROVISIONS

A. Standard Provisions

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

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

B. Monitoring and Reporting Provisions

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

Pursuant to Water Code section 13267, the Executive Officer may specify additional effluent and ambient monitoring requirements in individual Authorizations to Discharge, such as, but not limited to, the following:

1. Monitoring in response to a complaint,

2. Stormwater monitoring,

3. Additional discharge observations, and

4. Additional priority pollutant scans.

The Executive Officer is most likely to specify additional monitoring requirements for Dischargers with flows greater than 10 gallons per minute.

C. Special Provisions

1. Reopener Provisions

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

2. Application for General Permit Coverage and Authorization to Discharge

Based on 40 C.F.R. section 122.28(b), this provision requires each Discharger to submit an NOI form and, upon receiving an Authorization to Discharge from the Executive Officer, comply with this Order. Pursuant to 40 C.F.R. section 122.28(b)(3), it also authorizes the Executive Officer to terminate any Authorization to Discharge or require a Discharger to apply for an individual permit.

3. Water Reclamation Specifications (Water Reclamation Only)

Water Reclamation Specifications are retained from the previous order. They are required to protect public health and because reclamation of treated groundwater is a preferred method of disposal. The basis for reclamation of treated groundwater is Regional Water Board Resolution No. 88-160.

4. Construction, Operation, and Maintenance Specifications

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

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

5. No Preemption

This Order permits the discharge of treated groundwater to waters of the State subject to the prohibitions, effluent limitations, receiving water limitations, and provisions of this Order. This provision clarifies that the Order does not preempt or supersede the authority of municipalities, flood control agencies, or other agencies to prohibit, restrict, or control discharges to storm drain systems or other watercourses subject to their jurisdiction. For example, this Order provides no water or groundwater rights and does not preempt the authority of any local or State agency as it relates to water rights.

VII. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

The MRP is a standard requirement in all NPDES permits issued by the Regional Water Board, including this Order. It specifies sampling stations, pollutants to be monitored (including parameters for which effluent limitations are specified), monitoring frequencies, and additional reporting requirements. The principal purposes of a monitoring program are to document compliance with WDRs and prohibitions established by the Regional Water Board; to facilitate self-policing by dischargers in the prevention and abatement of pollution arising from waste discharges; to develop or assist in the development of limitations, discharge prohibitions, national standards of performance, pretreatment and toxicity standards, and other standards; and to prepare water and wastewater quality inventories.

The following provides the rationale for the monitoring and reporting requirements contained in the Monitoring and Reporting Program for this facility:

A. Influent Monitoring. Influent monitoring is necessary to establish that pollutant loadings are below the levels for which the treatment systems were designed and to provide a warning if one or more new pollutants are being extracted that the treatment system may not be designed to remove.

B. Effluent Monitoring. Effluent monitoring is necessary to evaluate compliance with the Order's prohibitions and effluent limitations, and to inform the next permit resissuance. The previous order required monitoring for non-limited parameters, such as metals, PAHs, TPH as motor oil, turbidity, and sulfate. Monitoring requirements for these pollutants have been updated to ensure compliance with this Order's effluent limitations.

C. Acute Toxicity Testing. Acute toxicity tests are necessary to evaluate compliance with this Order's acute toxicity effluent limitations.

D. Reclamation Monitoring Requirements. Reclaimed water monitoring is necessary to ensure that reclamation of treated groundwater does not threaten the quality of any water of the State or create nuisance conditions.

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

F. Other Monitoring Requirements. Additional monitoring is necessary to verify that treatment systems will comply with permit requirements before initiating discharge operations, to ensure correct use of chemicals (e.g., coagulants) in accordance to the Authorization to Discharge and guidance documents, and to address performance-related issues in treatment systems and their effects on reclaimed water and receiving water not captured through monitoring analytical methods.

VIII. PUBLIC PARTICIPATION

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

A. Notification of Interested Parties. The Regional Water Board notified Dischargers and interested agencies and persons of its intent to prescribe WDRs and provided an opportunity to submit written comments and recommendations. Notice of the Regional Water Board's intent to adopt these WDRs was also provided through *The Mercury News in San Jose*. The public had access to the agenda and any changes in dates and locations through the Regional Water Board website at www.waterboards.ca.gov/sanfranciscobay.

B. Written Comments. Interested persons were invited to submit written comments concerning the tentative WDRs as explained through the notification process. Comments were due either in person or by mail at the Regional Water Board office at 1515 Clay Street, Suite 1400, Oakland, California 94612, to the attention of Marcos De la Cruz.

For full staff response and Regional Water Board consideration, the written comments were due at the Regional Water Board office by 5:00 p.m. on September 15, 2017.

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

Date:	Wednesday, December 13, 2017
Time:	9:00 a.m.
Location:	Elihu Harris State Office Building 1515 Clay Street, 1st Floor Auditorium Oakland, CA 94612
Contact:	Marcos De la Cruz, (510) 622-2365, marcos.delacruz@waterboards.ca.gov

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

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

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

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

For instructions on how to file a petition for review, see www.waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instr.shtml.

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

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

G. Additional Information. Requests for additional information or questions regarding this Order should be directed to Marcos De la Cruz at (510) 622-2365 or marcos.delacruz@waterboards.ca.gov

ATTACHMENT G– MINIMUM LEVELS

List of Monitoring Parameters and Analytical Methods

CTR No.	Pollutant/Parameter	Analytical Method[1]	Minimum Levels[2] (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
1.	Antimony	204.2					10	5	50	0.5	5	0.5		1000
2.	Arsenic	206.3				20		2	10	2	2	1		1000
3.	Beryllium						20	0.5	2	0.5	1			1000
4.	Cadmium	200 or 213					10	0.5	10	0.25	0.5			1000
5a.	Chromium (III)	SM 3500												
5b.	Chromium (VI)	SM 3500				10	5							1000
	Chromium (total)[3]	SM 3500					50	2	10	0.5	1			1000
6.	Copper	200.9					25	5	10	0.5	2			1000
7.	Lead	200.9					20	5	5	0.5	2			10,000
8.	Mercury	1631 (note)[4]												
9.	Nickel	249.2					50	5	20	1	5			1000
10.	Selenium	200.8 or SM 3114B or C						5	10	2	5	1		1000
11.	Silver	272.2					10	1	10	0.25	2			1000
12.	Thallium	279.2					10	2	10	1	5			1000
13.	Zinc	200 or 289					20		20	1	10			
14.	Cyanide	SM 4500 CN^- C or I				5								
15.	Asbestos (only required for dischargers to MUN waters)[5]	0100.2 [6]												
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										

[1] The suggested method is the U.S. EPA Method unless otherwise specified (SM = Standard Methods). The Discharger may use an equivalent test method if that method is more sensitive that those specified in 40 C.F.R. § 136 and is specified in this Order or the Discharger's Authorization to Discharge.

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

[3] Analysis for total chromium may be substituted for analysis of chromium (III) and chromium (VI) if the concentration measured is below the lowest hexavalent chromium criterion (11 ug/l).

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

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

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

CTR No.	Pollutant/Parameter	Analytical Method[1]	Minimum Levels[2] (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
21.	Carbon Tetrachloride	601	0.5	2										
22.	Chlorobenzene	601	0.5	2										
23.	Chlorodibromomethane	601	0.5	2										
24.	Chloroethane	601	0.5	2										
25.	2-Chloroethylvinyl Ether	601	1	1										
26.	Chloroform	601	0.5	2										
75.	1,2-Dichlorobenzene	601	0.5	2										
76.	1,3-Dichlorobenzene	601	0.5	2										
77.	1,4-Dichlorobenzene	601	0.5	2										
27.	Dichlorobromomethane	601	0.5	2										
28.	1,1-Dichloroethane	601	0.5	1										
29.	1,2-Dichloroethane	601	0.5	2										
30.	1,1-Dichloroethylene or 1,1-Dichloroethene	601	0.5	2										
31.	1,2-Dichloropropane	601	0.5	1										
32.	1,3-Dichloropropylene or 1,3-Dichloropropene	601	0.5	2										
34.	Methyl Bromide or Bromomethane	601	1.0	2										
35.	Methyl Chloride or Chloromethane	601	0.5	2										
36.	Methylene Chloride or Dichlorormethane	601	0.5	2										
37.	1,1,2,2-Tetrachloroethane	601	0.5	1										
38.	Tetrachloroethylene	601	0.5	2										
40.	1,2-Trans-Dichloroethylene	601	0.5	1										
41.	1,1,1-Trichloroethane	601	0.5	2										
42.	1,1,2-Trichloroethane	601	0.5	2										
43.	Trichloroethene	601	0.5	2										
44.	Vinyl Chloride	601	0.5	2										
45.	2-Chlorophenol	604	2	5										
46.	2,4-Dichlorophenol	604	1	5										
47.	2,4-Dimethylphenol	604	1	2										
48.	2-Methyl-4,6-Dinitrophenol or Dinitro-2-methylphenol	604	10	5										
49.	2,4-Dinitrophenol	604	5	5										
50.	2-Nitrophenol	604		10										
51.	4-Nitrophenol	604	5	10										
52.	3-Methyl-4-Chlorophenol	604	5	1										
53.	Pentachlorophenol	604	1	5										
54.	Phenol	604	1	1		50								
55.	2,4,6-Trichlorophenol	604	10	10										
56.	Acenaphthene	610 HPLC	1	1	0.5									
57.	Acenaphthylene	610 HPLC		10	0.2									
58.	Anthracene	610 HPLC		10	2									
60.	Benzo(a)Anthracene or 1,2 Benzanthracene	610 HPLC	10	5										
61.	Benzo(a)Pyrene	610 HPLC		10	2									
62.	Benzo(b)Fluoranthene or 3,4 Benzofluoranthene	610 HPLC		10	10									
63.	Benzo(ghi)Perylene	610 HPLC		5	0.1									
64.	Benzo(k)Fluoranthene	610 HPLC		10	2									
74.	Dibenzo(a,h)Anthracene	610 HPLC		10	0.1									

CTR No.	Pollutant/Parameter	Analytical Method[1]	Minimum Levels[2] (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
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										
66.	Bis(2-Chloroethyl)Ether	625	10	1										
67.	Bis(2-Chloroisopropyl)Ether	625	10	2										
69.	4-Bromophenyl Phenyl Ether	625	10	5										
71.	2-Chloronaphthalene	625		10										
72.	4-Chlorophenyl Phenyl Ether	625		5										
73.	Chrysene	625		10	5									
78.	3,3'-Dichlorobenzidine	625		5										
82.	2,4-Dinitrotoluene	625	10	5										
83.	2,6-Dinitrotoluene	625		5										
85.	1,2-Diphenylhydrazine (note)[7]	625		1										
88.	Hexachlorobenzene	625	5	1										
89.	Hexachlorobutadiene	625	5	1										
90.	Hexachlorocyclopentadiene	625	5	5										
91.	Hexachloroethane	625	5	1										
93.	Isophorone	625	10	1										
94.	Naphthalene	625	10	1	0.2									
95.	Nitrobenzene	625	10	1										
96.	N-Nitrosodimethylamine	625	10	5										
97.	N-Nitrosodi-n-Propylamine	625	10	5										
98.	N-Nitrosodiphenylamine	625	10	1										
99.	Phenanthrene	625		5	0.05									
101.	1,2,4-Trichlorobenzene	625	1	5										
102.	Aldrin	608	0.005											
103.	α-BHC	608	0.01											
104.	β-BHC	608	0.005											
105.	γ-BHC (Lindane)	608	0.02											
106.	δ-BHC	608	0.005											
107.	Chlordane	608	0.1											
108.	4,4'-DDT	608	0.01											
109.	4,4'-DDE	608	0.05											
110.	4,4'-DDD	608	0.05											
111.	Dieldrin	608	0.01											
112.	Endosulfan (alpha)	608	0.02											
113.	Endosulfan (beta)	608	0.01											

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

CTR No.	Pollutant/Parameter	Analytical Method[1]	Minimum Levels[2] (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
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											

Appendix B
Comments

BARG COFFIN
LEWIS & TRAPP
ATTORNEYS

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1. McKesson Corporation

September 11, 2017

VIA E-MAIL

Marcos De la Cruz
California Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, California 94612

Re: McKesson Corporation Comments on Proposed VOC and Fuel General Permit, NPDES No. CAG912002

Dear Mr. De la Cruz:

I am writing to provide comments on behalf of McKesson Corporation ("McKesson") regarding the proposed VOC and Fuel General Permit ("Proposed Permit"). McKesson is subject to the existing General Permit for its discharges at the former McKesson facility at 33950 Seventh Street, Union City ("Site"), and expects to be subject to the new General Permit when it is issued. McKesson appreciates the Water Board's willingness to consider these comments.

McKesson's main comment concerns the proposed discharge limitation for 1,4-dioxane. McKesson requests that the Regional Water Quality Control Board, San Francisco Bay Region ("Water Board") either maintain the current trigger level of 3 micrograms/liter ("µg/l") for 1,4-dioxane or, if the Water Board decides that it must set an effluent limit, set a limit of at least 3 µg/l. If the Water Board sets a lower effluent limit, the Water Board will in effect be requiring the use of hazardous materials that will pose a far greater risk to human health than the low levels of 1,4-dioxane that the Water Board is attempting to address.

I. Background

The current VOC and Fuel General Permit, Order No. R2-2012-0012, expired by its terms on March 15, 2017. The Water Board has advised permittees that they may continue to operate under the current permit pending development of a new permit. On August 11, 2017, the Water Board published the Proposed Permit.

A. 1,4-Dioxane at the Site

The Proposed Permit includes a discharge limit for 1,4-dioxane of 1 µg/l for a monthly average and 2 µg/l for a daily maximum. 1,4-Dioxane was used as a stabilizer for 1,1,1-trichloroethane (1,1,1-TCA) transported in aluminum barrels. 1,4-Dioxane has been found at low and declining concentrations in effluent from the Site treatment system, as depicted in Figure 1 below. However, those concentrations have exceeded 1 µg/l on several occasions since 2013 and have exceeded 2 µg/l in the past.

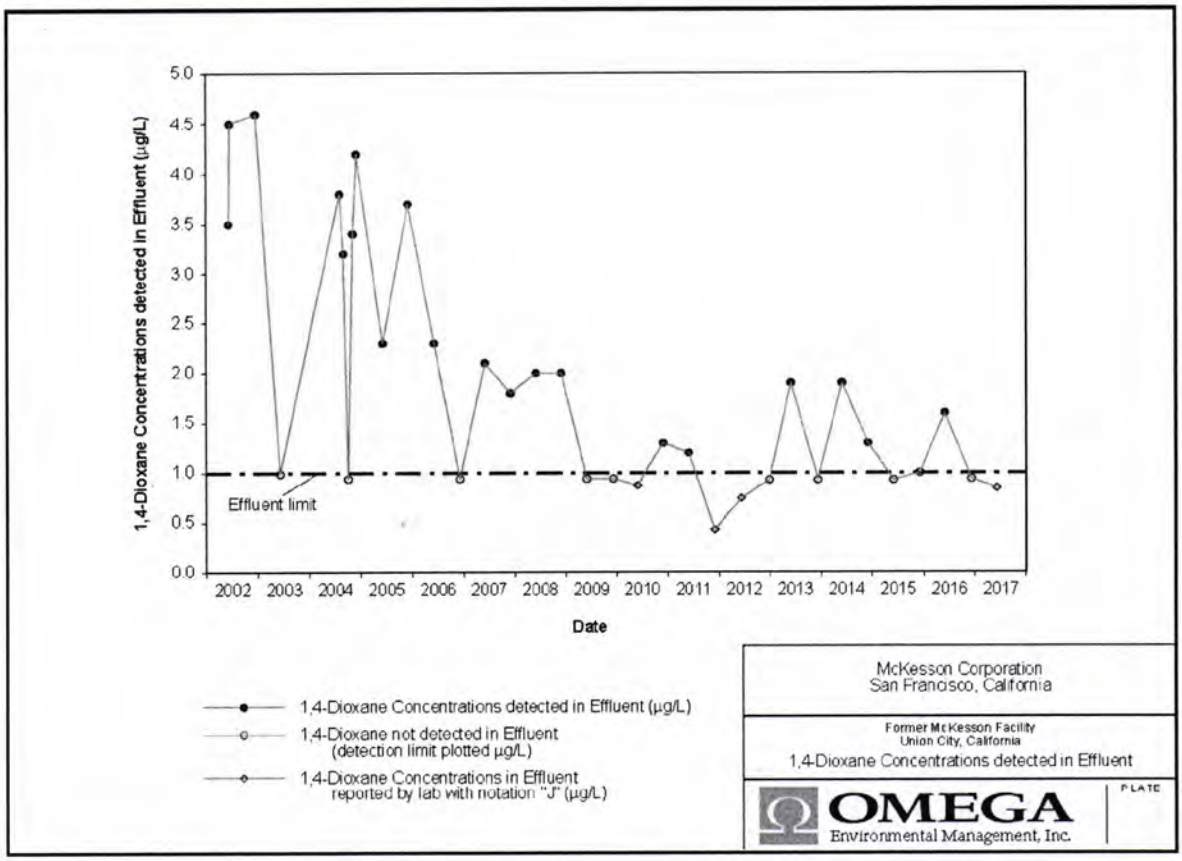

Figure 1: 1,4-Dioxane Concentrations Detected in Effluent

McKesson's effluent discharges to a concrete storm drain and flows 2,000 feet before it enters an unlined Alameda Flood Control District channel. The water is then exposed to sunlight for more than two miles before entering Alameda Creek. Water present in the flood control channel is not used for drinking water. 1,4-Dioxane degrades in the presence of sunlight, and it

is therefore likely the effluent that reaches Alameda Creek has concentrations of 1,4-dioxane lower than the concentrations measured at the discharge from the treatment system.

B. 1,4-Dioxane Notification Level and Response Level

There is no federal or State of California Maximum Contaminant Level for 1,4-dioxane. In 1998, the State adopted a Notification Level of 3 µg/l, which was revised to 1 µg/l in 2010. A Notification Level is defined by State law as follows:

> "Notification level" means the concentration level of a contaminant in drinking water delivered for human consumption that the department has determined, based on available scientific information, does not pose a significant health risk but warrants notification pursuant to this section. Notification levels are nonregulatory, health-based advisory levels established by the department for contaminants in drinking water for which maximum contaminant levels have not been established. Notification levels are established as precautionary measures for contaminants that may be considered candidates for establishment of maximum contaminant levels, but have not yet undergone or completed the regulatory standard setting process prescribed for the development of maximum contaminant levels and are not drinking water standards.

California Health & Safety Code § 116455(b)(3).

The State has also adopted a Response Level for 1,4-dioxane of 35 µg/l. A Response Level is defined as follows:

> "Response level" means the concentration of a contaminant in drinking water delivered for human consumption at which the department recommends that additional steps, beyond notification pursuant to this section, be taken to reduce public exposure to the contaminant. Response levels are established in conjunction with notification levels for contaminants that may be considered candidates for establishment of maximum contaminant levels, but have not yet undergone or completed the regulatory standard setting process prescribed for the development of maximum contaminant levels and are not drinking water standards.

Health & Safety Code § 116455(b)(4). On the State Water Resource Control Board's website regarding Notification and Response Levels, the State notes with respect to 1,4-dioxane that "Source removal is recommended at (response level=) 0.035 mg/L."[1]

C. The Current Permit's Provisions

The current VOC and Fuel General Permit does not include a discharge limit for 1,4-dioxane. Instead it contains a "trigger level" of 3 µg/l. This trigger level was established when the permit was issued in 2012. The notification level for 1,4-dioxane was the same then as it is now—1 µg/l.

Under the current permit, if 1,4-dioxane is detected at concentrations above the trigger level, the permittee is required to monitor for 1,4-dioxane on a specified schedule and "investigate source control and/or treatment options for each triggered pollutant." If the pollutant cannot be treated to a concentration below the trigger level, the permittee must provide an annual statement "confirming the reason(s) why that pollutant could not be treated to the level not exceeding the trigger for that pollutant." McKesson's effluent concentrations of 1,4-dioxane have not exceeded the trigger level under the existing General Permit since 2005.

D. The Risks That Treating 1,4-Dioxane Would Create

To treat 1,4-dioxane would likely result in a significant increase in risk to human health. McKesson has evaluated the measures that would likely be required to assure removal of 1,4-dioxane from its effluent to a concentration of 1 µg/l. 1,4-Dioxane cannot be effectively removed by the granular activated carbon filtration system currently in use at the Site. Instead, McKesson would likely have to install an oxidation system that would use hydrogen peroxide and ultraviolet light to oxidize 1,4-dioxane. The system would require large quantities (100 gallons or greater) of 50% hydrogen peroxide to be stored and used at the Site. A 50% solution of hydrogen peroxide is a powerful oxidant. It will cause burns on contact with skin, serious eye injury, and lung injury upon inhalation. If hydrogen peroxide is spilled and contacts organic matter, it may cause a fire. Even if all personnel handling hydrogen peroxide use appropriate personal protective equipment, there will still be some residual risk of a mishap that may affect contractors, emergency personnel, or anyone else who may enter the Site. The Board should not implement a requirement that requires the use of such material without considering the attendant risks.

If McKesson is required to install a treatment system, that system cannot be installed and operational by the time the Proposed Permit will go into effect. It would take approximately 9 to

[1] *See* Drinking Water Notification Levels and Response Levels: An Overview, http://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/notificationlevels/notificationlevels.pdf

12 months from project commencement to pilot test, design, fabricate and install an oxidation system. Thus, if the Board does impose an effluent limit for 1,4-dioxane that requires treatment at any site, the Board should delay the effective date of that limit for at least one year after the Proposed Permit is adopted.

II. McKesson's Specific Comments

A. 1,4-Dioxane

McKesson requests that the Board maintain the present trigger level of 3 µg/l for 1,4-dioxane, set an effluent limit of 3 µg/l, or set no effluent limit. The Board is not required by the anti-backsliding provisions of the Clean Water Act to set an effluent limit for 1,4-dioxane in the permit. There is no effluent limit for 1,4-dioxane in the current permit, and therefore reissuance of the permit without an effluent limit will not violate the anti-backsliding provisions. The Board has adopted an effluent limit for 1,4-dioxane based on a "reasonable potential" analysis, but that analysis does not apply to non-priority pollutants such as 1,4-dioxane. Thus, no effluent limit is required by law.

If the Board does establish an effluent limit, then, as the Board has recognized in the Proposed Permit, the Board is free to set an effluent limit that is higher than the Notification Level. As Health & Safety Code Section 116455(b)(3), quoted above, states, notification levels "are nonregulatory, health-based advisory levels" established as "precautionary measures for contaminants that may be considered candidates for establishment of maximum contaminant levels, but have not yet undergone or completed the regulatory standard setting process." They "are not drinking water standards." *Id.* As noted above, the Board's website recommends source removal only when 1,4-dioxane concentrations exceed the Response Level of 35 µg/l.

In this case, McKesson discharges treated groundwater with very low concentrations of 1,4-dioxane to a concrete storm drain and a flood control channel where 1,4-dioxane is subject to natural degradation by ultraviolet light. Water present in the flood control channel is not used for drinking water. At a concentration of 3 µg/l, a person drinking the effluent over a lifetime would be subject to a lifetime potential cancer risk of less than 1×10^{-5}.[2] There is no reasonable possibility that the discharge of water containing such low concentrations (further reduced by exposure to sunlight) will degrade receiving water quality to an unacceptable state.

By contrast, to reduce maximum 1,4-dioxane concentrations to the point where they are reasonably certain to remain below a concentration of 1 µg/l as a monthly average (i.e, by a factor of approximately two), and to reduce the risk posed by the existing discharge by a similar factor, McKesson would be required to install a treatment system that would pose a significant

[2] *See* http://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/14-Dioxane.shtml (10^{-6} risk level corresponds to 0.35 µg/l)

risk of injury to contractors and others who may deliver or handle hydrogen peroxide, emergency personnel, or persons who may enter McKesson's treatment system building.

If the Board decides to adopt any effluent limitation for 1,4-dioxane, it should delay the effectiveness of that limitation for at least one year to allow the design and installation of required treatment systems and safety controls.

(2)

B. Violations for Non-Detectable Compounds

The current permit provides, for certain contaminants, that a non-detect result at a reporting limit of 0.5 µg/l will not be deemed a violation:

> "If reported detection level is greater than effluent limit, then a non-detect result using a 0.5 µg/L detection level will not be deemed to be out of compliance."

Order No. R2-2012-0012 at 10, Table 2, note 2. Laboratory analysis of samples often yields estimated values ("J values") that are above the method detection limit but below the reporting limit for the analysis conducted. These detections do not reliably reflect the concentration of the detected contaminant and should not be the basis for determining whether a violation has occurred.

The Board has apparently recognized that detections below the reporting limit should not be the basis of a violation, but the Proposed Permit has contradictory text on this subject. Section IX.B.5 of the Monitoring and Reporting Program ("MRP") states that a discharger shall be deemed out of compliance with the effluent limitations "if the concentration of a pollutant is greater than the effluent limitation *and greater than or equal to the reporting limit.*" *See* MRP at page E-15, Section IX.B.5. However, the Proposed Permit states, in Section IV.A, that "[a]ll discharges … shall comply with the … effluent limits" in Table 2, without qualification. See Proposed Permit at 4, Section IV.A. The Board should clarify Section IV.A by adding a footnote or sentence referring to the compliance determination process as set forth in the MRP.

C. Additional Reporting

The Proposed Permit requires a great deal of additional monitoring and reporting that is unlikely to produce any environmental benefit:

(3)

- The current permit requires analysis for 1,4-dioxane only twice per year from the effluent. Under the Proposed Permit, such monitoring will be required monthly from the effluent and quarterly from the influent. No rationale is provided for the additional monitoring.

(4)

- Under the current permit, water samples are analyzed using EPA Test Method 8260B, but only a select number of VOC analytes are required to be reported. The Proposed Permit would require reporting of all VOCs reported in an EPA Test Method 8260B analysis. That additional reporting will include gasoline components and other compounds that are unrelated to the discharges to be remedied.

(5)

- The current permit requires metals analyses every three years; the Proposed Permit requires such analyses annually. There is no rationale for the additional monitoring of metals.

(6)

- The Proposed Permit requires continued monitoring for pollutants that are never detected. Under the current permit, semi-volatile and other compounds that are not known to be present in the influent are not required to be monitored. See Order No. R2-2012-0012 at page E-5, note 1.

The additional monitoring required under the Proposed Permit will not provide any environmental benefit. The Board should revise the Proposed Permit to make the required sampling consistent with the current permit.

D. Miscellaneous Comments

(7) The due date for an "Application to Extend Coverage" on page 10 appears to be in error. The due date should be 270 days before the expiration of the permit, and should therefore be April 5, 2022, not April 2, 2022. (See page 1, requiring submission of notice of intent 270 days before expiration of permit.)

(8) On page E-11 of the Monitoring and Reporting Program, in Section IX.B.2.a.iii.(a), the cross-reference to Section IX.B.4 should refer to Section IX.B.5.

If you have any questions regarding this letter or McKesson's comments, please contact me directly at (415) 228-5460.

Very truly yours,

R. MORGAN GILHULY

RMG/cgd

cc: James Fleer
Bruce Scheibach

2. Schlumberger Technology Corporation

Virgilio Cocianni
Remediation Manager

Schlumberger Technology Corporation
121 Industrial Blvd
Sugar Land, Texas 77478
Tel: 281-285-4747
Fax: 281-285-7656

Schlumberger

September 11, 2017

Marcos De la Cruz
San Francisco Regional Water Quality Control Board
1515 Clay Street
Suite 1400
Oakland, CA 94612

Subject: **Comments on Tentative Order Number R2-2017-00XX**
NPDES Permit Number CAG912002
General Waste Discharge Requirements for Discharge or Reclamation of Extracted and Treated Groundwater Polluted by Volatile Organic Compounds (VOCs), Fuel Leaks, Fuel Additives, and Other Related Wastes (VOCs and Fuel General Permit)

Dear Mr. De la Cruz:

Enclosed with this letter are comments on Tentative Order No. R2-2017-00XX for National Pollutant Discharge Elimination System (NPDES) Permit No. CAG912002 (the Order). Geosyntec Consultants, Inc. and Weiss Associates prepared the comments on behalf of Schlumberger Technology Corporation, which will be responsible for operation of three groundwater treatment systems under the Order.

As documented in the enclosed comments, Schlumberger has numerous concerns with the processes used to set Water Quality-Based Effluent Limits (WQBELs) and Technology-Based Effluent Limits (TBELs). In addition, the Order proposes new effluent limitations for compounds that do not have limitations under the existing Order and that will require the replacement and/or addition of new treatment technologies for many existing systems. Many treatment technologies employed by existing dischargers for VOCs and fuel compounds are ineffective for meeting the proposed effluent limitations. The Water Board should therefore provide at least 12 months between the adoption and effective dates of the new Order to allow existing dischargers sufficient time to evaluate and implement additional technologies, if they are required.

I urge you to fully and carefully consider the comments raised in the enclosed memorandum, along with similar comments raised by other dischargers, prior to adopting the Order. If you have any questions about the enclosed comments, please feel free to contact me.

Very truly yours,

V. Cocianni

Virgilio Cocianni
Remediation Manager

Attachment

Geosyntec consultants

1111 Broadway, 6th Floor
Oakland, California 94607
PH 510.836.3034
FAX 510.836.3036
www.geosyntec.com

Memorandum

Date: 11 September 2017

To: Virgilio Cocianni, Schlumberger Technology Corporation

From: John Gallinatti, Karina Navarro, and Eric Suchomel, Geosyntec Consultants
Tom Fojut and Trish Eliasson, Weiss Associates

Subject: Comments on Tentative NPDES Order Number R2-2017-00XX
Permit Number CAG912002
Middlefield-Ellis-Whisman (MEW) Area, Mountain View, California
Geosyntec Project Number: WR1128E/04 and WR1133E/04

This memorandum provides Geosyntec Consultants, Inc. (Geosyntec) and Weiss Associates (Weiss) comments on the Tentative National Pollution Discharge Elimination System (NPDES) Order Number R2-2017-00XX (the Order). The Order was released by the San Francisco Bay Regional Water Quality Control Board (Water Board) for public comment on 11 August 2017.

The Order will provide the General Waste Discharge Requirements (WDRs) for discharge of treated water resulting from the cleanup of groundwater polluted by volatile organic compounds (VOCs), fuel leaks, fuel additives, and other related wastes. Three groundwater treatment systems associated with the Middlefield-Ellis-Whisman (MEW) Superfund Area in Mountain View, California and operated by Schlumberger will be regulated by the Order once finalized. The Water Board plans to make the Order effective from 1 January 2018 to 31 December 2022.

Combined Geosyntec and Weiss comments on the Order are provided below.

Comments Related to Setting of Water Quality-Based Effluent Limits (WQBELs):

1. The Order is inconsistent with Basin Plan Discharge Prohibition 1. Attachment F of the Order, Section IV.A.2., states, "Basin Plan Discharge Prohibition 1 prohibits discharge of 'any wastewater which has particular characteristics of concern to beneficial uses at ***any point at which the wastewater does not receive a minimum initial dilution of at least 10:1...***'" (emphasis added). The Water Board reviews exceptions to this Prohibition under the requirements of Section IV.A.2., of Attachment F of the Order. Despite the explicit prohibition against discharging without dilution unless a specific exception is made,

Attachment F Section IV.C.4.a. states that "the WQBELs are calculated without accounting for any dilution credits." This calculation is clearly inconsistent and contradictory to Prohibition 1 of the Basin Plan.

The following two changes would make the Order consistent with Prohibition 1 while allowing the Water Board to provide adequate water quality protections for discharges into receiving waters that are likely dry during the summer months:

a. Assume a 10:1 dilution for setting WQBELs, and therefore increase the resulting effluent limitations defined in Table 2 by a factor of 10; and

b. In Section IV.A. of the Order, add a notice that, for those facilities that apply for an exception to Prohibition 1 of the Basin Plan, the Water Board may specify lower WQBELs for periods when discharging to receiving waters with less than 10:1 initial dilution. Lower effluent limitations would be based on the amount of dilution in the receiving waters.

(2) 2. Attachment F, Section IV.C.4. says that "dilution credits are inappropriate" because many of the "receiving waters are likely to be dry during the summer months." Given that most of WQBELS apply to constituents (e.g., selenium) that are not the target compounds of the groundwater treatment systems operating under this order (VOCs and fuels are TBELs), the WQBELs should be no more restrictive than necessary to protect the receiving waters and the Water Board should, in addition to the changes suggested in Comment 1, include a process to grant additional site-specific dilution credits for pollutants that are not site-related.

(3) 3. Attachment F, Section IV.C.3. indicates that Trigger 1 was used to select most of the pollutants identified as having reasonable potential to exceed water quality objectives. The draft Order references Section 1.3 of the State Implementation Policy (SIP)[1] for the methodology used to make this determination. SIP Section 1.3 provides a process for setting WBQELs for *individual* dischargers. Using the maximum effluent concentration of 74 facilities to identify pollutants that will have discharge limitations, then applying those discharge limitations to all the facilities seems to be an overly broad application of the SIP process.

[1] Also referred to as the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California.*

Comments Related to Setting of Technology-Based Effluent Limits (TBELs):

4. The selection of TBELs described in Section IV.B. uses air stripping and granular activated carbon as reference technologies. These technologies rely on monitoring to make operational decisions and the ability to monitor concentrations below the effluent limits and above the reporting limit is an integral part of the technology. Setting the maximum daily effluent limit equal to the reporting limit does not allow the technology to be operated with sufficient control to avoid exceeding effluent limits. Therefore, the TBELs in Table F-2 that are set equal to the reporting limits do not meet the stated purpose of setting effluent limits based on the limits of the technology. Setting TBELs at a minimum of five times the reporting limit would be more operationally practicable.

   Section IV.B.2. of Attachment F states that the TBELs are the 99th percentile effluent concentration for each pollutant, which indicates that approximately 1% of the samples would have an exceedance. Since treatment systems are operated with the goal of no exceedances, intending to have exceedances in 1% of the samples should not be an acceptable criterion. With 74 facilities enrolled in the previous order and assuming monthly monitoring for each of them, a 1% exceedance rate would result in nine exceedances per year.

5. The technologies used to treat VOCs have not changed in the five years since the 2012 Permit (Order Number R2-2012-0012) was issued. The Order does not explain the rationale for decreasing the VOC TBELs by a factor of 10 since the 2012 Permit.

Comments Related to Minimum Monitoring Requirements, Attachment E, Table E-2:

6. The Order should clarify if Table E-2, Footnote 4 applies to sulfate only or to sulfate and manganese.

7. Table E-2 indicates that the analytical test method for VOCs is "EPA 8260B (full list)." The Order should define what analytes are in the "full list," because different analytical laboratories often report different suites of analytes if not specifically directed.

8. Table E-2, Footnote 5 states that several of the parameters "shall be monitored in influent and effluent if known to be present in the influent." There should be a provision for removing parameters from a monitoring program if the parameter has not been detected in the system influent. For example, if 1,4-dioxane is not known to be present in the influent of a system, then monthly effluent and quarterly influent sampling should not be required.

Other Comments

9. The Order proposes new effluent limitations for compounds that do not have limitations under the existing Order and that will require the replacement and/or addition of new treatment technologies for many existing systems. Many treatment technologies employed by existing dischargers for VOCs and fuel compounds are ineffective for meeting the new effluent limitations. The Water Board should therefore provide at least 12 months between the adoption and effective dates of the new Order to allow existing dischargers sufficient time to evaluate available technologies, including performing treatability tests; preparing and securing approval of work plans from regulatory agencies; providing for public input of significant technology changes as appropriate; submitting a modified Notice of Intent (NOI) to the Water Board; obtaining permits from other agencies (e.g., Certified Unified Program Agencies [CUPAs], Bay Area Air Quality Management District [BAAQMD], local building and planning departments); and designing, installing, and starting up the new systems.

10. The applicable effluent limitations for reclaimed water with a non-potable use should either be the same as those for "Other Receiving Waters," provided in Table 2, or higher limitations that are specific to the reclamation use and that remain protective of human health and waters of the State. Attachment F, Section II.B. states, "Regional Water Board Resolution No. 88-160 (adopted October 19, 1988) urges Dischargers of extracted groundwater from site cleanup projects to reclaim their treated groundwater." Since reclamation is promoted in the Order, the ability of the Water Board to approve reuse-specific effluent limitations should be included in the Order.

11. Attachment E, Section IV.D, states that "The Discharger must have the confirmation sample analyzed by expedited methods and obtain results within 24 hours of sample collection." However, the laboratory methods for some analytes cannot provide results within 24 hours. This section should state that for methods which cannot provide results within 24 hours, the shortest available turnaround time must be requested.

* * * * *

3. IBM Corporation and Golder Associates, Inc.

Golder Associates

MEMORANDUM

DATE September 15, 2017 **PROJECT No.** 083-97351

TO Marcos De la Cruz, San Francisco Regional Water Quality Control Board

FROM Archana Kukreti and Dean Chartrand **EMAIL** akukreti@golder.com

COMMENTS ON TENTATIVE ORDER R2-2017-00XX (NDPES PERMIT NO. CAG912002)

IBM and their consultant (Golder Associates, Inc.) appreciate the opportunity to review the Tentative Oder R2-2017-00XX (NPDES Permit No. CAG912002) published by the San Francisco Regional Water Quality Control Board. We have the following comments/questions on the proposed permit:

(1) 1) Attachment D – Standard Provisions, Page D-7: C. Monitoring Reports
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.

Comment – Last we checked, such DMRs were not available from the Regional Water Board or the State Water Board. Is the Board anticipating that something will be forthcoming?

(2) 2) Attachment F – Fact Sheet, Page F-10
TBELs are derived from effluent data collected between 2015 and 2016 at 30 permitted facilities.

Comment - It seems these selected facilities are only GAC treatment systems, which are roughly 40% of the total facilities enrolled under the previous permit. Is there a specific reason that aeration treatment systems were not included in this TBEL evaluation?

Please contact me at 408-220-9243 should you have any questions on the comments submitted or require additional information.

GOLDER ASSOCIATES INC.

Archana Kukreti

Archana Kukreti, P.E.
Senior Consultant

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Golder Associates: Operations in Africa, Asia, Australasia, Europe, North America and South America

4. FMC Corporation

From: James, Scott
To: De la Cruz, Marcos@Waterboards
Cc: Boyd, Mary@Waterboards; Brian McGinnis; Keith, Rowland
Subject: VOC and Fuel General NPDES Permit Changes (Questions)
Date: Thursday, September 14, 2017 1:02:34 PM
Attachments: VOC and Fuel Tentative Order.pdf
NTTA Discharge Route.pdf
Nickel Exceedance Addendum FMC NTTA NPDES 4th Q 2014.pdf
FMC NTTA Effluent Nickel Results March 2014 - September 2017.xls

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Marcos,

Regarding the Tentative Order No. R2-2017-00X (VOCs and Fuels General Permit) that will potentially cover our FMC NTTA and CPA sites located at 1125 Coleman Avenue, San Jose CA, please see the following questions and concerns.

(1) 1. The NTTA and CPA sites are currently enrolled under Order No. R2-2012-0012. Parsons/FMC submitted an NOI in August 2016. Please confirm that a new NOI form is not necessary to enroll under the new Order No. R2-2017-00X.

(2) 2. Over the past several years, Quarterly NPDES Reports have been submitted by Parsons electronically on Geotracker. The new Order No. R2-2017-00X indicates in Section B of E-10 that submission of future NPDES Reports be done by emailing to R2NPDES@GeneralPermits@waterboards.ca.gov or by electronically submitting Reports to the State Water Board's California Integrated Water Quality System (CIWQS) website. Is Geotracker no longer the website to electronically upload NPDES Reports? Please specify the preferred method of NPDES SMR submission.

(3) 3. Under past NPDES Orders, our two San Jose sites (CPA and NTTA) have largely been sampled for the site constituents of concern, VOCs by USEPA Method 8260B and Diesel Range Organics (DRO) by USEPA Method 8015B monthly, Acute Toxicity yearly and metals/inorganic compounds triennially.
In the New Order, Per Section III, Table E-2 Minimum Monitoring Requirements, it appears that our sites will be required to be monitored for:

- Total Residual Chlorine: Monthly
- 1,4- dioxane: Monthly
- SVOCs: Monthly
- PAHs: Monthly
- TPH as Gasoline and Diesel: Monthly
- Sulfate: Quarterly
- Metals: Quarterly:
- TAME, DIPE, ETBE and TBA: Yearly

Many of these constituents also appear to be required to be sampled for both in the effluent and influent. Please confirm that this list of constituents is indeed required to be sampled at our sites and at the frequency indicated above. If not, please clarify.

(4) 4. Have you or your associates had an opportunity to review the attached Nickel Exceedance Addendum from the NTTA site 4th Quarter 2014 NPDES Report submitted to the RWQCB in January 2015? The excerpt below from this NPDES report outlines the issue at hand and the attached addendum details FMC/Parson's efforts to document and address these Nickel detections.

"Per requirements of the VOC General Discharge Permit Order No. R2-2009-0059 and the new VOC and Fuel General Discharge Permit Order No. R2-2012-0012, triennial inorganic compounds were collected and analyzed in March 2014. Analytical results indicate that the effluent discharge is below the trigger levels

for all required inorganic analyses except for Nickel. Per requirements of the Permits, the influent and effluent were sampled and analyzed for Nickel for three consecutive months following the initial detection. Effluent results from March through October 2014 indicate that Nickel was consistently detected above the trigger level of 19 µg/L. The Third Quarter 2014 NPDES Report, submitted in October 2014 addressed the Nickel trigger level exceedances throughout Third Quarter 2014. Per Section V.I.8 Trigger Case 2 of Permit Order No. R2-2012-0012 FMC and its environmental consultant, Parsons, are investigating source control and treatment options to address the Nickel trigger level exceedance. The findings of this investigation have been included as Appendix B. Additionally, the influent and effluent will continue to be monitored quarterly for Nickel until a resolution is reached with the RWQB."

(5) 5. In the New Order, Per Section IV. Table 2 Effluent Limitations, the discharge limits for Total Recoverable Nickel varies by region. Please see the attached NTTA Discharge Route to verify that our NTTA and CPA Treatment systems discharge to the "Lower or South SF Bay Discharge" area. Technically our treatment systems discharge to a storm drain that flows into the Guadalupe River, which may be classified as "Other Discharge" location, but the Guadalupe River itself discharges to the South SF Bay. Please verify which region our NTTA and CPA sites fall under.

(6) 6. As indicated in question 4 above, since March 2014, Parsons/FMC has been collecting quarterly effluent samples analyzing for Nickel. The detection range for Nickel at our NTTA site over this time frame is provided in the attached excel spreadsheet entitled *FMC NTTA Effluent Nickel Results March 2014 – September 2017.* As the spreadsheet indicates, after switching to filter bags with a 25-micron size at the end of December 2014, our effluent Nickel detections ranged from a low of 17 µg/L to a high of 33 µg/L. Therefore, regardless of which region ("South SF Bay" or "Other") our NTTA Treatment system falls under, our current effluent discharge exceeds the effluent limitations in the New Order. How will the Nickel exceedance be treated under the new regulation?

(7) 7. Please explain how the Site-Specific Translators in Table F-4 under section C of the New Order pertain to our FMC NTTA site. Do these Translators and the information in Table F-5 indicate that the Nickel discharge exceedance level at our NTTA site is 130 µg/L?

Attachments:

1. VOC and Fuel Tentative Order No. R2-2017-00XX
2. NTTA Discharge Route
3. Nickel Exceedance Addendum: FMC NTTA NPDES 4 Q 2014
4. FMC NTTA Effluent Nickel Results March 2014-September 2017

Please feel free to call me any time to discuss these questions and comments.

Thank you,

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From: De la Cruz, Marcos@Waterboards [mailto:Marcos.Delacruz@waterboards.ca.gov]
Sent: Friday, March 24, 2017 9:38 AM

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5. WSP USA, Inc.

VIA EMAIL
marcos.delacruz@waterboards.ca.gov

September 11, 2017
(revised November 13, 2017 at Regional Board Request)

Marcos De la Cruz
San Francisco Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

Subject: Comments on Tentative Order No. R2-2017-00XX, NPDES Permit CAG912002

Dear Mr. De la Cruz;

Thank you for the opportunity to meet with you and Mary Boyd on August 31, 2017 to discuss WSP USA Inc. (WSP) comments on the tentative order being considered to replace R2-2012-0012, NPDES Permit CAG912002. This letter summarizes the comments discussed in our meeting, and addresses several additional comments and questions.

GENERAL CONCERNS

As we read the tentative permit, the most substantive changes from the existing permit regard the following:

1. changes to the effluent limits :
   a. the order of magnitude reduction in the effluent limits for volatile organic compounds (VOCs);
   b. the addition of effluent limits for metals and turbidity;
   c. The addition of an effluent limit for TPHmo
2. the addition of California Toxics Rule (CTR) listed analytes to the Notice of Intent; and
3. impacts to currently operating groundwater treatment systems.

We will address these and other concerns below.

CHANGES TO EFFLUENT LIMITS

VOC EFFLUENT LIMIT REDUCTION

The proposed permit contemplates reducing limits for most of the VOCs which previously had effluent limits from 5.0 micrograms per liter (µg/L) to 0.5 µg/L. It is our understanding that the reduction is largely based on a statistical analyses of the effluent concentrations achieved by permitted dischargers during the 2015 and 2016 calendar years. In many cases, the reduction of an effluent limit to 0.5 µg/L effectively creates a permit standard equal to the laboratory reporting limits for most VOCs. This means that any detection above the laboratory reporting limits for these compounds will constitute an

effluent limit violation, leaving those of us implementing treatment systems with no margin of error and no way of quantitatively judging effectiveness of treatment.

In addition, determination of the effluent limits appears to to omit any consideration of the relative toxicity of the VOCs: for example, the effluent limit for vinyl chloride is higher than less toxic compounds such as tetrachloroethylene.

(1) We request that reductions in VOC effluent limits take into account typical laboratory reporting limits; that the setting of limits take into account toxicity of individual chemicals; and that, unless there are overriding toxicity concerns (as is the case for benzene and vinyl chloride), the limits for discharge to other receiving waters (waters not used as drinking water sources) be set no lower than three times the typical laboratory reporting limit.

METALS EFFLUENT LIMIT ADDITION

The proposed permit includes effluent limits for thirteen metals, including limits for both chromium III and chromium VI. We have several comments and questions regarding the metals limits:

(2) 1. The permit limits do not appear to account for differences in salinity, hardness and dissolved solids in receiving waters across the region. It is our understanding that metal toxicity decreases with increasing hardness, within limits, and that as such, effluent limitations should take this into account. In addition, laboratory reporting limits for metals typically increase in concentration with increased dissolved solids in the sample matrix. Therefore, in some cases it may not be possible to attain reporting limits below the proposed effluent limits due to matrix interferences.

(3) 2. Selenium has an established total maximum daily load (TMDL) for parts of the San Francisco Bay and San Pablo Bay. Is there a selenium TMDL allocation for NPDES dischargers? If not, how do we justify discharging any selenium to some receiving waters?

(4) 3. Unlike VOCs, metals concentrations in groundwater are often present as a result of natural conditions and can be difficult to predict given limited groundwater sampling data availability at construction sites. Addition of metals effluent limits will likely require installation and development of monitoring wells prior to excavation to allow collection of representative metals concentrations, adding cost and complexity to infill development.

(5) 4. Treatment for metals varies with the specific compounds present and with the localized water chemistry. For example, more brackish groundwater will be very difficult to treat for metals without installing a desalination system, which will be economcially infeasible at a construction site, or indeed, at most groundwater extraction sites.

(6) In the alternative, for construction sites at which groundwater extraction duration is generally limited (a few months to less than two years), WSP requests that the Permit include a requirement which phases in compliance with the metals effluent limits during system startup so that, if metals are encountered in influent water above effluent limits, the permittee first must implement best management practices, including coagulation, to produce very low turbidity water, essentially removing insoluble metals from the effluent.

Once insoluble metals are removed, the permittee can then address treatment of any specific soluble metals which remain in the system. The implementation period could be limited to three months or less to allow adequate time to characterize the water quality and pilot test construction-site-appropriate technologies to remove specific soluble metals.

wsp

(7) Additionally, WSP also proposes that a procedure be added to allow the permittee to account for receiving water quality (specifically hardness, TDS and salinity) in establishing effluent limits.

TURBIDITY EFFLUENT LIMIT ADDITION

(8) The permit includes a monthly average turbidity effluent limit of 5 NTU (10 NTU daily maximum) for receiving waters with drinking water or recharge beneficial uses. For construction dewatering, consistently achieving 5 NTU turbidity will likely require use of an advanced treatment system similar to that defined in Attachment F of the Construction Stormwater General NDPES permit (Order No. 2009-0009-DWQ, CAS000002), which requires a full-time, trained operator.

TPH AS MOTOR OIL EFFLUENT LIMIT

(9) The Permit adds an effluent limit for TPH as Motor Oil of 100 micrograms per liter. Typical laboratory reporting limits we have seen over the past several years have ranged from 150 µg/L to 250 µg/L. Is there a water quality limit for TPHmo that would justify the 100 µg/L limit? Also, the labs often identify compounds in the TPH analyses that are characterized as not fitting the TPHmo profile. If effluent limits are set for TPHmo, will we be screening out analyses that do not fit the TPHmo profile? If not, won't we be mis-identifying the compound?

CALIFORNIA TOXICS RULE COMPOUND LIST ADDITION TO THE NOI

(10) The revised NOI appears to list most of the chemicals contained in the Californial Toxics Rule (CTR). Based on our discussions, it appears that the primary reason for collecting these data is to provide information to inform the next revision of the permit. In that case, it may be more appropriate to collect influent system samples after the system has started up, for instance as part of the five day or first monthly sampling events. The data provided for the NOI would then be limited to chemicals with effluent limits and any other chemicals known or suspected to be present in the influent. Samples collected after the system has begun operation will be more representative of the site groundwater and less confounded by investigation artifacts.

IMPACT ON EXISTING CONSTRUCTION DEWATERING TREATMENT SYSTEMS (AND OTHER SYSTEMS SCHEDULED TO END IN LESS THAN TWO YEARS)

(11) Numerous permittees are operating systems under the old permit, and, in particular, these systems are not designed to treat for metals concentrations. Redesigning these temporary systems will be expensive and, in the case of infill construction, may be infeasible due to space constraints. We request that the Permit allow these systems to operate as is with regard to metals effluent limits for a limited duration to allow completion of construction projects underway

ADDITIONAL WATER QUALITY REGULATION QUESTIONS

WSP requests that the Regional Water Quality Control Board (Regional Board) address how General Permits are adopted and enforced in the context of TMDLs and the new Sustainable Groundwater Management Act (SGMA).

TMDLS

(12) How does implementation of effluent limits for chemicals with TMDLs synchronize with the TMDL regulations? In recent years the Regional Board has designated TMDLs for several constituents at

various places in the Bay. For example, there are TMDLs for selenium, mercury, and PCB congeners in parts of the Bay. It is our understanding that the TMDL designation requires a mass allocation to allow discharge. Is there a mass allocation designated for the General Permit discharges, or do effluent limits defined in the permit override the TMDLs for the water body?

SGMA

(13) The Sustainable Groundwater Management Act (SGMA) was signed into law by Governor Brown September 16, 2014. The California Department of Water Resources (DWR) subsequently established groundwater basin boundaries and prepared a priority list of basins – ranked high, medium, low or very low. Within the limits of the San Francisco Bay Region, numerous groundwater basins have been ranked as medium priority, due to groundwater overdraft, reported fuel leaks/spills, elevated mineral levels and/or saline water intrusion. In accordance with SGMA Water Code §10723 et seq., Groundwater Sustainability Agencies (GSAs) have been established for basins within Region 2. The GSAs within medium and high priority basins must develop Groundwater Sustainability Plans (GSPs) in accordance with the Emergency Regulations Guide published by DWR. According to the SGMA website, no medium priority Region 2 GSAs have yet submitted GSPs.

Will the Regional Board be involved in GSP preparations, and how will NPDES general permit implementation interact with GSP data collection, reporting and characterization models? How is (or will) the Regional Board (be) working with DWR and local agencies and GSAs to manage data collection, reporting and review of progress toward groundwater sustainability in each priority groundwater basin?

OTHER SPECIFIC LINE BY LINE QUESTIONS

GROUNDWATER VOC AND FUEL GENERAL PERMIT

- **Section I, p 3** "This General Permit does not cover:...

  4. Discharges that combine extracted groundwater with stormwater prior to treatment;..."

  (14) Many of the treatment systems currently authorized under this permit are construction dewatering systems. Generally, the dewatering is occurring to allow installation of below grade infrastructure, often large underground parking garages to allow infill development without creating surface parking lots. These excavations are usually shored or sloped, and any rainfall within the boundaries of the shoring or sloping will remain in the excavation. The dewatering operations include pumping from perimeter wells located outside the shoring, internal wells, and trench drains or sumps. Rainfall impinging on the excavations will by necessity be pumped to the permitted treatment system.

- **Section III.G, p 4** "...Any reinjection or recharge must be performed in accordance with a cleanup order approved by the Regional Water Board, or another lead oversight agency. "

  (15) a. Do the GSAs defined in the SGMA count as an oversight agency?

  (16) b. If a permittee is discharging to a dry creek bed, recharge may occur. How is this accounted for?

  (17) c. Will the GSAs be changing any of the beneficial use designations for recharge?

- **Section IV.A, Table 2, p 5**

(18) a. Polycylic aromatic hydrocarbon (PAH) effluent limits for dischargers to drinking water or potential beneficial uses areas have very low limits. Typical method detection limits (MDLs) for laboratories are above these limits.

(19) b. Footnote 1 refers to "Drinking Water Areas", but heading talks about "Discharge to Receiving Waters Used as Drinking Water[1]"

- Section V.B.2, p 8

(20) a. Section mentions natural background levles, but does not define what these are. Is background 0.1 mg/L everywhere?

(21) - **Section VI.C.2.a, p 9** "...A prospective discharger seeking coverage for similar discharges at multiple sites may complete one NOI that describes all proposed discharges; however, it shall submit separate fees for each site. "

  a. What is the definition of a site? If the discharger is moving the discharge point from one place to another during a construction project, does this mean that only one authorization is required so long as only one discharge point is used at one time? Can multiple anticipated discharge points be submitted in the original NOI, or a NOI amendment required for each discharge change?

(22) - **Section VI.C.3.b, p 11** "Adequate measures shall be taken to minimize public contact with reclaimed groundwater and to prevent the breeding of flies, mosquitos, and other vectors of public health significance during or after the reclamation process "

  a. Is this to occur only for water reclamation? How is this addressed for other tanks within the treatment system.

ATTACHMENT B – NOTICE OF INTENT FORM

(23) - **Section VIII.B, p B-5 footnote** "Attach applicable copy of approved BAAQMD permit to this form"

  a. Recent experience indicates this is likely to become a "cart-and-horse" issue where the BAAQMD will not issue their permit until NPDES permit authorization is granted and testing is performed.

(24) - **Section IX, p B-6** "For existing dischargers, summarize influent, discharge and receiving water monitoring data collected during the past five years. Provide a separate data summary table for each discharge point (outfall) and receiving water. New dischargers may estimate future concentrations. "

  a. The reasoning for these reporting requirements are unclear. Why must permitted dischargers summarize what they are already reporting as part of their self-monitoring reports? Do new permit applicants need to summarize data for all of these compounds?

(25) - **Section IX.A, p B-6** Priority Pollutants

  a. As discussed in previous comments, more representative data for new dischargers may be collected during Day 5 of system start-up. Reporting of these data could be required during the system start-up self-monitoring report.

(26) - **Section IX.B, p B-9** row 8 Chlorine Residual; Should there be a note that these are required only if chlorine is added?

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

- **Section I.C, p E-2** "...Flow meters shall be calibrated at least once during this Order's term" (27)
  a. Inclusion of calibration of meter and transmitter (if appropriate) should be defined in the Operations and Maintenance (O&M) Manual, as requirements vary between instruments.

- **Section II, Table E-1, p E-2** (28)
  a. Many of the systems for whch WSP provides Engineering consulting services, discharge of treated effluent travels through/into seasonally dry creek channels, or through storm drains which daylight after a pump station. There is no upstream monitoring point available for these discharges. In addition, where systems discharge at or near the San Francisco Bay (or similar water body), tidal influence means that water flows both downstream and upstream. Are there standard guidelines from the Regional Board for addressing these cases?

- **Section II, Table E-2, p E-3**
  a. The TPH analyses by EPA 8015B overlap with the 8260B analytes. We have seen detections of VOCs which impact the concentrtions of TPH in samples. Due to the inherent nature of EPA Method 8015B, presence of certain VOCs can cause detections of total petroleum hydrocarbon (TPH) compounds. How does the Regional Board define presence of TPH in influent? Does the peak pattern for gas chromatogram results have to match unweathered fuel? In an effort to reduce over-sampling due to this VOC/TPH co-elution phenomenon, might it be possible to eliminate requirements for sampling for TPH unless the discharger is within a certain distance of a fuels release site? (29)

  b. Sample requirements are outlined for sulfate and manganese, but no other secondary maximum contaminant level (MCL) constituents. What is the reason for including these two compounds only? Specifically, should dischargers be sampling for hardness and general minerals, and salinity and chlorides? (30)

  c. For TPH as gasoline, may EPA Method 8260B be used instead of EPA Method 8015B modified? (31)

- **Section II, Table E-2, Footnote [4] p E-5** "...sulfate shall be monitored quarterly for the first year of operation, and annually thereafter."
  a. Propose revising to "...sulfate shall be monitored quarterly for the first year of operation, and annually thereafter if discharging to recieving waters used for drinking water or other beneficial uses." (32)

- **Section II, Table E-2, Footnote [5] p E-5**
  a. Define "known to be present in the influent." (33)

- **Section II, Table E-2, Footnote [6] p E-5** "VOCs, metals and cyanide shall be monitored as follows:

  (A) Sites contaminated only with VOCs: VOCs shall be monitored at the influent on start-up phase, then quarterly. VOCs shall be monitored at the effluent on start-up phase, then monthly. Metals and cyanide shall be monitored at the influent and effluent on start-up phase, then annually." (34)

  a. If metals are listed as compounds with permit effluent limitations, how is compliance to be ensured if monitoring is only completed annually? Has the Regional Board observed that metals concentrations have shifted in system effluent data throughout a discharge period? As an

example, metals may be variably present in the influent, or can be intruduced into the water stream by corrosion in the system.

- **Section II, Table E-2,** Footnote [10] p E-5
  - "Monitoring of bis(2-ethylhexyl)phthalate shall be performed using ultra clean sampling techniques for re-evaluation during future ~~permit~~ permit reissuance" (35)
- **Section V.B, p E-6** "Test species shall be rainbow trout (Oncorhynchus mykiss) and sheepshead minnow (Cyprinodon variegatus)..." (36)
  - Clarify one or the other.
- **Section VIII.A.2, p E-8**
  - Clarify the meaning of "five days". Is it work days or calendar days? Describe if there are exceptions. (37)
- **Section IX.B.2.a.iii.(d), p E-11** "Electronic spreadsheet containing all numerical monitoring results, including any field results (The numerical results shall include information, such as source of sample [i.e., influent, effluent, etc.], constituent, analytical method, calculation type, laboratory qualifier, units, MDL, RL, sampling date, analysis date, report name, and applicable comments or observations, if any; a Discharger shall identify any special methods and have prior Executive Officer approval); and" (38)
  - Provide a template for data reporting if seeking a standard format. Alternatively, describe standard laboratory formats that may be used.
- **Section IX.B.2.b.iv.(g), p E-12** "Tabular summary of mass removal of pollutant(s), with effluent limitations, in treatment system during the reporting period. Total quantities shall be reported in kilograms (kg)." (39)
  - General observation is that reporting units vary between System International (S.I.) and Imperial. We suggest that a standard format be used for consistency.
- **Section IX.B.2.b.vii, p E-13** "If the Discharger monitors any pollutant more frequently than required by this Order, the Discharger shall include the results of such monitoring in the calculations and reporting for the applicable SMR." (40)
  - Does this include midpoint sample data (MID-001 under the previous Order)?
- **Section IX.B.2.c.vi, p E-13** "Tabular summary of mass removal of pollutants, with effluent limitations, in treatment system during the annual reporting period." (41)
  - How shall mass removal be calculated for compounds with effluent limitations reported as non-detect, or reported as a J-flagged estimate (detected between the MDL and the reporting limit [RL])?

wsp

ATTACHMENT F – FACT SHEET

- Section II.A, p F-2

(42) a. We propose that some requirement on closure of dewatering wells at construction sites be integrated into the Order – perhaps just to define minimum standards, or provide a reference to standards created by others.

(43) b. Provide a duty to report (and contact for Reguator to report to) section, to be referred to if influent concentrations differ from predicted values, of if unexpected environmental site conditions are found. Perhaps this could be included in self-monitoring report cover letter requirements.

Thank you for the opportunity to comment on this report. We look forward to working with you on implementing the new permit. Please call if you have questions.

Sincerely;

Robert E. Roat, P.E.,
Practice Leader

Attachments

6. Ford Motor Company

September 15, 2017

Project 8616331117

Bruce H. Wolfe, Executive Officer
Attn: Marcos De la Cruz
California Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, CA 94612

Subject: Tentative Order for General Waste Discharge Requirements, NPDES No. CAG032012, Discharges or Reclamation of Extracted and Treated Groundwater Resulting from the Cleanup of Groundwater Polluted by Volatile Organic Compounds, Fuel Leaks, Fuel Additives, and Other Related Wastes

Comments by Amec Foster Wheeler on behalf of Ford Motor Company

Dear Mr. De la Cruz:

Amec Foster Wheeler provides the following comments on behalf of Ford Motor Company with regard to the Tentative Order for General Waste Discharge Requirements (NPDES Permit CAG912002, Order No. R2-2017-00XX). Amec Foster Wheeler looks forward to continuing its stewardship of water resources in the San Francisco Bay Region in cooperation with the Regional Water Quality Control Board (RWQCB).

(1) Amec Foster Wheeler notes changes in effluent limitations for many VOCs by as much as an order of magnitude as well as the addition of effluent limitations for certain metals (Section IV of the Tentative Order – Effluent Limitations and Discharge Specifications). Updated and new effluent limitations are substantially lower in most cases than Federal and State mandated Maximum Contaminant Levels (MCL) and frequently approach laboratory analytical reporting limits. This is obviously a very conservative approach which in many cases will require treatment of water to effluent concentrations substantially below the MCLs and any risk-based levels. These effluent limits are also independent of mass loading rates which are frequently a significant predictor of risk. Amec Foster Wheeler would like the RWQCB to consider adding language to the Tentative Order indicating that risk-based studies for reevaluating effluent limits would be considered on a case by case basis provided that the proposed new effluent limits do not exceed any relevant MCLs.

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Amec Foster Wheeler appreciates the opportunity to provide comments on Tentative Order No. R2-2017-00XX, NPDES Permit CAG912002 and thanks the Regional Water Quality Control Board for considering the comments above. While the VOC and metals effluent limitations have been significantly reduced and new limitations added in this Tentative Order, Amec Foster Wheeler will its utmost to assure full compliance with the new Order. Please contact the undersigned with any questions or follow up.

Sincerely,
Amec Foster Wheeler Environment & Infrastructure, Inc.

Mike Barnes
Senior Associat.6e Scientist

Charles Blanchard, PE
Principal Engineer

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cc: Chuck Pinter, Ford Motor Company

mb/cb/cl/ldu
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7. County of Santa Clara, Roads and Airports Department

County of Santa Clara

Roads and Airports Department

101 Skyport Drive
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1 (408) 573-2400

September 15, 2017

California Regional Water Quality Control Board
San Francisco Bay Region
Attn: Marcos De La Cruz
1515 Clay Street, Suite 1400
Oakland, California 94612

Subject – Comment Submittal - Tentative Order No. R2-2017-00XX, NPDES PERMIT No. CAG912002 For Discharge or Reclamation of Extracted and Treated Groundwater Resulting from the Cleanup of Groundwater Polluted by Volatile Organic Compounds (VOCs), Fuel Leaks, Fuel Additives, and Other Related Wastes (VOCs and Fuel General Permit)

Dear Mr. De La Cruz,

The Santa Clara County Roads and Airports Department currently maintains a pump station located at Oregon Expressway Underpass (CIWQS Place ID 654813) that falls under the current NPDES general permit.

The following is a list of our concerns about the tentative order that will be replacing the current one:

1 Issue #1. Applicability: Combined Stormwater and Extracted Groundwater.
Section I of the Draft Order indicates that the General Permit does not cover "[d]ischarges that combine extracted groundwater with stormwater prior to treatment." Language in the current permit indicates that while such systems were "normally not eligible" (paragraph 4 and page F-4), those systems were not absolutely excluded. The current permit includes the statement, "Dischargers that combine extracted groundwater with stormwater before treatment are **normally** not eligible for coverage under this Order because the amount of rainwater varies and may exceed the treatment system capacity."

A. If the Regional Water Board's intent is to exclude from coverage any system where stormwater mixes with extracted groundwater prior to treatment, before implementing such an exclusion, the Regional Water Board should consider the economic impacts and practicability of such an exclusion.

B. If the Regional Water Board does not intend to exclude coverage under the General Permit for any treatment system where stormwater and extracted groundwater commingle before treatment, the Regional Water Board should consider changing the proposed language to reflect the wording of the current General Permit: for example, "This General Permit does not **normally** cover: …."

Issue #2. New Effluent Limitations.

(2) The new proposed effluent limits for VOCs, found in Table 2 of the tentative order. Effluent Limitations, have been significantly reduced to, in most cases, a 10th of the current limits; the Maximum Daily Effluent Limitation for a number of VOCs has been reduced from 5 µg/L to 0.50 µg/L, which in most cases is also the laboratory reporting limit. Past performance of the Oregon Expressway Underpass treatment system was excluded from consideration in the Water Board's process for developing TBELs.

In recent years, our pump station's required effluent sample results have usually been non-detect for the VOCs in question. Occasionally there have been detected concentrations; however, the levels were below the current effluent limitations. Under the new proposed permit, some of those previously detected levels would be above the proposed effluent limitations, and thus be considered a violation potentially resulting in severe penalties. This is of great concern to the Roads and Airports Department.

The proposed effluent limits for Discharge to Other Receiving Waters are well below applicable water quality objectives established by the Regional Water Board to protect beneficial uses of Other Receiving Waters (e.g. Matadero Creek), and therefore unreasonably low. The Regional Water Board has not provided reasonable justification for imposing effluent limitations that are more stringent than established water quality objectives for protection of beneficial uses. Compliance with the more stringent proposed effluent limitations will impose an unnecessary financial burden to assure compliance.

The proposed effluent limitations lower than water quality goals are treatment base effluent limitations (TBELs) developed based on the Regional Water Board's best professional judgement. Per Section IV.B.2. of Attachment F (Fact Sheet), in using its best professional judgement to develop technology based effluent limitations TBELs, the Regional Water Board censored the data used in its evaluation to only include "effluent data from GAC treatment systems"; i.e., it excluded treatment systems that only include air stripping. This suggests an unreasonable bias, since one or more treatment systems covered under the general permit does not include GAC treatment. Consideration of data from such systems may have resulted in higher TBELs, potentially precluding use of TBELs over established water quality objectives.

The Roads and Airports Department is committed to complying with all requirements mandated under the NPDES permit. However, the above-listed issues, in particular, Issue #2, is of particular concern.

Sincerely,

Christopher Ellsbury
Environmental, Health and Safety Compliance Specialist
Santa Clara County Roads and Airports Department

cc: HF, RJ
Mark Becker, Stantec
Jeff Miller, HP
John Buchanan, Varian
Dana Johnston, Crawford

8. Stantec Consulting Services, Inc.

Stantec

Stantec Consulting Service Inc.
15575 Los Gatos Boulevard, Building C, Los Gatos CA 95032

September 15, 2017

Attention: Marcos De la Cruz
California Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, California 94612

Dear Mr. De la Cruz,

Reference: Comments to Tentative Order R2-2017-00XX VOCs and Fuel NPDES General Permit

This letter transmits questions, requests for clarifications, and certain recommended changes to the draft tentative San Francisco Bay Regional Water Board *Order R2-2017-00XX, General Waste Discharge Requirements for Discharge or Reclamation of Extracted and Treated Groundwater Resulting from the Cleanup of Groundwater Polluted by Volatile Organic Compounds (VOCs), Fuels Leaks, Fuel Additives, and Other Relate Wastes (VOCs and Fuel General Permit* – "the draft permit"). Stantec provides engineering oversight, operation, maintenance, monitoring and reporting services to a number of its clients that have treatment systems with coverage under the General Permit. The questions and comments below are respectfully submitted for Regional Water Board consideration.

- Section I – Scope of General Permit: Applicability: Combined Stormwater and Extracted Groundwater

(1)

  - Section I of the Draft Order indicates that the General Permit does not cover "[d]ischarges that combine extracted groundwater with stormwater prior to treatment." Is the Regional Water Board's intent to exclude coverage under the General Permit for any treatment system where of stormwater with extracted groundwater prior to treatment, and regulate such systems under an individual permit? Previous permit language indicated that while they were "normally not eligible" (paragraph 4 and page F-4), these systems were not specifically excluded. As stated in the current permit, "Dischargers that combine extracted groundwater with stormwater before treatment are *normally* not eligible for coverage under this Order because the amount of rainwater varies and may exceed the treatment system capacity."

    - If the Regional Water Board's intent is to exclude from coverage any system where stormwater mixes with extracted groundwater prior to treatment, before implementing such an exclusion, the Regional Water Board should consider the economic impacts and practicability of such an exclusion.

    - If the Regional Water Board does not intend to exclude coverage under the General Permit for any treatment system where stormwater and extracted groundwater com-mingle before treatment, the Regional Water Board should consider changing the proposed language to reflect the wording of the current General Permit: for example, "This General Permit does not **normally** cover: ...."

Reference: Comments to Tentative Order R2-2017-00XX VOCs and Fuel NPDES General Permit

- Table 2 of R2-2017-00XX – Effluent Limitations:
  - (2) Request to include a column that includes CAS numbers.
  - (3) The final sentence of Note 2 in Table 2 states: "This limit applies to Dischargers that chlorinate their extracted groundwater." The interpretation of this sentence by the Regional Water Board in the past has been inconsistent with the wording of this note. Please clarify that a chlorine detection from a treatment system that does not chlorinate extracted groundwater would not be considered violation of effluent limitations. An example would be a site that does not chlorinate as a treatment step but is extracting water that has trace chlorine present in the extracted groundwater due to leaking water main near an excavation or pumping well. Based on this footnote, the example system would not be subject to the effluent limit for chlorine.

- (4) Attachment E, Section V: new species referenced. *Test species shall be rainbow trout (Oncorhynchus mykiss) and sheepshead minnow (Cyprinodon variegatus).*
  - It is understood that the previously approved species "may" continue to be used pending further notice; however, the wording in the permit is unclear on whether one or both species will be required for each test under the new permit, that *one* will be specified in the Authorization to Discharge, or that the discharger can chose either one after receiving the renewal Authorization to Discharge. We request the verbiage in this section be updated as suggested below.
    - Test species shall be rainbow trout (Oncorhynchus mykiss) ***or*** sheepshead minnow (Cyprinodon variegatus) ***at the Dischargers discretion***. If the Discharger was enrolled under the previous order, it may use the test species specified at that time until further notice. The Executive Officer***, in the Authorization to Discharge,*** may specify a more sensitive species or, if testing a particular species proves unworkable, the most sensitive species available.

- Attachment E, Section VIII.A.3 – Startup Phase Monitoring:
  - (5) Please define *temporary shutdown* in terms of time. Would the 120-hour period referenced in Section VIII.A.1 be applicable for all temporary shutdowns? If not, it is requested that the Regional Water Board specify its definition in Section VIII.A.3.
  - (6) The removal of trigger analytes will likely increase the potential for systems that will require a full system restart. It is recommended that metals be excluded from the restart statement to prevent unnecessary restart cost.

- (7) Attachment E, Section IX.B.b.iv(e): What is meant by "electronic spreadsheet"? will this be consistent with the previous table request during the NOI process or similar to those found in the NOI draft permit sections.

Reference: Comments to Tentative Order R2-2017-00XX VOCs and Fuel NPDES General Permit

- Attachment E, Table E-2:

(8) o Table E-2 includes methods that are not included in 40 C.F.R part 136. Please verify that any method that is listed in the permit is therefore approved by the board and acceptable for use for the analyte being referenced. From the permit, "Equivalent test methods must be more sensitive than those specified in 40 C.F.R. part 136 and must be specified in this Order or the Discharger's Authorization to Discharge."

(9) o It is requested that Table E-2 include a footnote clearly indicating that equivalent analytical methods can be used. Similar to footnote 1 found in Attachment G. See later note regarding Attachment G, footnote 1.

- Attachment G:

(10) o It is requested that a minimum level for TPH-oil be specified in Attachment G.

(11) o It is requested that CAS number column be added to Attachment G.

(12) o Footnote 1 for Attachment G does not appear to agree with the requirements of Attachment E – Section I.B. Please clarify what is required to use equivalent methods, update this footnote or referenced section for consistency, and include a similarly footnote on Table E-2.

- Attachment F – Rationale for Effluent Limitations:

(13) o In the development of these effluent limitations, the Regional Water Board cites the Clean Water Act and notes that CWA Section 402(a)(1) and 40 CFR Section 125.3 authorizes the use of best professional judgement to derive technology-based effluent limitations on a case-by-case basis when U.S. EPA has not promulgated effluent limitations, guidelines, and standards. The previous permit includes Table F-3 that list includes EPA BPJ (see Table F-3). The permit does not cite a new EPA source that includes limits consistent with those recommended in the draft permit.

(14) o Per Section IV.B.2. of Attachment F (Fact Sheet), in using its best professional judgement to develop technology based effluent limitations TBELs, the Regional Water Board censored the data used in its evaluation to only include "effluent data from GAC treatment systems"; i.e., it excluded treatment systems that only include air stripping. The Regional Water Board notes that the TBELs are derived from effluent data received from Granular Activated Carbon (GAC) treatment systems, suggesting that GAC is the Best Practicable Control Technology (BPT) for all systems, which is not the case. This suggests an unreasonable bias, since the method of treatment is not specified in the permit and GAC treatment is not applicable in all scenarios. Consideration of data from such systems may have resulted in higher TBELs, potentially precluding use of TBELs over established water quality objectives. We request you reconsider the effluent limitations based on BPJ, include systems that include only air strippers as well, and include a national industry EPA standard reference source value for BPJ.

Reference: Comments to Tentative Order R2-2017-00XX VOCs and Fuel NPDES General Permit

(15) o Given that GAC is a well-established treatment technology that has been widely implemented throughout the industry for decades, how does the Regional Water Board justify a change in TBELs when the technology itself has not changed since the last permit was issued?

(16) o The current reporting levels were obtainable when R2-2012-0012 was issued and the sited BPJ values listed in R2-2012-0012 were significantly higher than those found in this draft permit (see Table F-3). The source, "Virginia State Water Control Board. USEPA Model General Permit and the Fact Sheet for Permit No. VAG83, December 1997", listed as a point of reference in this draft permit also includes significantly higher limitations than those listed in this draft permit. Please include the industry reference document that was used to justify the BPJ defined in the draft permit. It appears that only a limited data set of previously covered dischargers under order R2-2012-0012 were used to determine BPJ. These types of treatment systems are used throughout the nation and should include BPJ that are consistent with national industry and treatment standards, not solely based on a small data set for a limited time frame of currently operating systems.

Order R2-2012-0012 -Table F-3. Summary of Technology-Based Effluent Limitations

No.	Compound	Limitations Established by BPJ	
		USEPA	RWB
1	Benzene	5	---
2	Carbon Tetrachloride	5	---
3	Chloroform	5	---
4	1,1-Dichloroethane	5	---
5	1,2-Dichloroethane	5	---
6	1,1-Dichloroethylene	5	---
7	Ethylbenzene	5	---
8	Methylene Chloride	5	---
9	Tetrachloroethylene	5	---
10	Toluene	5	---
11	Cis-1,2-Dichloroethylene	5	---
12	Trans-1,2-Dichloroethylene	5	---
13	1,1,1-Trichloroethane	5	---
14	1,1,2-Trichloroethane	5	---
15	Trichloroethylene	5	---
16	Vinyl Chloride	1	---
17	Total Xylenes	5	---
18	Methyl Tertiary Butyl Ether (MTBE)	5	5
19	Total Petroleum Hydrocarbons (TPH)	---	50
20	Ethylene Dibromide (1,2-Dibromoethane)	---	5
21	Trichlorotrifluoroethane	---	5

Reference: Comments to Tentative Order R2-2017-00XX VOCs and Fuel NPDES General Permit

(17) o The Regional Water Board indicates that the TBELs represent the 99th percentile effluent concentration of each pollutant when treated using GAC. It is important for the Regional Water Board to understand that the 99th percentile merely represents a reliability standard of GAC systems, and that exceedances do not necessarily occur because of improper design or mismanagement of the treatment system. A more correct interpretation of the 99th percentile metric is that a well maintained GAC system has a random 1% chance of being out of compliance at any given time due to the inherent nature of the treatment process, sampling errors, cross contamination issues, or minor maintenance adjustments needed. As such, the imposition of a TBEL that penalizes treatment system operators for random 1% occurrences appears to be arbitrary and serve no benefit to the public, especially since such system upsets are not indicative of a risk to the potential receptors. The potential for unnecessary violations that serve no additional benefit to the public increases when limitations are reduced to at or near the reporting level arbitrarily.

(18) o The newly proposed effluent limitations for several pollutants represent a ten-fold decrease of the previously established limits under Order R2-2012-0012. In many cases, the newly proposed effluent limitations are well below the concentrations that are considered adequately protective of the receiving water body based on the designated beneficial uses. This is especially true for receiving water bodies that are not designated as potential drinking water sources. An example of such a case is presented below. The compounds below are not the only pollutants with this noted issue and are referenced as examples

Comparison of Effluent Limits and Water Quality-Based Assessment Thresholds*				
Constituent	**WQO Basis**	**WQO (µg/L)**	**Existing R2-2012-0012 Effluent Limit (µg/L)**	**Proposed R2-2017-00XX Effluent Limit (µg/L)**
Methyl t-butyl ether	California Primary MCL	13	5.0	0.50
	California Secondary MCL	5.0		
	California Public Health Goal for Drinking Water - Toxicity – humans	13		
	USEPA National Recommended Water Quality Criteria, 4-day average	51,000		
	USEPA National Recommended Water Quality Criteria, 1-hour average - Toxicity - freshwater aquatic life	151,000		
	USEPA National Recommended Water Quality Criteria, 4-day average - Toxicity - saltwater aquatic life	18,000		
	USEPA National Recommended Water Quality Criteria, 1-hour average - Toxicity - saltwater aquatic life	53,000		

Reference: Comments to Tentative Order R2-2017-00XX VOCs and Fuel NPDES General Permit

Comparison of Effluent Limits and Water Quality-Based Assessment Thresholds*				
Constituent	**WQO Basis**	**WQO (µg/L)**	**Existing R2-2012-0012 Effluent Limit (µg/L)**	**Proposed R2-2017-00XX Effluent Limit (µg/L)**
Toluene	California Primary MCL	150	5.0	0.50
	Taste & Odor Threshold (USEPA)	42		
	California Public Health Goal for Drinking Water	150		
	USEPA National Recommended Water Quality Criteria, water & fish consumption	57		
	USEPA National Recommended Water Quality Criteria, fish consumption	520		
	Human Health Protection Objective, fish consumption	85,000		
	California Toxics Rule (USEPA) for sources of drinking water	6,800		
	California Toxics Rule (USEPA) for other waters	200,000		
	USEPA National Recommended Water Quality Criteria, acute tox info / 10	1,750		
	USEPA National Recommended Water Quality Criteria, chronic tox info / 10	500		
	USEPA National Recommended Water Quality Criteria, acute tox info / 10	630		

* Source: http://www.waterboards.ca.gov/water_issues/programs/water_quality_goals/docs/wq_goals_text.pdf

(19)

- It is noted that in several cases, the proposed numeric effluent limits for drinking water and non-drinking water beneficial uses are equivalent (i.e. the effluent limit for TCE is 0.65 µg/L irrespective of whether the receiving water is designated as a source of drinking water). The Regional Water Board appears to justify this equivalence based on achievable Technology Based Effluent Limits (TBELs). Nevertheless, the differences between the Water Quality Objectives between drinking water and non-drinking water sources are substantial, and it seems problematic to hold treatment systems to the same standard irrespective of the receiving water body's beneficial use. Best Professional Judgement (BPJ) would suggest that receiving water bodies that are not a drinking water source should be granted less stringent criteria, especially when toxicity studies suggest no impact to aquatic life or designated beneficial uses.

(20)

- General Comment, Cost of Compliance versus Environmental Benefit: The Regional Water Board cites State Water Resources Control Board Resolution 68-16 (Anti-degradation Policy) as a basis for decreasing effluent limitations. Resolution 68-16 requires that *"Any activity which produces or may produce a waste or increased volume or concentration of waste and which discharges or proposes to discharge to existing high quality waters will be required to meet*

Reference: Comments to Tentative Order R2-2017-00XX VOCs and Fuel NPDES General Permit

waste discharge requirements which will result in the best practicable treatment or control of the discharge necessary to assure that (a) a pollution or nuisance will not occur and (b) the highest water quality consistent with the maximum benefit to the people of the State will be maintained."

Given that the existing discharge limitations under R2-2012-0012 are already well below the Water Quality Objectives established for non-drinking water sources, it seems that current discharges do not unreasonably affect present and anticipated beneficial uses, and that pollution and nuisance conditions do not occur from facilities complying with the existing order. When contemplating a further reduction in effluent limits, has the Regional Water Board evaluated the cost of compliance and the commensurate benefit (if any) in order to ensure that its actions are consistent with 'maximum benefit to the people of the State'? If so, will the Regional Water Board make the cost-benefit analysis available for public review?

(21) • General Comment. We note that the proposed frequency for submitting compliance self-monitoring reports in the draft permit is semi-annual, as compared to quarterly in the current permit. A reduction in reporting frequency is expected to result in cost savings for our clients that are regulated under the General Permit, without having any deleterious effect on receiving waters. We applauded the Regional Water Board for this proposed change in monitoring frequency.

Stantec appreciates your consideration of these comments.

Regards,

Stantec Consulting Services, Inc.

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9. HP, Inc.

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September 15, 2017

Attention: Marcos De la Cruz
California Regional Water Quality Control Board
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1515 Clay Street, Suite 1400
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Dear Mr. De la Cruz,

Reference: Comments to Tentative Order R2-2017-00XX VOCs and Fuel NPDES General Permit

This letter transmits on behalf of HP Inc. comments and requests for clarifications and/or changes to the draft tentative San Francisco Bay Regional Water Board *Order R2-2017-00XX, General Waste Discharge Requirements for Discharge or Reclamation of Extracted and Treated Groundwater Resulting from the Cleanup of Groundwater Polluted by Volatile Organic Compounds (VOCs), Fuels Leaks, Fuel Additives, and Other Related Wastes (VOCs and Fuel General Permit* – "the draft permit"). These comments and requests are respectfully submitted for Regional Water Board consideration. In general, HP's comments and requests pertain to aspects of the draft permit that would make the future requirements for groundwater remediation discharges to surface waters more stringent than appears warranted, based on the facts and circumstances described in the Board's Fact Sheet for the draft permit and based on HP's experience with the remediation requirements and systems that are regulated by the current permit.

1

1. Section I – Scope of General Permit: Applicability: Combined Stormwater and Extracted Groundwater

Section I of the draft permit states that the General Permit does not cover "[d]ischarges that combine extracted groundwater with stormwater prior to treatment." The current permit indicates that such discharges are "normally not eligible" but does not categorically exclude them from coverage: "Dischargers that combine extracted groundwater with stormwater before treatment are *normally* not eligible for coverage under this Order because the amount of rainwater varies and may exceed the treatment system capacity." (Emphasis added).

The current permit covers one such system, known as the Oregon Expressway Underpass ("OEU") dewatering system. HP is one of several parties involved with the OEU system discharge that is covered by the current permit. The OEU system involves combined groundwater and stormwater that is managed carefully to comply with permit requirements. The OEU system has been in place for many years and is physically located near major transportation routes, which also affects how it must be managed from a public safety perspective when there is heavy rain.

It is HP's understanding that the Board is not seeking to exclude the OEU discharge or other combined remediation/stormwater discharges from coverage under the General Permit, as other language in the draft permit materials indicates that discharges already covered by an NOI under the current permit are anticipated to maintain coverage under the proposed permit once finalized. If this were the Board's intent, the brief public comment period provided by the Board for the proposed permit would hardly be sufficient to meet applicable legal requirements for such a major change in regulatory status. The Fact Sheet provides no explanation of any technical or legal justification for such an exclusion. Nor does the draft permit Fact Sheet provide any information on whether and how the Board considered the significant economic and practical engineering and safety aspects of enacting such a drastic change, particularly on such short notice.

HP requests that the Board maintain the current permit coverage for combined remediation/stormwater discharges to avoid confusion over whether such discharges suddenly have a new regulatory status and associated new and increased compliance obligations.

2. Attachment E, Table E-2: Monitoring Requirements

(2) HP requests a clarification to this Table be made to ensure the Table requirements are consistent with the effluent limitations set forth in the draft permit. Specifically, HP suggests that the Board add either in the introductory paragraph to Table E-2, or as another footnote in the Effluent Limits monitoring column, language to clarify that the effluent monitoring requirements in that column apply only to dischargers that are subject to an effluent limitation for each listed parameter.

(3) In addition, HP is concerned that the approved test methods that are expected or required to be used by the Board be expressly listed as authorized. In the draft permit, Table E-2 includes methods that are not included in 40 C.F.R. Part 136. HP requests that the Board add language here that specifically authorizes dischargers to use the alternative methods as approved methods by the State of California and the Board under the delegated NPDES program. HP requests that Table E-2 include a footnote clearly indicating that equivalent analytical methods are approved and can be used.

3. Table 2 of Draft Permit and Attachment F – Concerns with Proposed New Effluent TBEL Limitations and Rationale Provided by the Board:

(4) The newly proposed Technology Based Effluent Limitations (TBELs) for several pollutants represent a ten-fold decrease of the previously established TBELs under Order R2-2012-0012. In addition, for many of the parameters, the Board is proposing effluent limitations that are set at or below laboratory analytical detection limits. HP believes that neither of these new approaches are technically or legally valid under the Clean Water Act "Best Professional Judgment" (BPJ) approach that the Fact Sheet explains the Board was attempting to apply. HP also believes the assertion by the Board that, on a go-forward basis if the proposed new limitations are adopted, "there is only a 1 percent chance that a particular effluent sample would exceed the 99th percentile" (Fact Sheet, page F-10) is demonstrably not accurate, for at least two reasons.

First, the Board expressly recognizes this assertion for the future is based on "the historical record" using data from only the 30 dischargers described by the Board as using GAC treatment systems and whose 2015-2016 data was otherwise selectively culled. No data or modeling for other treatment methods used to meet the current permit limits appears to have been considered by the Board. Thus, the assertion has no factual basis for application to dischargers whose data was not evaluated in developing this approach. Second, this assertion cannot hold up when the Board is also requiring that certain parameters be limited to below analytical laboratory reporting limits. By taking these steps, the Board is setting up a situation where there is likely to be a new wave of noncompliance reporting by the covered facilities – including those that use GAC, as false positive tests will be more likely for all dischargers when limits are set at laboratory reporting limits -- that could create an erroneous public perception that something fundamental has changed about the quality of the wastewaters being discharged from the groundwater remedial systems in the region that have been operating in legal compliance for years. These risks create unfair new burdens and costs for discharger compliance, with no attendant water quality benefit, which surely cannot be considered by the Board to represent good public policy.

HP's specific comments on the BPJ approach described by the Board are summarized below. HP requests that, due to the multiple flaws in the Board's proffered BPJ approach, the Board maintain the current TBELs and associated current detection methods in the current permit. If the Board determines it should proceed with a BPJ approach, HP requests that the Board seek and consider relevant information from the entire sector covered by the General Permit, not selectively use data that supports the Board's desired but arbitrary outcome.

The Board's attempted use of BPJ, as described in the Fact Sheet, is technically and legally flawed, for several reasons.

(5)

a. First, BPJ is to be applied on a case-by-case basis taking into account site specific considerations. The Board has instead described its use of a very limited data set from selected years and dischargers under the guise of BPJ to impose uniform requirements across the entire set of discharges subject to the draft permit. The flaws inherent in such an approach are apparent from a review of Table F-3 in the Fact Sheet. This Table purports to summarize the Board's consideration of the required factors in 40 CFR Part 125.3(d). However, it is apparent that the "Considerations" in this Table are instead conclusions that the Board has made for the entire sector covered by the draft proposed permit. These conclusions are clearly not factually accurate for all discharges covered by the current permit. For example, the first conclusion, that "The cost of imposing these TBELs is reasonable given that existing Dischargers can comply without modifying their existing treatment processes" has no factual basis since, according to the Fact Sheet, the Board only considered discharge data from 30 dischargers. Furthermore, the Fact Sheet does not point to any cost or performance information having been requested from other dischargers or evaluated by the Board. The rest of the conclusions listed as "Considerations" are similarly flawed due to a lack of factual support in the record.

(6)

b. Second, the Board used treatment system performance data from only a single technology – GAC – that the Board apparently prefers. This

methodology is flawed because it does not account for the variety of technologies already in place and authorized for use under the current general permit. In addition, while GAC may be a widely used technology, it is not an exclusive technology put in place by responsible parties to meet their groundwater remediation requirements. The basic performance of GAC and other allowed technologies has not changed since the current permit was issued, so it is unclear from the record why the Board believes it is timely to lower technology based limits for all, based on data only from GAC systems. If the Board seeks to use BPJ to evaluate the merits of lowering limits across this sector, it must consider data from all regulated sources using currently allowed technologies, along with other information – including costs and benefits – required for a legitimate BPJ analysis. The Board's approach also fails to account for the CWA's longstanding distinction between existing and new sources. The type of technology-forcing action represented by the Board's proposed new limits is not supported by the brief BPJ explanation provided in the Fact Sheet. Conclusory statements are not a substitute for the required evaluation. Instead, a valid BPJ approach is allowable only if the Board considers a much broader range of considerations, as required by the CWA and the State delegated NPDES program, including the collection and evaluation of relevant information from the entire sector it seeks to regulate differently. HP is not aware of any information requests sent to currently regulated dischargers to collect the type of information that is necessary to support the BPJ approach the Board describes in the Fact Sheet. As a result of these multiple problems, HP respectfully believes that the Board has fundamentally misapplied the CWA technology based approaches required by law.

c. Third, the Fact Sheet points to no change in regulatory requirements – federal or state – that have occurred since the current general permit was established in 2012, that would justify a change in technology based effluent limitations. Instead, the Fact Sheet relies heavily on the generalized assumption that because aeration and GAC systems typically can meet the proposed new limits, limits based on the performance of such treatment systems should be imposed on every discharger covered by the permit. The Board has not provided an adequate factual, technical or legal justification for such a draconian approach. Indeed, that type of generalized assumption turns the purpose of conducting a site-specific BPJ analysis on its head.

d. Fourth, the Fact Sheet indicates that the proposed new TBELs represent the 99th percentile effluent concentration of each pollutant when treated using GAC. However, the 99th percentile only represents a reliability standard of GAC systems, and is not informed by the performance of other types of allowed treatment systems. Also, the implication of the Fact Sheet that exceedances should not occur for most dischargers fails to recognize that an exceedance of a limit can occur for reasons other than the design or management of the treatment system. A more accurate and more limited conclusion from the data set that the Board selected to evaluate is that the 99th percentile metric means only that a well maintained GAC system has a random 1% chance of being out of compliance at any given time due to the inherent nature of the treatment process. For systems that were not evaluated by the Board, this random chance by definition would be higher,

given the Board's assumptions. Thus, under the Board's proposed approach, there is an increased likelihood that treatment system operators that have been operating in compliance will now face greater risk for experiencing those random 1%+ occurrences. Such a result is unfair and provides no measurable benefit to the environment. The potential for false positive detections significantly increases when limitations are reduced to the reporting level.

e. For all of these and related reasons, HP requests that the Board maintain the current technology based limits established under the current permit.

4. <u>The Proposed New Effluent Limits Also are Unnecessary to Protect Water Quality, and the Board has Failed to Conduct the Necessary Analysis to Support the Proposed Limits Based on Water Quality</u>.

(9) A review of the Fact Sheet and related materials indicates that many of the proposed new effluent limitations are well below the concentrations that are identified in applicable laws as adequately protective of the receiving water body based on the designated beneficial uses. This is especially true for receiving water bodies that are not designated as potential drinking water sources.

HP believes that, because the effluent limits under the current permit are already well below the applicable Water Quality Objectives for the receiving water bodies, there is no legal or technical basis to support the Board's proposal to establish more stringent standards.

It is apparent that for several parameters, the proposed numeric effluent limits for drinking water and non-drinking water beneficial uses are equivalent (for example, under the Board's proposed approach, the draft effluent limit for TCE is 0.65 µg/L irrespective of whether the receiving water is designated as a source of drinking water). The Board appears to justify this equivalence based on its flawed approach to the TBELs using BPJ, as noted above. However, under federal and state law, the differences between the Water Quality Objectives between drinking water and non-drinking water sources are substantial and exist for good reasons established by applicable laws. These laws do not support an approach that seeks to hold dischargers to a single standard irrespective of the receiving water body's beneficial use. Under the applicable legal frameworks, receiving water bodies that are not a drinking water source should be subject to criteria that protects the designated uses of that water body, while receiving waters that are drinking water sources are appropriately subject to more stringent standards.

(10) Finally, HP does not believe that the Board considered relevant information from the regulated sector or weighed the costs of compliance with and environmental benefits of the proposed standards as required by water quality regulations (in addition to failing to do so as required for the proposed new technology-based standards, as previously described). In the Fact Sheet, the Board cites State Water Resources Control Board Resolution 68-16 (Anti-degradation Policy) as a basis for decreasing effluent limitations. Resolution 68-16 requires that *"Any activity which produces or may produce a waste or increased volume or concentration of waste and which discharges or proposes to discharge to existing high quality waters will be required to meet waste discharge requirements which will result in the best practicable treatment or control of the discharge necessary to assure*

that (a) a pollution or nuisance will not occur and (b) the highest water quality consistent with the maximum benefit to the people of the State will be maintained."

As noted above, the existing discharge limitations under the current permit are already well below the Water Quality Objectives established for non-drinking water sources. Thus, there is no factual basis for the Board to conclude that current discharges trigger the anti-degradation policy to justify lower limits for water quality protection reasons. The Fact Sheet does not provide sufficient information to indicate whether the Board evaluated the cost of compliance and the commensurate benefit (if any) of the proposed new effluent limits in order to ensure that its actions are consistent with providing the "maximum benefit to the people of the State." Thus, the Fact Sheet does not contain adequate information to support the proposed modifications to effluent limitations based on water quality considerations. As a result, HP respectfully requests that the Board maintain current effluent limitations that it has proposed be changed due to water quality.

***

HP appreciates your consideration of these comments. HP Inc. reserves all rights to participate in the Board hearing on this matter, currently scheduled for November 8, 2017, and to challenge the final promulgated terms and conditions of the draft permit as and if warranted.

Sincerely,

jeffrey.s.miller@hp.com

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Jeffrey Miller
Global Remediation and Environmental Programs Manager
Environment, Health and Safety

10. Park Center Plaza Investors, L.P.

Tamalpais Environmental Consultants

September 15, 2017

Marcos De La Cruz
San Francisco Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

Comments to Tentative Order #R2-2017-00XX, NPDES Permit No. CAG912002.

Dear Mr. De La Cruz:

Tamalpais Environmental Consultants (TEC) has prepared these comments on behalf of the owners of the facility at 150 Almaden Blvd. in San Jose, California. The foundation dewatering system for the building includes two sumps that contain small amounts of tetrachloroethylene (PCE) and low levels of several naturally-occurring metals. Groundwater is treated with carbon prior to discharge under the current NPDES permit with facility IDs 2-438626003 and 2-438626004. Groundwater flows into each sump at very high rates, with monthly average rates peaking over 430 gallons per minute (gpm) for the East Sump and 380 gpm for the West Sump during last winter. These systems cannot be shut down or the subsurface parking garage will quickly flood.

The PCE concentrations in these sumps are very low, with the influent for the West Sump at 2.7 µg/L and the East Sump at 0.8 µg/L during the latest monitoring event in August 2017. The systems are currently managed to remove PCE to below 0.8 µg/L. Carbon changeouts are conducted after detecting PCE in the effluent above 0.5 µg/L.

Several of the proposed changes to the tentative order could make it very difficult for these treatment systems to comply with the provisions, inevitably resulting in violations of the effluent limitations. We have prepared several comments that we feel should be considered prior to the adoption of the order.

(1) **Comment 1**: The new effluent limitation for PCE of 0.5 µg/L is too low to be able to manage these systems effectively. The normal detection limit for PCE is 0.5 µg/L, which would put our single-stage treatment systems in a violation after the first detection of PCE in the effluent of the carbon system. The systems cannot be turned off, so the violation will continue until the carbon can be replaced. We have previously used two stages of treatment for the West Sump, but the system was unable to continue treating all of the water generated last winter due to increased pressure buildup within the system due to the high flow conditions caused by the excessive rainfall last winter.

To ensure compliance with the new requirements, we might need to double the capacity of our treatment system and significantly increase the power to this area of the garage for the higher power pumps that will be necessary. That would allow for sampling with an extra set of carbon treatment prior to discharge in case there was PCE present after the first stage of treatment. In addition to the high cost for installation and maintenance, these

changes would contribute significant additional greenhouse gases to the atmosphere based on the increased energy consumption for the systems and the energy consumption associated with the creation, transportation, and disposal of the carbon. Our carbon footprint for this system is already significant.

The current standard of 0.8 µg/L for PCE is more than 80% less than the drinking water standard and protective of human health and the environment. The small range between the detection limit and the effluent limitation is essential to be able to manage these systems to comply with NPDES permit limitations. The Water Board's evaluation of the likelihood of exceeding effluent limitations did not seem to take into account the results from our monitoring, which regularly indicate detections of PCE above 0.5 µg/L in the effluent prior to carbon changeouts.

(2) **Comment 2**: The use of effluent limitations for naturally-occurring metals in groundwater is inappropriate. Monitoring for metals has been ongoing for these systems for over a decade. Additional monitoring was conducted to evaluate copper, lead, selenium, and zinc because they have been repeatedly detected over the current permit trigger levels. These metals have also been detected above the proposed effluent limitations.

TEC has not been able to identify any potential technologies capable of removing these metals to levels consistently below the proposed effluent limitations. We are now conducting additional research into potential treatment technologies, but we do not want to introduce significant chemicals to modify the pH of the water (twice) to remove the metals due to the high flow rates and potential to discharge the buffering chemicals to the Guadalupe River. Similarly, if anaerobic digestion were considered, the systems would have to be capable of making 700 gpm of water go anaerobic for treatment and then aerobic again prior to discharge. Anaerobic activity may also transform the PCE to the more toxic vinyl chloride. These systems cannot be turned off in case of upsets due to the high flow rates and potential for flooding. These options could present a greater threat to the environment than the metals they are intended to remove. In addition, any potential technical implementation is made more difficult in the parking garage where we have height limitations of only 6 1/2 feet.

(3) **Comment 3**: The Notice of Intent (NOI) section indicates that separate fees should be required for multiple sites. The Water Board has historically considered the 150 Almaden Blvd. facility two sites because the systems discharge to different storm drains before flowing into the Guadalupe River due to the high flow rates in each sump. These systems are managed and reported together and represent one site. We request that this section be modified to allow a single payment for single sites that have two discharge points.

(4) **Comment 4**: The anti-backsliding provision specified in Section D.1 of the fact sheet indicates that the Water Board would be unable to change the requirements if they are adopted as they are proposed in November. This could lead to a significant number of

increased violations with no possible recourse by the Water Board even if they were to agree in the future that these effluent limitations were not reasonable or as easy to implement as anticipated.

If you have any questions regarding the information presented in this letter, please contact me at (415) 456-5084.

Sincerely,

Aaron O'Brien, PE
President

Copies:

Julie Garcia, CBRE
Richard Maxwell, Roux Associates

11. City of Redwood City

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September 15, 2017

Bruce Wolfe
Executive Director
California Regional Water Quality Control Board – San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, CA 94612

Subject: Comments on Tentative Order for Replacing Order No. R2-2012-0012

Dear Mr. Wolfe:

It is understood a new Tentative Order is scheduled to become effective on January 1st, 2018 replacing the existing General Permit issued under Order R2-2012-0012 for the Discharge or Reclamation of Extracted and Treated Groundwater Resulting from the Cleanup of Groundwater Polluted by Volatile Organic Compounds, Fuel Leaks, Fuel Additives and Other Related Wastes (VOCs and Fuel General Permit). The City of Redwood City (City) is currently covered under Order No. R2-2012-0012 for the discharge of groundwater from an underground municipal garage facility at 850 Jefferson Ave in Redwood City. The City discharges the groundwater that seeps into the underground garage facility to the municipal stormwater sewer collection system. The storm sewers ultimately drain into the San Francisco Bay.

The City would like to be covered under the new VOCs and Fuel General Permit to allow the continued discharge of the groundwater to the municipal stormwater sewer collection system. However, the new VOCs and Fuel General Permit is expected to include effluent limitations on metals, which the existing General Permit under Order R2-2012-0012 did not have. The effluent limitations would effectively prevent the City from discharging the groundwater, because the groundwater in Redwood City has high concentrations of natural occurring metals, specifically selenium and copper, which have been historically found to exceed the new effluent limits. While the City is working on determining alternatives, the City does not have rights to discharge to the sanitary sewer collection system or to discharge by any other means. There is a risk the City's publicly used garage facility would be unable to be used if the groundwater is not authorized for discharge to any collection system or drainage body.

(1) We request the San Francisco Bay Regional Water Quality Control Board (Regional Water Board) modify the new VOCs and Fuel General Permit to grandfather the existing discharges for natural occurring metals or to have separate waste discharge requirements for groundwater that contain naturally occurring metals. If neither of the above alternatives are accepted by the

Regional Water Board, then we request a time schedule order for existing dischargers to find the means to meet the proposed effluent limits or to find alternatives to discharging groundwater.

If you have any questions, please feel free to contact me at (650)780-7397 or email me at ahaya@redwoodcity.org.

Sincerely,

Ahmad Haya,
Senior Civil Engineer

Cc: Saber Sarwary, City Engineer, City of Redwood City

Appendix C
Response to Comments

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

RESPONSE TO WRITTEN COMMENTS

on Tentative Order for
Discharges from treatment facilities of groundwater polluted by VOCs and Fuel
(VOC and Fuel General Permit)

The Regional Water Board received written comments on a tentative order distributed on August 11, 2017, for public comment from the following parties:

Regional Water Board staff has summarized the comments, shown below in *italics* (paraphrased for brevity), and followed each comment with staff's response. For the full content and context of the comments, please refer to the comment letters.

All revisions to the tentative order are shown with underline <u>text</u> for additions and strikethrough ~~text~~ for deletions. This document also contains staff-initiated revisions in addition those arising from the response to comments (see page 35).

McKesson Corporation (McKesson)

McKesson Comment 1*: *McKesson requests that the Regional Water Board retain the present trigger of 3 µg/l for 1,4-dioxane, set an effluent limit of 3 µg/l, or set no effluent limit instead of adopting a 1,4-dioxane limit of 1.0 µg/l. If the Regional Water Board imposes a limit, it should postpone the effective date of that limit.

Response: We removed the proposed 1,4-dioxane effluent limitation. The Regional Water Board may reopen this permit if necessary to protect beneficial uses from 1,4-dioxane. Specifically, we revised Table 2 of the tentative order as follows:

Table 2. Effluent Limitations

Pollutant	Discharge to Receiving Waters Used as Drinking Water[1]		Discharge to Other Receiving Waters	
	Monthly Average (µg/L)	Daily Maximum (µg/L)	Monthly Average (µg/L)	Daily Maximum (µg/L)
⋮	⋮	⋮	⋮	⋮
Trans-1,2-Dichloroethylene	--	0.50	--	0.50
~~1,4-Dioxane~~	~~1.0~~	~~2.0~~	~~--~~	~~--~~
1,1,1-Trichloroethane	--	0.50	--	0.50
⋮	⋮	⋮	⋮	⋮

We revised Monitoring and Reporting Program (MRP) (Attachment E) Table E-2 as follows:

Table E-2. Minimum Monitoring Requirements

Parameter	Units	Analytical Test Method	Sample Type	Influent (INF-00 *n*)[1]	Effluent and Reclaimed Water (EFF-*n*, REC- *n*)[1]	Receiving Water (RSW-*n*U, RSW-*n*D)
⋮	⋮	⋮	⋮	⋮	⋮	⋮
Volatile Organic Compounds (VOCs)[9]	µg/L	EPA 8260B (full list)	Grab	[6]	[6]	[3]
~~1,4-dioxane~~	~~µg/L~~	~~EPA 8270C or EPA 522~~	~~Grab~~	~~SP, then 1/Quarter~~	~~SP, then 1/Month~~	~~[3]~~
Semi-volatile organic compounds (SVOCs) excluding polynuclear aromatic hydrocarbons (PAHs)[5],[10]	µg/L	EPA 8270C	Grab	SP, then 1/Quarter	SP, then 1/Month	--
⋮	⋮	⋮	⋮	⋮	⋮	⋮

We revised MRP sections VIII.D.3 and VIII.D.4 as follows:

> ~~**3. 1,4-dioxane**. Use techniques to achieve reporting levels not exceeding 1 µg/L, such as selective ion mode or isotope dilution.~~
>
> ~~**4.**~~ **3. All Other Pollutants**. All other pollutants shall use reporting levels not exceeding the Minimum Levels (MLs) specified in Attachment G.

We revised Fact Sheet (Attachment F) section IV.C.2.a as follows:

> **Basin Plan.** The Basin Plan specifies numeric water quality objectives for many pollutants to protect aquatic life and municipal and agricultural water supplies. These include, among others, primary and secondary MCLs (see Basin Plan sections 3.3.21 and 3.3.22). ~~To protect receiving waters with municipal and domestic supply (MUN), groundwater recharge (GWR), and freshwater replenishment (FRESH) beneficial uses, this Order incorporates a numeric criterion of 1.0 µg/L for 1,4-dioxane, which is the drinking water notification level the Division of Drinking~~

~~Water established in November 2010. Notification levels are health-based advisory levels established for chemicals in drinking water that lack an MCL. A numeric effluent limitations for 1,4-dioxane is necessary for the protection of the MUN, GWR, and FRESH beneficial uses as authorized under Water Code section 13377.~~

We revised Fact Sheet Table F-5 as follows:

Table F-5. Reasonable Potential Analysis

CTR No.	Pollutant[1]	Unit	Governing Criteria	MEC or Minimum DL[2]	Result[3]
⋮	⋮	⋮	⋮	⋮	⋮
	1,2-Cis-Dichloroethylene	**µg/L**	**6**	**180**	**Yes**
	~~1,4-Dioxane~~	**~~µg/L~~**	**~~1~~**	**~~33~~**	**~~Yes~~**
	Sulfate	**mg/L**	**250**	**120**	**Yes**[4]
⋮	⋮	⋮	⋮	⋮	⋮

We revised Fact Sheet Table F-6 as follows:

Table F-6. Summary of WQBELs

Pollutant	CTR-Human Health				CTR-Aquatic Life		MCLs	
	Discharges to Receiving Waters Used as Drinking Water		Discharges to Other Receiving Waters		Discharges to All Receiving Waters		Discharges to Receiving Waters Used as Drinking Water	
	AMEL (µg/L)	**MDEL (µg/L)**	**AMEL (µg/L)**	**MDEL (µg/L)**	**AMEL (µg/L)**	**MDEL (µg/L)**	**AMEL (µg/L)**	**MDEL (µg/L)**
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
Cis-1,2-Dichloroethylene	---	---	---	---	---	---	**6.0**	**12**
~~1,4-Dioxane~~	~~---~~	~~---~~	~~---~~	~~---~~	~~---~~	~~---~~	~~**1.0**~~	~~**2.0**~~
Trichloroethylene	**2.7**	**5.4**	**81**	**160**	---	---	5.0	10
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮

We revised Fact Sheet sections IV.C.4.e and IV.C.4.f as follows:

~~**e. 1,4-Dioxane WQBELs.** The 1,4-dioxane WQBELs are based on the drinking water notification level established to protect human health (see Fact Sheet section IV.C.2.a). They were calculated in the same manner as the WQBELs based on MCLs.~~

~~**f.**~~ **e. Acute Toxicity WQBELs.** The acute toxicity WQBELs are based on Basin Plan Table 4-3 (continuous discharge/quarterly or annual tests).

We revised Fact Sheet section VII.B as follows:

Effluent Monitoring. Effluent monitoring is necessary to evaluate compliance with the Order's prohibitions and effluent limitations, and to inform the next permit reissuance. The previous order required monitoring for non-limited parameters, such as ~~1,4-dioxane,~~ metals, PAHs, TPH as motor oil, turbidity, and sulfate. Monitoring requirements for these pollutants have been updated to ensure compliance with this Order's effluent limitations.

McKesson Comment 2*: *McKesson requests that section IV.A of the tentative order be revised to refer to the compliance determination provision of the MRP.

Response: We disagree. The MRP sufficiently describes how compliance is to be determined with respect to the effluent limitations included in the tentative order.

McKesson Comment 3*: *McKesson asserts that no rationale has been provided for requiring additional 1,4-dioxane monitoring and that such monitoring will not provide any environmental benefit.

Response: We removed the minimum monitoring requirements for 1,4-dioxane. See our response to McKesson Comment 1.

McKesson Comment 4:* *McKesson notes that, under the previous order, water samples were analyzed using EPA Test Method 8260B, but only a select number of volatile organic compound (VOC) analytes were required to be reported. The tentative order would require reporting all VOCs found using EPA Test Method 8260B. The additional reporting will include gasoline components and other compounds unrelated to the discharges to be remedied.

Response: We disagree with the characterization of the prior and proposed reporting requirements. The previous order did not limit reporting only to the parameters being remedied. Likewise, the tentative order requires all results to be reported to inform the next permit reissuance. For example, the data may be used for the reasonable potential analysis to determine whether water quality-based effluent limits (WQBELs) are necessary.

McKesson Comment 5*: *McKesson states that there is no rationale for increasing metals monitoring.

Response: We disagree. As explained in Fact Sheet section VII.B, monitoring frequencies for metals and other compounds with new effluent limits were increased to at least once per year to allow us to determine compliance.

McKesson Comment 6*: *McKesson asserts that the Tentative Order requires continued monitoring for pollutants that are never detected. McKesson adds that, under the previous order, semi-volatile organic compounds (SVOCs) and other compounds not known to be present in the influent were not required to be monitored.

Response: We disagree. Consistent with the previous order, footnotes 5 and 12 of MRP Table E-2 do not require monitoring for compounds not present in influent.

McKesson Comment 7*: *McKesson points out an error in the due date for an Application to Extend Coverage. It should be 270 days before the order's expiration date.

Response: We agree and revised section VI.C.2.e of the tentative order as follows:

> **Application to Extend Coverage.** A Discharger that intends to continue discharging after the expiration date stated on the first page of this Order shall file a new NOI form by ~~April 2, 2022~~ October 3, 2022.

We also revised NOI form section XI.C as follows:

> Select one of the three options to: (1) obtain coverage under this Order as a new discharger, (2) modify the NOI as an existing discharger, or (3) renew permit coverage. Please note that

the discharger shall file with the Executive Officer an amended NOI at least 30 days before making any material change in the character, location, or volume of the discharge. Requests to renew permit coverage shall be submitted at least 270 days prior to the expiration date of this Order or no later than ~~April 5,~~ 2022 October 3, 2022.

McKesson Comment 8*: *McKesson points out an erroneous cross-reference.

Response: We agree and revised MRP section IX.B.2.a.iii(a) as follows:

Calculations for all limitations expressed as averages shall use an arithmetic mean unless otherwise specified in MRP section ~~IX.B.4~~ IX.B.5;

Schlumberger Technology Corporation (Schlumberger)

***Schlumberger Comment 1:** Schlumberger asserts that the tentative order is inconsistent with Basin Plan Discharge Prohibition 1, which excludes "Any discharge which has particular characteristics of concern to beneficial uses at any point at which the wastewater does not receive a minimum initial dilution of at least 10:1…" because section IV.C.4 of the tentative order establishes WQBELs without accounting for any dilution credits. Schlumberger instead recommends assuming that all dischargers qualify for a 10:1 dilution credit and increasing the WQBELs accordingly. It then recommends modifying section IV.4 of the tentative order to allow lower WQBELs to dischargers with less than 10:1 dilution (provided that they qualify for an exception to Basin Plan Prohibition 1).*

Response: We disagree. The discharges covered under this tentative order are exclusively shallow water discharges for which the Regional Water Board has never established any mixing zone. We therefore assume none of these discharges receives a minimum initial dilution of 10:1 upon discharge. Basin Plan section 4.6.1.2 states that it is generally inappropriate to allocate dilution credits for purposes of calculating WQBELs for shallow water discharges because shallow aquatic environments are often biologically sensitive or critical habitats. Dischargers that believe they may qualify for a mixing zone and dilution credit may apply for an individual permit.

Basin Plan section 4.6.1.2 states that shallow water discharges are subject to Prohibition 1 unless the Regional Water Board grants an exception in accordance with the criteria listed in Basin Plan section 4.2. As explained in Fact Sheet section IV.A.2, this tentative order grants exceptions to Prohibition 1 to every discharge covered by this permit. Without this exception, all of these discharges would be prohibited.

***Schlumberger Comment 2:** Schlumberger points out that WQBELs should be no more restrictive than necessary to protect receiving waters and recommends including a process to grant site-specific dilution credits.*

Response: We disagree. For the Regional Water Board to grant a site-specific dilution credit, it must establish a mixing zone within the receiving water, which is beyond the scope of this general permit. To date, no discharger enrolled under this permit has submitted information that supports the establishment of a mixing zone. Only the Regional Water Board can establish a mixing zone. Granting a mixing zone is an important discretionary decision that should be open to public comment and Regional Water Board deliberation. Water Code section 13223(a) prohibits the

Regional Water Board from delegating such a decision to the Executive Officer. A better process for granting site-specific dilution credits would be adoption of an individual permit.

Schlumberger Comment 3: *Schlumberger states that using State Implementation Policy (SIP) section 1.3 to establish WQBELs is an overly broad application of the SIP because the SIP is specific to individual dischargers.*

Response: We disagree. The SIP makes no exception regarding dischargers enrolled under individual or general permits. It applies to all discharges of priority pollutants to inland surface waters, enclosed bays, and estuaries that are subject to regulation under the Water Code and the Clean Water Act. The discharges covered by this tentative order are subject to regulation by a general permit in accordance with Water Code section 13263(i) because they are produced by similar operations and have similar discharge characteristics. If a discharger wishes for site-specific WQBELs, it can apply for an individual permit.

Schlumberger Comment 4: *Schlumberger asserts that setting technology-based effluent limitations (TBELs) equal to laboratory reporting levels does not allow treatment systems to be operated with sufficient control to avoid effluent limit violations. According to Schlumberger, the ability to monitor effluent concentrations below effluent limitations and above laboratory reporting levels is necessary to manage operations. It recommends setting the TBELs at concentrations at least five times higher than laboratory reporting levels. Schlumberger adds that setting TBELs at the 99th percentile of historical discharge data is unacceptable because one percent of samples will likely violate the TBELs.*

Response: We disagree that there is an operational need for TBELs to exceed reporting levels and conclude that there is no basis for keeping VOC TBELs at concentrations five times higher than laboratory reporting levels. Fact Sheet section IV.B.2 explains the rationale for establishing most VOC TBELs equal to reporting levels. Complying with these limits is feasible when following the standard industry practice of midstream sampling. Treatment systems consisting of granular activated carbon (GAC) vessels are typically designed with the GAC vessels installed in series. This allows for replacement of the upstream vessel with the downstream vessel when the upstream GAC has been spent. To determine when to make this switch, dischargers use pollutant loading rates and mid-stream sampling (between the two GAC vessels). When VOCs are detected between the GAC vessels, dischargers know it is time to change out the GAC vessels. Following this standard industry practice allows a discharger to ensure that samples collected after both the upstream and downstream GAC vessels comply with the TBELs and do not exceed the reporting level.

As explained in Fact Sheet section IV.B.2, we used 99th percentiles to derive the TBELs. This approach is consistent with the *U.S. EPA NPDES Permit Writer's Manual* (December 1996). Section 5.1.4 (page 74) of the manual says, in part, "When developing a [best professional judgment] limit, permit writers can use an approach consistent with EPA's [effluent limitation guidelines] statistical approach. Specifically, the daily maximum limitation can be calculated by multiplying the long-term average by a daily variability factor. … The daily variability factor is a statistical entity defined as the ratio of the estimated 99th percentile of a distribution of daily values divided by the mean of the distribution." This approach is also consistent with U.S. EPA's *Technical Support Document for Water Quality-Based Toxics Control* (March 1991). Section 5.4.1 (page 99) of that document says, in part, "…permit limits are established using a value corresponding to a percentile of the selected probability distribution of the effluent (e.g., 95th or 99th percentile)." Based on historical discharge data, about one percent of individual samples could exceed the TBELs; however, dischargers that find this risk unacceptable may collect more than one

sample each day and submit all sample results for compliance determination pursuant to MRP section IX.B.5.b.

Schlumberger Comment 5: *Schlumberger points out that VOC treatment technologies have not changed in the past five years and says the tentative order does not provide a rationale to support decreasing the VOC TBELs.*

Response: We disagree. Fact Sheet section IV.B.2 explains the basis for reducing the TBELs. While VOC treatment technologies have not changed, we now have performance data for facilities enrolled under this general permit that demonstrates that the facilities are capable of meeting the lower limits. Clean Water Act section 301(b)(2)(A) requires the best available technology economically achievable specifically with the goal of making reasonable further progress toward the national goal of eliminating the discharge of all pollutants.

Schlumberger Comment 6: *Schlumberger requests clarification regarding whether footnote 4 of MRP Table E-2 applies to sulfate only or to both sulfate and manganese.*

Response: We revised footnote 4 of MRP Table E-2 to include manganese explicitly as shown in our response to WSP Comment 32.

Schlumberger Comment 7: *Schlumberger asks for the full list of VOC analytes required to be monitored as part of EPA 8260 to be included in MRP Table E-2.*

Response: We disagree. Listing 126 analytes within MRP Table E-2 is unnecessary. The full list is found in *USEPA SW-846 Test Method 8260 B: Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry* (December 1996), which is readily available (see https://www.epa.gov/sites/production/files/2015-12/documents/8260b.pdf). Nevertheless, we revised footnote 9 of MRP Table E-2 to refer to this method.

> The analytes shall include those listed in *USEPA SW-846 Test Method 8260 B: Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry* (December 1996) except internal standard and surrogate compounds. ~~VOCs shall include ethylene dibromide, benzene, toluene, ethylbenzene, total xylenes and methyl tert-butyl ether.~~

Schlumberger Comment 8: *Schlumberger says a provision should be available for a discharger to remove a parameter from its monitoring program if the parameter has not been detected in its influent.*

Response: We agree, with the following clarification. Footnote 5 of MRP Table E-2 already provides for the removal of some parameters from the monitoring program if they have not been detected in influent. However, we noticed that some parameters, like VOCs and cyanide, were inadvertently excluded from the footnote; therefore, we revised footnote 5 of MRP Table E-2 as follows:

> Chlorine residual, cyanide, VOCs, SVOCs, PAHs, TPHs (as gasoline, diesel), TPHs other than gasoline and diesel, TAME, DIPE, ETBE, TBA, ethanol, and methanol shall be monitored in influent and effluent if known to be present in the influent.

Regarding the necessity of 1,4-dioxane influent monitoring, see our response to McKesson Comment 1.

Schlumberger Comment 9: *Schlumberger asserts that some existing treatment systems may require time to comply with the new effluent limitations and requests at least 12 months between the adoption date and the effective date of the order to allow dischargers sufficient time to evaluate available technologies and secure approval of work plans and permits from regulatory agencies.*

Response: We partly agree. Existing dischargers may need time to re-evaluate and adjust their treatment systems to comply with new or more stringent effluent limitations. Therefore, we postponed the effective date of the tentative order to July 1, 2018. If this additional time is insufficient, Water Code section 13385(j)(1)(D)(i) provides a mechanism whereby dischargers reconstructing their treatment systems may be exempt from mandatory minimum penalties for up to 30 days.

We revised Table 1 of the tentative order as follows:

Table 1. Administrative Information

This Order was adopted by the California Regional Water Quality Control Board, San Francisco Bay Region (Regional Water Board), on:	
This Order shall become effective on:	~~**January 1, 2018**~~ **July 1, 2018**
This Order shall expire on:	~~**December 31, 2022**~~ **June 30, 2023**
CIWQS Place Number	**790546**
⋮	⋮

We revised NOI form section III as follows:

III. DISCHARGE TYPE

Select one:

☐ This is a new discharge

☐ This discharge is currently authorized under this Order (VOC and Fuel General Permit) and this NOI is submitted for modification of the current Authorization to Discharge. CIWQS Place ID: _____

☐ This discharge is currently authorized under this Order (VOC and Fuel General Permit), which requires authorized dischargers who need to continue discharging after ~~December 31,~~ 2022 June 30, 2023, to file a completed NOI no later than 270 days prior to the expiration date of this Order. CIWQS Place ID: _____

Schlumberger Comment 10: *Schlumberger requests that effluent limitations for reclaimed water be included in the tentative order. It further states that these effluent limitations should either be the same as those for "Other Receiving Waters" in Table 2 of the tentative order or higher limitations specific to the reclamation use.*

Response: We partly agree. The tentative order does not specify monitoring and reporting requirements specific to reclaimed water discharges. Site-specific limitations for water reclamation are beyond the scope of this permit. Nevertheless, reclaimed water quality will ordinarily be considered adequate if it meets the effluent limitations applicable to the surface water discharge (e.g., discharge to "Receiving Waters Used as Drinking Water" or "Other Receiving Waters"). We revised section VI.C.3.a of the tentative order as follows:

> **Reclamation Activities**. Reclaimed water quality shall be consistent with the effluent limitations applicable to the discharge. Water reclamation activities shall be described in the Discharger's NOI, including the method of any additional treatment and location and type of water reclamation.

Schlumberger Comment 11: *Schlumberger states that laboratory methods for some analytes cannot provide results with a turnaround time of 24 hours. In such cases, the tentative order should simply require the shortest available turnaround time.*

Response: We agree and revised MRP section IV.D as follows:

> If monitoring results indicate a violation of any effluent limitation, the Discharger shall take a confirmation effluent sample and receiving water samples within 24 hours of becoming aware of the violation. The Discharger shall ~~must~~ have the confirmation sample analyzed by expedited methods and obtain results within 24 hours of sample collection. The Discharger shall request the shortest turnaround time possible if results cannot be obtained within 24 hours. If the confirmation sampling results also violate the effluent limit, the Discharger shall cease discharge until it has corrected the cause of the violation. In this case, both the initial and confirmation results are violations. However, if the confirmation sample indicates compliance, only the initial exceedance is a violation and the Discharger may continue discharging. The Discharger shall not discharge when a known ~~violation of~~ effluent limit violation exists just to comply with receiving water-monitoring requirements.

International Business Machines Corporation and Golder Associates, Inc (IBM and GA)

IBM and GA Comment 1: *Standard Provision V.C.2 states that 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. IBM and GA point out that such DMRs are not currently available and ask whether the Regional Water Board anticipates something forthcoming.*

Response: We do anticipate that DMR forms will be forthcoming. By December 21, 2016, all dischargers must report electronically, including those not currently doing so, in compliance with 40 C.F.R. part 3, 40 C.F.R. section 122.22, and 40 C.F.R. part 127. Attachment D provision V.C.2 specifies that 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. Because the effective date of the tentative order is now after December 21, 2016, we revised MRP section IX.C as follows:

> ~~**1.** At any time during the term of this Order, the State or Regional Water Board may notify Dischargers to submit Discharge Monitoring Reports (DMRs).~~
>
> ~~**2.** Once notified,~~ Dischargers shall submit Discharge Monitoring Reports (DMRs) as required.

IBM and GA Comment 2: *IBM and GA ask why 30 GAC-based treatment systems were considered in deriving the TBELs, but not aeration treatment systems.*

Response: We considered both GAC and aeration treatment systems and chose the GAC treatment systems as the Best Practicable Treatment Control Technology (BPT) and Best Available Technology Economically Achievable (BAT) based on Best Professional Judgment (BPJ). On July 13, 2016, we requested 2015-2016 monitoring data from approximately 75 dischargers; 56 submitted data by our deadline. Of the 56 data sets submitted, we eliminated 20 because the data

sets were incomplete. Of the remaining 36 data sets, 30 corresponded to GAC treatment systems and 5 corresponded to aeration systems. Because only one discharger submitted data for a GAC and hydrogen peroxide oxidation treatment system, we did not consider that technology further.

Both GAC and aeration treatment systems are commonly employed; therefore, we considered both technologies to be practicable, available, and economically achievable. However, upon reviewing the performance data for these two types of treatment systems, the GAC treatment systems performed better. Therefore, we selected GAC treatment as BPT and BAT and derived TBELs reflective of GAC treatment system performance. Although the TBELs require treatment systems to perform to the BPT and BAT standard, the tentative order does not dictate the specific treatment system each discharger must use. As long as a discharger can comply with the TBELs, it is free to employ whatever treatment technology it wishes.

FMC Corporation (FMC)

FMC Comment 1: *FMC submitted Notice of Intent (NOI) forms for its Northern Boundary Test Track Area and Northern Boundary Central Plant Area sites in August 2016. It seeks confirmation that additional NOI forms will not be necessary to obtain coverage if the tentative order is adopted.*

Response: No additional NOI forms will be necessary for the two sites FMC mentions.

FMC Comment 2: *FMC seeks confirmation that GeoTracker will not be used for the submittal of documents and reports, and clarification of the preferred submittal method.*

Response: Under the tentative order, we will no longer use GeoTracker for document submittal. Instead, all reports and correspondence will be submitted to RB2-VOC-Fuel@waterboards.ca.gov or as otherwise indicated in subsequent Regional Water Board or State Water Board directives. For clarity, we revised NOI form section II (second paragraph) as follows:

> Submit this form (with signature and attachments) via email to ~~R2NPDES.GeneralPermits@waterboards.ca.gov~~ RB2-VOC-Fuel@waterboards.ca.gov, or as otherwise indicated at www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/general_permits.shtml. ~~If the form cannot be submitted electronically, submit a hard copy to the address above.~~

We revised NOI form section XI.B (second paragraph) as follows:

> Submit this form (with signatures and attachments) ~~via email to R2NPDES.GeneralPermits@waterboards.ca.gov~~ RB2-VOC-Fuel@waterboards.ca.gov, or as otherwise indicated at www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/general_permits.shtml.

We revised Attachment C (Notice of Termination) as follows:

> An electronic copy of this form shall be emailed to **~~R2NPDES.GeneralPermits@waterboards.ca.gov~~ RB2-VOC-Fuel@waterboards.ca.gov** and a confirmation email shall be sent to the responsible

staff member as indicated at www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/general_permits.shtml.

We revised MRP section IX.B.1 as follows:

> **Format.** Dischargers shall submit Self-Monitoring Reports (SMRs) and cover letters via email to ~~R2NPDES.GeneralPermits@waterboards.ca.gov~~ RB2-VOC-Fuel@waterboards.ca.gov and as further detailed in their Authorizations to Discharge. At any time during the term of this Order, the State or Regional Water Board may notify Dischargers to electronically submit SMRs using the State Water Board's California Integrated Water Quality System (CIWQS) website (http://www.waterboards.ca.gov/ciwqs/index.html). The CIWQS website will provide additional information for SMR submittal in the event of a planned service interruption for electronic submittal.

FMC Comment 3: *FMC seeks confirmation of the monitoring frequencies at its two sites for total residual chlorine, 1,4-dioxane, SVOCs, polycyclic aromatic hydrocarbons (PAHs), total petroleum hydrocarbons as gasoline and diesel (TPH-g, TPH-d), sulfate, metals, tertiary amyl methyl ether (TAME), di-isopropyl ether (DIPE), ethyl tertiary butyl ether (ETBE), and tertiary butyl alcohol (TBA).*

Response: For total chlorine residual, SVOCs, PAHs, TPH-g, and TPH-d, MRP sections III and IV.A would require FMC to monitor its influent quarterly and its effluent monthly if any of these pollutants is found in the influent. Likewise, for TAME, DIPE, ETBE, and TBA, MRP sections III and IV.A would require FMC to monitor its influent and effluent annually if any of these pollutants is found in the influent. For sulfate, MRP sections III and IV.A would require FMC to monitor its effluent annually at any site where discharges have occurred for more than one year. For metals, MRP sections III and IV.A would require FMC to monitor its influent twice per year and effluent quarterly because its sites have fuel or fuel-related contamination. Regarding 1,4-dioxane, see our response to McKesson Comment 1.

FMC Comment 4: *FMC asks whether the Regional Water Board reviewed a 2014 self-monitoring report in which it describes its investigation regarding nickel trigger exceedances under the previous order and potential solutions to abate nickel concentrations in its discharge.*

Response: We reviewed the report. Because this comment does not relate to the proposed tentative order, no further response is warranted here.

FMC Comment 5: *FMC seeks confirmation of the nickel effluent limitations applicable to its two sites.*

Response: FMC's sites discharge to the Guadalupe River, which supports the groundwater recharge beneficial use. Therefore, the applicable nickel effluent limitations would be those corresponding to "Discharge to Receiving Waters Used as Drinking Water," as shown in Table 2 of the tentative order. However, we reviewed the metals WQBEL calculations and concluded that revisions were necessary.

First, we revised the tentative order to clarify that the copper and nickel WQBELs for the various sub-embayments are appropriate for all discharges to estuarine waters flowing into these sub-embayments. These WQBELs already reflect the more stringent of the marine and freshwater

objectives. (The applicable marine objectives are the copper site-specific objectives; we adjusted the applicable nickel objectives using site-specific translators.)

Second, we revised the tentative order to incorporate new copper and nickel WQBELs appropriate for exclusively freshwater conditions, such as those within the portion of the Guadalupe River into which FMC's sites discharge. Marine objectives are typically more stringent, but they are unnecessarily stringent to protect freshwater quality.

Specifically, we revised Table 2 of the tentative order as follows:

Table 2. Effluent Limitations

Pollutant	Discharge to Receiving Waters Used as Drinking Water[1]		Discharge to Other Receiving Waters	
	Monthly Average (µg/L)	Daily Maximum (µg/L)	Monthly Average (µg/L)	Daily Maximum (µg/L)
⋮	⋮	⋮	⋮	⋮
Chromium VI	--	10.	8.1	16
Copper, Total Recoverable [2]				
Lower or South SF Bay Discharge	10.	20.	10.	20.
Central SF Bay Discharge	5.4	11	5.4	11
Suisun or San Pablo Bay Discharge	7.1	14	7.1	14
~~*Other*~~ *Freshwater Discharge*	~~2.9~~ 7.0	~~5.8~~ 14	~~2.9~~ 7.0	~~5.8~~ 14
Lead, Total Recoverable	2.6	5.2	2.6	5.2
Mercury, Total Recoverable	0.050	0.10	0.050	0.10
Nickel, Total Recoverable [2]				
Lower or South SF Bay Discharge	15	31	15	31
Central SF Bay Discharge	10.	21	10.	21
Suisun or San Pablo Bay Discharge	25	50.	25	50.
~~*Other*~~ *Freshwater Discharge*	~~6.8~~ 43	~~14~~ 86	~~6.8~~ 43	~~14~~ 86
Selenium, Total Recoverable	4.1	8.2	4.1	8.2
⋮	⋮	⋮	⋮	⋮
Turbidity	5.0 NTU	10. NTU	--	--
Chlorine, Total Residual	--	0.0[~~2~~][3]	--	0.0[~~2~~][3]

⋮

Footnotes:

⋮

[2] The WQBEL for each estuarine discharge depends on the sub-embayment into which the discharge eventually flows. Freshwater WQBELs apply when the receiving water salinity is no more than one part per thousand at least 95 percent of the time.

[~~2~~][3] This limit shall be applied as an instantaneous maximum. There shall be no detectable residual chlorine in the effluent (as explained in MRP section IX.B.5, a non-detect result using a detection level equal or less than 0.1 milligrams per liter [mg/L] will not be considered out of compliance). This limit applies to Dischargers that chlorinate their extracted groundwater.

We revised Fact Sheet section IV.C.2.e (second paragraph) as follows:

> Receiving waters for the discharges this Order covers include San Francisco Bay, other estuarine and tidally-influenced waters, and inland freshwaters. ~~The~~ In most cases, the reasonable potential analyses and WQBELs are based on the more stringent of the freshwater and saltwater criteria to fully protect all receiving waters.

The reasonable potential analyses for copper and nickel also include analyses for discharges to freshwater, where saltwater criteria do not apply.

We revised Fact Sheet Table F-5 as follows:

Table F-5. Reasonable Potential Analysis

CTR No.	Pollutant[1]	Unit	Governing Criteria	MEC or Minimum DL[2]	Result[3]
⋮	⋮	⋮	⋮	⋮	⋮
5b	**Chromium (VI)**	**µg/L**	**10**	**38**	**Yes**
6	**Copper**				
	South SF Bay Discharge	**µg/L**	**13**	**18**	**Yes**
	Central and Lower SF Bay Discharge	**µg/L**	**8.2**	**18**	**Yes**
	Suisun or San Pablo Bay Discharge	**µg/L**	**14**	**18**	**Yes**
	~~*Other*~~ *Freshwater Discharge*	**µg/L**	**~~3.7~~ 9.0**	**18**	**Yes**
7	**Lead**	**µg/L**	**3.2**	**20**	**Yes**
8	**Mercury**	**µg/L**	**0.050**	**10**	**Yes**
9	**Nickel**				
	South SF Bay Discharge	**µg/L**	**19**	**130**	**Yes**
	Central and Lower SF Bay Discharge	**µg/L**	**13**	**130**	**Yes**
	Suisun or San Pablo Bay Discharge	**µg/L**	**30**	**130**	**Yes**
	~~*Other*~~ *Freshwater Discharge*	**µg/L**	**~~8.3~~ 52**	**130**	**Yes**
10	**Selenium**	**µg/L**	**5.0**	**22**	**Yes**
⋮	⋮	⋮		⋮	⋮

We revised Fact Sheet Table F-6 as follows:

Table F-6. Summary of WQBELs

Pollutant	CTR-Human Health				CTR-Aquatic Life		MCLs	
	Discharges to Receiving Waters Used as Drinking Water		Discharges to Other Receiving Waters		Discharges to All Receiving Waters		Discharges to Receiving Waters Used as Drinking Water	
	AMEL (µg/L)	**MDEL (µg/L)**	**AMEL (µg/L)**	**MDEL (µg/L)**	**AMEL (µg/L)**	**MDEL (µg/L)**	**AMEL (µg/L)**	**MDEL (µg/L)**
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
Chromium VI	---	---	---	---	**8.1**	**16**	10	20
Copper, Total Recoverable								
South SF Bay	1,300	2,600	---	---	**10**	**20**	1,300	2,600
Central or Lower SF Bay	1,300	2,600	---	---	**5.4**	**11**	1,300	2,600
Suisun or San Pablo Bay	1,300	2,600	---	---	**7.1**	**14**	1,300	2,600
Freshwater ~~*Other*~~	1,300	2,600	---	---	**~~2.9~~ 7.0**	**~~5.8~~ 14**	1,300	2,600
Lead, Total Recoverable	---	---	---	---	**2.6**	**5.2**	15	30

Pollutant	CTR-Human Health				CTR-Aquatic Life		MCLs	
	Discharges to Receiving Waters Used as Drinking Water		Discharges to Other Receiving Waters		Discharges to All Receiving Waters		Discharges to Receiving Waters Used as Drinking Water	
	AMEL (µg/L)	**MDEL (µg/L)**	**AMEL (µg/L)**	**MDEL (µg/L)**	**AMEL (µg/L)**	**MDEL (µg/L)**	**AMEL (µg/L)**	**MDEL (µg/L)**
Mercury, Total Recoverable	**0.05**	**0.10**	**0.05**	**0.10**	---	---	2.0	4.0
Nickel, Total Recoverable								
South SF Bay	610	1,200	4,600	9,200	**15**	**31**	100	200
Central or Lower SF Bay	610	1,200	4,600	9,200	**10**	**21**	100	200
Suisun or San Pablo Bay	610	1,200	4,600	9,200	**25.**	**50**	100	200
Freshwater ~~*Other*~~	610	1,200	4,600	9,200	**~~6.8~~ 43**	**~~14~~ 86**	100	200
Selenium, Total Recoverable	---	---	---	---	**4.1**	**8.2**	50	100
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮

We revised Fact Sheet Table F-8 (copper) as follows:

Table F-8. Aquatic Life-Based WQBELs (Copper)

Pollutant	Copper	Copper	Copper	Copper
Units	µg/L	µg/L	µg/L	µg/L
Basis and criteria type	CTR aquatic life (freshwater)	Basin Plan SSO South SF Bay	Basin Plan SSO Central and Lower SF Bays	Basin Plan SSO San Pablo and Suisun Bays
Criteria –Acute	~~5.8~~ 14	-----	-----	-----
Criteria –Chronic	~~3.7~~ 9.0	-----	-----	-----
SSO Criteria – Acute	-----	10.8	9.4	9.4
SSO Criteria – Chronic	-----	6.9	6.0	6.0
Site Specific Translator – MDEL	-----	0.53	0.87	0.66
Site Specific Translator - AMEL	-----	0.53	0.73	0.38
No. of samples per month	4	4	4	4
ECA acute	~~5.8~~ 14	20	11	14
ECA chronic	~~3.7~~ 9.3	13	8.2	16
CV (selected)	0.6	0.6	0.6	0.6
ECA acute mult99	0.32	0.32	0.32	0.32
ECA chronic mult99	0.53	0.53	0.53	0.53
LTA acute	~~1.9~~ 4.5	6.5	3.5	4.6
LTA chronic	~~2.0~~ 4.9	6.9	4.3	8.3
minimum of LTAs	~~1.9~~ 4.5	6.5	3.5	4.6
AMEL mult95	1.6	1.6	1.6	1.6
MDEL mult99	3.1	3.1	3.1	3.1
AMEL (aq life)	~~2.9~~ 7.0	10	5.4	7.1
MDEL(aq life)	~~5.8~~ 14	20	11	14
MDEL/AMEL Multiplier	2.01	2.01	2.01	2.01
AMEL (human hlth)	1,300	1,300	1,300	1,300

Pollutant	Copper	Copper	Copper	Copper
Units	µg/L	µg/L	µg/L	µg/L
MDEL (human hlth)	~~2,613~~ 2,608	2,613	2,613	2,613
minimum of AMEL for Aq. life vs HH	~~2.9~~ 7.0	10	5.4	7.1
Final limit - AMEL	~~2.9~~ 7.0	10	5.4	7.1
Final limit - MDEL	~~5.8~~ 14	20	11	14

We revised Fact Sheet Table F-8 (nickel) and re-numbered it (in the Fact Sheet and the table of contents) as follows:

Table F-~~8~~9. Aquatic Life-Based WQBELs (Nickel)

Pollutant	Nickel	Nickel	Nickel	Nickel
Units	µg/L	µg/L	µg/L	µg/L
Basis and criteria type	CTR aquatic life (freshwater)	Basin Plan SSO South SF Bay	Basin Plan SSO Central and Lower SF Bays	Basin Plan SSO San Pablo and Suisun Bays
Criteria –Acute	470 ~~75~~	-----	-----	-----
Criteria –Chronic	52 ~~8.3~~	-----	-----	-----
SSO Criteria – Acute	-----	74	74	74
SSO Criteria – Chronic	-----	8.2	8.2	8.2
Site Specific Translator – MDEL	-----	0.44	0.85	0.57
Site Specific Translator - AMEL	-----	0.44	0.65	0.27
No. of samples per month	4	4	4	4
ECA acute	470 ~~75~~	170	87	130
ECA chronic	52 ~~8.3~~	19	13	30
CV (selected)	0.6	0.6	0.6	0.6
ECA acute mult99	0.32	0.32	0.32	0.32
ECA chronic mult99	0.53	0.53	0.53	0.53
LTA acute	151 ~~24~~	54	28	24
LTA chronic	28 ~~4.4~~	9.8	6.7	16
minimum of LTAs	28 ~~4.4~~	9.8	6.7	16
AMEL mult95	1.6	1.6	1.6	1.6
MDEL mult99	3.1	3.1	3.1	3.1
AMEL (aq life)	43 ~~6.8~~	15	10	25
MDEL(aq life)	86 ~~14~~	31	21	50
MDEL/AMEL Multiplier	2.01	2.01	2.01	2.01
AMEL (human hlth)	610	610	610	610
MDEL (human hlth)	1,200	1,200	1,200	1,200
minimum of AMEL for Aq. life vs HH	43 ~~6.8~~	15	10	25
Final limit - AMEL	43 ~~6.8~~	15	10	25
Final limit - MDEL	86 ~~14~~	31	21	50

FMC Comment 6: *FMC points out that its current nickel discharge concentrations exceed the proposed effluent limitations and asks how this circumstance will be addressed under the tentative order.*

Response: See our response to FMC Comment 5. Nickel effluent limit violations will be addressed in the same manner as any other effluent limit violation. Section IV of the tentative order requires the Discharger, upon becoming aware of the violation, to cease the discharge until it is corrected.

Dischargers must report any noncompliance as described in Attachment D section V and administrative civil penalties may be due.

FMC Comment 7: *FMC seeks clarification regarding how the site-specific translators listed in Fact Sheet Table F-4 pertain to its site and whether the factors, in conjunction with the information in Fact Sheet Table F-5, indicate that its nickel effluent limit is 130 µg/L.*

Response: No, the site-specific translators do not pertain to FMC's site. As Fact Sheet section IV.C.g explains, we used the site-specific translators to convert water quality objectives for dissolved metals in San Francisco Bay to total recoverable metal concentrations. FMC's site discharges to the Guadalupe River, not San Francisco Bay. See our response to FMC Comment 5 for more regarding application of the nickel objectives.

WSP USA, Inc. (WSP)

WSP Comment 1: *WSP requests that the VOC TBELs be set no lower than three times typical laboratory reporting levels unless there are overriding toxicity concerns. Additionally, WSP requests that the TBELs reflect the relative toxicity of different VOCs.*

Response: We disagree. Regarding the derivation of the VOC TBELs with respect to laboratory reporting levels, see our response to Schlumberger Comment 4. Because the TBELs reflect treatment performance, they do not account for relative toxicity, which relates to water quality. We considered relative toxicity when deriving the WQBELs. In some cases, such as with tetrachloroethylene and vinyl chloride, the calculated WQBELs were less stringent than the corresponding TBELs. Since Clean Water Act section 301(b) and 40 C.F.R. section 122.44 require permits to impose the more stringent of the TBELs and WQBELs, we selected those more stringent TBELs as the final effluent limitations.

WSP Comment 2: *WSP suggests that the metals WQBELs may not account for differences in receiving water salinity, hardness, and dissolved solids, which can affect metal toxicity. Additionally, WSP states that laboratory reporting levels typically increase with increasing dissolved solids concentrations and points out that some reporting levels may be above the WQBELs.*

Response: We disagree. The metals WQBELs are appropriate for the range of potential discharges and receiving waters covered by this general permit. As explained in Fact Sheet sections IV.C.2.e and IV.C.2.f, they reflect conservative—but reasonable—assumptions about the salinity, hardness, and dissolved solids concentrations that may be encountered in freshwater. (Also see our response to FMC Comment 5). There may be cases where site-specific data could support less stringent WQBELs, and, in such cases, Dischargers may apply for individual NPDES permits.

We acknowledge that reporting levels sometimes exceed effluent limits. In such cases, MRP section IX.B.5.a states that a discharger will be deemed out of compliance with an effluent limitation only if the concentration of a pollutant is greater than the effluent limitation and also greater than or equal to the laboratory reporting level. MRP section IX.B.4.d requires dischargers to achieve reporting levels below water quality objectives and effluent limits. Otherwise, they must achieve the lowest possible reporting level.

WSP Comment 3: *WSP asks whether NPDES dischargers have selenium wasteload allocations under the North San Francisco Bay Selenium TMDL and questions how selenium discharge is justified if wasteload allocations are unavailable.*

Response: The North San Francisco Bay Selenium TMDL covers San Francisco Bay segments north of the Bay Bridge, including Central San Francisco Bay, San Pablo Bay, Carquinez Strait, Suisun Bay, and the Delta. It accounts for discharges from North Bay dischargers enrolled under this permit through its local tributary wasteload allocation (see section 5.1 of the staff report for the North San Francisco Bay Selenium TMDL).

WSP Comment 4: *WSP points out that metal concentrations in groundwater can be difficult to predict given the limited availability of groundwater sampling data at construction sites. Therefore, it states that the new metals WQBELs may require installation and development of monitoring wells prior to excavation so dischargers can anticipate whether they will need to treat for metals, increasing the cost and complexity of infill development.*

Response: We agree that collecting some groundwater metals data prior to treatment system design will be appropriate. To provide the data necessary to complete their permit applications, dischargers may submit data collected from temporary wells. The costs associated with this well construction are not a factor in WQBEL development because achieving the metals WQBELs is necessary to protect receiving water beneficial uses. (Although the Clean Water Act does not allow economic considerations when calculating WQBELs, it does require consideration of potential costs when developing TBELS. See Fact Sheet Table F-3.)

WSP Comment 5: *WSP mentions that metals treatment varies with water chemistry and asserts that treatment at construction dewatering sites with brackish groundwater will likely need desalination systems that are economically infeasible.*

Response: The proposed metals WQBELs are necessary to protect receiving water beneficial uses, and the Clean Water Act does not allow less stringent WQBELs, even if treatment is costly.

WSP Comment 6: *For construction dewatering sites operating less than two years, WSP requests using best management practices (BMPs) to reduce insoluble metals concentrations and phasing in the metals WQBELs after the treatment system start-up phase. WSP says three months may be adequate to test and treat soluble metals.*

Response: We disagree. The Water Board cannot postpone application of the metals WQBELs because immediate compliance with the WQBELs is necessary to ensure that receiving waters meet applicable water quality objectives and protect beneficial uses. Moreover, State Water Board Resolution No. 2008-0025 (*Policy for Compliance Schedules in NPDES Permits*) does not allow compliance schedules when implementing existing numeric water quality objectives.

There is no basis and no need to manage insoluble and soluble metals differently. As explained in Fact Sheet section IV.C.2.g, the WQBELs were derived using translators that convert water quality objectives expressed in terms of soluble metals into WQBELs expressed in terms of total metals. As for using BMPs, 40 C.F.R section 122.44(k) allows BMP use in place of numeric effluent limitations only when numeric limitations are infeasible, which is not the case here.

WSP Comment 7: *WSP proposes a procedure to account for site-specific receiving water quality in the derivation of WQBELs.*

Response: The WQBELs sufficiently reflect receiving water conditions. See our responses to WSP Comment 2 and FMC Comment 5.

WSP Comment 8: *WSP states that achieving the turbidity WQBELs for discharges to receiving waters with domestic municipal supply and groundwater recharge beneficial uses will likely require installation of advanced treatment systems that require a full-time trained operator.*

Response: We disagree. While we recognize that additional treatment may be necessary for some dischargers to comply with the turbidity WQBELs, technologies like GAC treatment are readily available to comply with these limits. GAC treatment does not require a full-time trained operator.

WSP Comment 9: *WSP asks for an explanation of the TPH-motor-oil (TPH-mo) TBEL derivation in the context of typical laboratory reporting levels and to explain how compliance will be determined when TPH-mo analytical results do not fit a typical TPH-mo profile.*

Response: As explained in Fact Sheet section IV.B.2, we derived the TPH-mo TBEL based on the 99th percentile of historical discharge monitoring data. Since the 99th percentile was an estimated value below the reporting level, we proposed that the TBEL be the lowest reporting level from the data set. If TPH-mo analytical results do not fit a typical TPH-mo profile, they may be invalid. If a discharger believes its results are invalid, it may submit a claim for data invalidation as described in MRP section IX.B.2.b(e).

WSP Comment 10: *To inform the next permit reissuance, WSP points out that influent data provided with the NOI forms may be more representative of groundwater quality if collected during the treatment system start-up phase or during the first monthly sampling event.*

Response: We disagree. The purpose for requiring influent data with the NOI is to allow us to evaluate the nature of the groundwater to be treated, to confirm that the proposed discharge qualifies for coverage under this permit, and to ensure that the proposed treatment system is appropriate.

WSP Comment 11: *WSP points out that several permitted dischargers are operating treatment systems not designed to treat metals and redesigning them will be expensive. In the case of infill construction, it may be infeasible due to space constraints. WSP requests that these dischargers be allowed to operate without metals WQBELs until the construction projects currently underway are completed.*

Response: See our responses to WSP Comment 6 (no compliance schedule possible), Schlumberger Comment 9 (revised effective date), FMC Comment 5 (revised copper and nickel limits).

WSP Comment 12: *WSP seeks clarification regarding the compatibility of discharges authorized under this permit with the selenium, mercury, and polychlorinated biphenyls (PCBs) TMDLs. WSP asks whether the TMDLs provide wasteload allocations and whether the permit effluent limits override the TMDLs.*

Response: Applicable TMDLs account for discharges from those enrolled under this permit through their local tributary wasteload allocations.

WSP Comment 13: *WSP asks how the Regional Water Board, through the management of NPDES general permits, is involved in the preparation and implementation of Groundwater Sustainability Plans created by groundwater sustainability agencies.*

Response: The Regional Water Board is coordinating with stakeholders as groundwater sustainability agencies develop Groundwater Sustainability Plans and anticipates that future actions involving groundwater will reflect the Groundwater Sustainability Plans.

WSP Comment 14: *WSP points out that the tentative order excludes coverage for discharges of groundwater combined with stormwater, noting that dewatering operations often include pumping stormwater from perimeter and internal wells, trench drains, and sumps. WSP believes the permit should cover such discharges.*

Response: We agree and revised section I of the tentative order as follows:

> This General Permit does not cover:
>
> 1. Discharges to sanitary sewer systems;
> 2. Sewage;
> 3. Discharges covered under an individual NPDES permit or WDRs; or
> 4. ~~Discharges that combine extracted groundwater with stormwater prior to treatment; or~~
> 5. ~~5.~~ Discharges to the Pacific Ocean.

WSP Comment 15: *WSP asks whether groundwater sustainability agencies are oversight agencies for purposes of section III.G of the tentative order, which prohibits the recharge or reinjection of reclaimed water unless approved by the Regional Water Board through a cleanup order or another lead oversight agency.*

Response: This permit does not authorize recharge or reinjection. Dischargers may seek such authorization through other means, such as from groundwater sustainability agencies. To avoid confusion, we revised section III.G of the tentative order as follows:

> Water reclamation consisting of recharge or reinjection is prohibited. ~~Any reinjection or recharge must be performed in accordance with a cleanup order approved by the Regional Water Board, or another lead oversight agency.~~

WSP Comment 16: *WSP asks how the tentative order's prohibition of water reclamation consisting of recharge or reinjection applies when a discharge occurs to a dry creek bed, where groundwater recharge may occur.*

Response: The prohibition applies to the intentional discharge to groundwater for purposes of recharge or reinjection. This permit covers discharges to surface waters, which may be seasonally dry, and does not prohibit incidental groundwater recharge that occurs after discharge to a surface water.

WSP Comment 17: *WSP asks whether groundwater sustainability agencies will change the beneficial uses designations for recharge.*

Response: No. The Regional Water Board establishes beneficial uses within its Basin Plan.

WSP Comment 18: *WSP points out that the effluent limits for polycyclic aromatic hydrocarbons (PAHs) are very low in comparison to typical method detection limits.*

Response: As explained in our response to WSP Comment 2, MRP section IX.B.5.a states that a discharger will be deemed out of compliance with an effluent limitation only if the concentration of a pollutant is greater than the effluent limitation and also greater than or equal to the laboratory

reporting level. When concentrations are below method detection limits, they are also below laboratory reporting levels.

WSP Comment 19: *WSP points out an error in footnote 1 of Table 2 of the tentative order.*

Response: We agree and revised footnote 1 of Table 2 of the tentative order as follows:

> ~~Drinking water areas~~ Receiving Waters Used as Drinking Water are defined as surface waters with existing or potential beneficial uses of "Municipal and Domestic Supply" or "Groundwater Recharge," or both. Groundwater recharge uses may include recharge areas to maintain salt balance or to halt salt water intrusion into fresh water aquifers.

WSP Comment 20: *WSP points out that section V.B.2 of the tentative order does not define dissolved sulfide background levels, yet it requires that dissolved sulfide concentrations not exceed background levels.*

Response: This receiving water limit serves as a backstop to ensure the implementation of the narrative sulfide objective set forth in Basin Plan section 3.3.15. Basin Plan section 4.6.3 defines the background concentration as the concentration of a substance, in the vicinity of a discharge, that is not influenced by the discharge.

WSP Comment 21: *WSP asks for the definition of a "site" pursuant to section of VI.C.2.a of the tentative order. WSP also asks, if a discharger is moving its discharge point from one place to another during a construction project, whether only one authorization is required (as long as only one discharge point is used at one time). WSP asks whether multiple anticipated discharge points may be submitted in one NOI, or whether an NOI amendment would be required for each change.*

Response: A "site" is a single contiguous property and can have one or more groundwater treatment systems, influent monitoring locations, discharge locations, effluent monitoring locations, and receiving water monitoring locations. A discharger may use more than one discharge point as long as it reports them in its NOI form and obtains an Authorization to Discharge. For clarity, we revised section VI.C.2.a of the tentative order (see Staff-Initiated Change 2).

We also revised of NOI form section XI.B as follows:

> The NOI is incomplete without the applicable permit fee. Submit the fee by sending a check payable to "State Water Resources Control Board" to the Regional Water Board address indicated on the NOI form. A separate fee is required for each non-contiguous site ~~effluent discharge point (e.g., EFF-001)~~. At the time of permit reissuance, the application fee was $11,877. The State Water Resources Control Board may modify the fee at any time. For the current fee, see http://www.waterboards.ca.gov/resources/fees/water_quality/#npdes).

WSP Comment 22: *WSP asks whether section VI.C.3.b of the tentative order applies only to water reclamation operations or other treatment system tanks too. Section VI.C.3.b states, "Adequate measures shall be taken to minimize public contact with reclaimed groundwater and to prevent the breeding of flies, mosquitos, and other vectors of public health significance during or after the reclamation process."*

Response: This section of the tentative order only applies to water reclamation activities. It does not apply to onsite tanks used for unrelated purposes.

WSP Comment 23: *WSP points out that providing a copy of the Bay Area Air Quality Management District (BAAQMD) permit with the NOI for groundwater treatment systems with aeration units may be impossible if the BAAQMD will not issue its permit until the Regional Water Board approves the groundwater treatment system through an Authorization Discharge.*

Response: We disagree. Our experience in permitting groundwater treatment systems that include aeration units is that the BAAQMD will provide a copy of its permit before the discharger obtains an Authorization to Discharge. This requirement avoids the need to modify NOIs if groundwater treatment design specifications change through BAAQMD permitting.

WSP Comment 24: *WSP asks why existing dischargers must summarize in their NOI forms the influent, effluent, and receiving water monitoring data they collected during the past five years if these data have already been submitted with self-monitoring reports. WSP also asks whether new applicants must estimate future concentrations for all these compounds.*

Response: Summaries of influent and effluent monitoring data from existing dischargers are needed because summaries are the most effective way for us to compile the data necessary to inform the next permit reissuance. New dischargers do not need to provide effluent data; therefore, there is no need for them to estimate these concentrations. For clarity, and to remove the requirement to summarize receiving water data, we revised NOI section IX as follows:

> For existing dischargers, summarize influent~~,~~ and discharge ~~and receiving~~ water monitoring data collected during the past five years. Provide a separate data summary table for each discharge point (outfall) ~~and receiving water~~. New ~~dischargers~~ applicants shall summarize influent data ~~and may estimate future effluent concentrations~~.

WSP Comment 25: *WSP points out that influent data that the NOI form requires could be more representative if collected during the treatment system start-up phase.*

Response: See our response to WSP Comment 10.

WSP Comment 26: *WSP suggests that there should be a note in NOI form section IX.B that specifies that chlorine residual data are required only if chlorine is added to the groundwater treatment system.*

Response: We disagree. Chlorine residual data is also necessary due to the potential for contamination from water main leaks.

WSP Comment 27: *In reference to the MRP section I.C requirement to calibrate flow meters, WSP points out that calibration procedures should be included in operations and maintenance manuals.*

Response: We agree. Dischargers may include such procedures in their operations and maintenance manuals or take other measures to ensure that calibrations are performed appropriately. However, we prefer not to specify within the permit how dischargers must comply with this requirement.

WSP Comment 28: *WSP asks whether the Regional Water Board has any standard guidelines for situations where upstream monitoring points are unavailable because the discharge occurs to seasonally dry creek channels or tidally influenced receiving waters. Likewise, WSP asks how receiving water monitoring is to occur when a discharge daylights at a pump station.*

Response: For discharges to seasonally dry creek channels, MRP section VII.C states that receiving water monitoring is not required when there is no water in the receiving water other than the

discharge. For discharges to tidally-influenced receiving waters, MRP section VII.A describes monitoring requirements (monitoring is required one hour following low slack water or, if impractical, during higher slack water). For discharges that daylight at a pump station above which there is no receiving water, only downstream monitoring is appropriate. For clarity, we revised footnote 4 of MRP Table E-1 as follows:

> A Discharger that cannot safely access receiving water within 50 feet of the outfall may collect samples at the nearest safe alternative location after receiving written Executive Officer concurrence. Upstream receiving water monitoring is not required where there is no upstream receiving water.

WSP Comment 29: *WSP points out that EPA Method 8015B and EPA Method 8260 overlap, and some VOCs detected using EPA Method 8260 may interfere with total petroleum hydrocarbon (TPH) results from EPA Method 8015B. WSP asks that the tentative order define what it means for TPH to be present in influent and indicate whether results have to match the pattern of gas chromatograms from unweathered fuels. Furthermore, to reduce over-sampling and co-elution, WSP suggests removing TPH monitoring unless the discharger is within a certain distance of a fuels release site.*

Response: We disagree. TPH monitoring is necessary to ensure compliance with effluent limitations and to detect releases unrelated to known contamination. TPH is present in influent when analytical results exceed the detection limit. However, if TPH analytical results do not match the gas chromatogram pattern of unweathered fuels, the discharger may submit a claim for data invalidation in accordance with MRP section IX.B.2.b(e).

WSP Comment 30: *WSP asks why the tentative order requires monitoring for manganese and sulfate, but not other pollutants with secondary maximum contaminant levels. It also asks whether dischargers should sample for hardness, general minerals, salinity, and chlorides.*

Response: MRP section IV.A requires monitoring for manganese and sulfate to evaluate compliance with the manganese and sulfate WQBELs. As explained in Fact Sheet section IV.C.3.d, the tentative order contains sulfate and manganese WQBELs because they have reasonable potential to exceed water quality objectives (i.e., the secondary maximum contaminant levels). Our analysis did not find reasonable potential for any other pollutants with secondary maximum contaminant levels; thus, monitoring is not required for any others.

MRP Table E-2 specifies monitoring requirements for hardness and salinity. Monitoring is not required for general minerals and chlorides because it is unnecessary.

WSP Comment 31: *WSP asks whether EPA Method 8260B may be used instead of EPA Method 8015B modified for TPH as gasoline monitoring.*

Response: Yes. Dischargers may use either method. We revised MRP Table E-2 as follows:

Parameter	**Units**	**Analytical Test Method**	**Sample Type**	**Influent (INF-00 *n*)**[1]	**Effluent and Reclaimed Water (EFF-*n*, REC- *n*)**[1]	**Receiving Water (RSW-*n*U, RSW-*n*D)**
⋮						
PAHs[5]	µg/L	EPA 610	Grab	SP, then 1/Quarter	SP, then 1/Month	[3]

Parameter	Units	Analytical Test Method	Sample Type	Influent (INF-00 *n*)[1]	Effluent and Reclaimed Water (EFF-*n*, REC- *n*)[1]	Receiving Water (RSW-*n*U, RSW-*n*D)
TPHs as Gasoline[5],[11]	µg/L	EPA 8260B Modified or EPA 8015B Modified	Grab	SP, then 1/Quarter	SP, then 1/Month	[3]
TPHs as ~~Gasoline and~~ Diesel[5],[11]	µg/L	EPA 8015B Modified	Grab	SP, then 1/Quarter	SP, then 1/Month	[3]
TPHs other than Gasoline and Diesel[5],[11]	µg/L	EPA 8015B Modified	Grab	SP, then 1/Quarter	SP, then 1/Month	[3]
⋮						

WSP Comment 32: *WSP requests that footnote 4 of MRP Table E-2 be revised to limit routine sulfate monitoring to situations involving receiving waters used for drinking water beneficial uses.*

Response: We agree. Sulfate WQBELs are derived from secondary maximum contaminant levels and relate only to receiving waters with municipal and domestic supply and groundwater recharge beneficial uses. We revised footnote 4 of MRP Table E-2 as follows (also see our revision in response to Schlumberger Comment 6):

> If discharging to receiving waters used as drinking water ~~After the start-up phase~~, sulfate and manganese shall be monitored during the start-up phase, quarterly for the first year of operation, and annually thereafter. No monitoring is required if discharging to other receiving waters.

WSP Comment 33: *Regarding footnote 5 of MRP Table E-2, WSP requests clarification of "known to be present in the influent."*

Response: A compound is present in the influent when it is detected above its method detection limit.

WSP Comment 34: *With respect to footnote 6(A) of MRP Table E-2, WSP asks how compliance with metals limits is to be ensured when routine metals monitoring is only required annually. Metals concentrations may vary, particularly if caused by corrosion.*

Response: This permit covers groundwater contaminated by fuels or VOCs. The required metals monitoring is infrequent because most of these discharges are not expected to contain metals close to the effluent limits. Nevertheless, some monitoring is necessary to confirm this assumption. Pursuant to Water Code section 13267, the Regional Water Board's Executive Officer may require additional monitoring if proven necessary.

WSP Comment 35: *WSP points out a typographical error.*

Response: We agree and revised footnote 10 of MRP Table E-2 as follows:

> Monitoring of bis(2-ethylhexyl)phthalate shall be performed using ultra clean sampling techniques for re-evaluation during future ~~permit~~ permit reissuance.

WSP Comment 36: *WSP requests clarification regarding which acute toxicity test species is to be used (rainbow trout or sheepshead minnow) under what circumstances.*

Response: We agree. The appropriate test species depends on the nature of the receiving water. We revised MRP section V.B as follows:

> ~~Test species shall be r~~ Rainbow trout (*Oncorhynchus mykiss*) shall be the test species when the effluent is discharged to freshwater receiving waters. ~~and s~~ Sheepshead minnow (*Cyprinodon variegatus*) shall be the test species when the effluent is discharged to estuarine or marine receiving waters. If the Discharger was enrolled under the previous order, it may use the test species specified at that time until further notice. The Executive Officer may specify a more sensitive species or, if testing a particular species proves unworkable, the most sensitive species available.

WSP Comment 37: *WSP asks whether the term "five days" refers to work days or calendar days.*

Response: "Five days" refers to calendar days. For clarity, we revised MRP section VIII.A.2 as follows:

> If the initial sampling indicates compliance, the treatment system shall be operated and discharge to the storm drain or receiving water may commence for five calendar days. On the fifth calendar day of discharge, the influent and effluent shall be sampled again and submitted for analysis. Discharge may continue as long as the analytical results are received within 120 hours of sampling and the monitoring continues to indicate compliance. Otherwise, the initial start-up procedures and sampling must be repeated.

WSP Comment 38: *WSP asks for an electronic spreadsheet template as mentioned in MRP section IX.2.a.iii(d).*

Response: We will provide an electronic spreadsheet template to all dischargers if and when the tentative order is adopted.

WSP Comment 39: *WSP suggests that units be expressed consistently using either System International or Imperial units.*

Response: We disagree. The units used throughout this tentative order reflect common practice within the wastewater industry.

WSP Comment 40: *WSP asks whether mid-stream monitoring data should also be included with self-monitoring reports.*

Response: The tentative order does not require mid-stream monitoring data to be included with self-monitoring reports.

WSP Comment 41: *WSP asks how pollutant mass removal should be calculated when results are reported as non-detects or estimates (i.e., below reporting levels).*

Response: We removed MRP section IX.B.2.c.vi because reporting pollutant mass removal data is unnecessary for the purposes of this permit.

> ~~**vi.** Tabular summary of mass removal of pollutants, with effluent limitations, in treatment system during the annual reporting period. Total quantities shall be~~

~~reported in kilograms (kg) per annual reporting period and since effective date of initial discharge.~~

~~vii.~~**vi.** Tabular summary of total effluent reclaimed during the annual reporting period, if any. Total volumes shall be reported in million gallons (MG) per annual reporting period and since effective date of initial discharge.

WSP Comment 42: *WSP suggests that requirements for closing dewatering wells be integrated into this permit, perhaps by defining minimum standards or citing references.*

Response: We disagree. Standards for closing dewatering wells are beyond the scope of this NPDES permit.

WSP Comment 43: *WSP suggests a requirement to report unexpected environmental site conditions or different influent concentrations in self-monitoring reports or corresponding cover letters.*

Response: Standard Provision V.G already requires dischargers to report non-compliance, which, according to section III.A of the tentative order, may include discharging in a manner inconsistent with the NOI or Authorization to Discharge.

Ford Motor Company (Ford)

Ford Comment 1: *Ford states that proposed VOC and metals effluent limitations are in most cases lower than federal and State maximum contaminant levels, and frequently approach laboratory reporting levels. Additionally, Ford states that the effluent limits are independent of mass loading rates, which are frequently a significant risk factor. Ford requests language be added to the tentative order allowing, on a case-by-case basis, re-evaluation of the effluent limits based on risk-based studies.*

Response: We disagree. As TBELs, the VOC limits are not intended to account for water quality risks. They ensure good treatment system performance. As WQBELs, the metals limits do account for water quality risks in that the relative toxicity of each pollutant is reflected in its water quality objectives. The State Implementation Policy and guidance, such as the *Technical Support Document for Water Quality-Based Toxics Control*, do not describe procedures for taking loading into account in their procedures for establishing WQBELs.

As a general permit, the tentative order cannot account for every unique risk-based factor relating to each specific applicant. However, if a discharger wishes to have site-specific effluent limitations, it can apply for an individual permit. The provisions of an individual permit, however, would not necessarily differ substantially from those in this tentative order.

Regarding the relationship between effluent limits and laboratory reporting levels, see our responses to WSP Comment 2 and Schlumberger Comment 4.

County of Santa Clara Roads and Airports Department (Santa Clara County)

Santa Clara County Comment 1: *Santa Clara County requests clarification regarding the prohibition of discharges that combine extracted groundwater with stormwater prior to treatment, noting that the previous order does not exclude these discharges. Santa Clara County requests consideration of the economic impacts and practicability of such exclusion and suggests changing the proposed language to reflect the language in the previous order.*

Response: See our response to WSP Comment 14.

Santa Clara County Comment 2: *Santa Clara County points out that the performance of its groundwater treatment system was not considered in the derivation of the TBELs. Additionally, Santa Clara County states that the proposed effluent limits are unreasonably low and, had the data from treatment systems using technologies other than GAC adsorption been considered, the TBELs would have been higher.*

Response: We considered both GAC and aeration treatment systems in applying best professional judgment to select the TBELS based on BPT and BAT. See our response to IBM and GA Comment 2.

Stantec Consulting Services, Inc. (Stantec)

Stantec Comment 1: *Stantec questions whether the Regional Water Board intends to exclude coverage for any treatment system where stormwater commingles with groundwater prior to treatment. It asks the Regional Water Board to consider the practicability and economic impacts of prohibiting such discharges.*

Response: See our response to WSP Comment 14.

Stantec Comment 2: *Stantec requests that Table 2 of the tentative order include the Chemical Abstracts Service (CAS) numbers for the pollutants.*

Response: We disagree. The tentative order clearly identifies the pollutants by name and the CAS numbers are unnecessary for permit compliance. Dischargers can readily look up the CAS numbers based on the pollutant names if they wish.

Stantec Comment 3: *Stantec points out that the tentative order imposes the total chlorine residual effluent limit (0.0 µg/l) only for dischargers that chlorinate their extracted groundwater. It asserts that the Regional Water Board has, in the past, imposed this limit whenever a chlorine detection from a treatment system occurs, even when chlorine is not part of the extracted groundwater treatment process (e.g., when a site could extract groundwater with trace chlorine concentrations because it is located near a leaking water main). Stantec seeks clarification that a discharger that does not chlorinate its discharge would not be subject to this limit, even if its effluent were to contain chlorine.*

Response: We disagree. The chlorine residual effluent limit should apply whenever chlorine is potentially present in the effluent. We revised footnote 3 of Table 2 of the tentative order as follows:

> This limit shall be applied as an instantaneous maximum. There shall be no detectable residual chlorine in the effluent (as explained in MRP section IX.B.5, a non-detect result using a detection level equal or less than 0.1 milligrams per liter [mg/L] will not be considered out of compliance). ~~This limit applies to Dischargers that chlorinate their extracted groundwater.~~

Stantec Comment 4: *Stantec seeks clarification regarding whether one or both acute toxicity test species are to be used and under what circumstances. It would like dischargers to be able to choose which species to use.*

Response: We disagree. Dischargers should not choose acute toxicity test species based on convenience. They should use the test species that corresponds to the saltwater or freshwater characteristics of their receiving water. See our response to WSP Comment 36.

Stantec Comment 5: *Stantec requests that the tentative order define "temporary shutdown" as used in MRP section VIII.A.3 and asks whether the 120-hour shutdown period referenced in MRP section VIII.A.1 applies to all temporary shutdowns.*

Response: We agree and revised MRP section VIII.A.3 to be consistent with MRP section VIII.A.1. Specifically, we revised MRP section VIII.A.3 as follows:

> In cases of ~~any temporary~~ <u>shutdowns exceeding 120 hours and</u> unrelated to <u>scheduled</u> maintenance operations, any restart shall follow these initial start-up procedures if the Discharger reported any effluent limit violation during the previous three years.

Stantec Comment 6: *Stantec points out that replacing the triggers from the previous order with WQBELs in this one could increase the potential for systems to require a full system restart. Stantec recommends that metals be excluded from the restart procedures to prevent unnecessary restart costs.*

Response: We disagree. If the effluent metals concentrations exceed the metals WQBELs, the effluent could harm receiving water beneficial uses. Therefore, the system must be shut down until such a problem can be resolved. The start-up phase monitoring requirements are necessary to ensure that effluent metals concentrations do not exceed effluent limitations.

Stantec Comment 7: *Stantec requests clarification of the term "electronic spreadsheet" as used in MRP section IX.B.2.iv(e). Stantec asks whether it is the same as the tables in the NOI form.*

Response: The electronic spreadsheet is not similar to the NOI form tables. Instead, it will provide a convenient means to submit information required with self-monitoring reports. See our response to WSP Comment 38.

Stantec Comment 8: *Stantec points out that MRP Table E-2 includes analytical test methods that are not in 40 C.F.R. section136 and requests confirmation that all methods listed in the permit are acceptable for use.*

Response: In accordance with MRP section I.B, dischargers may use any analytical test method listed in MRP Table E-2.

Stantec Comment 9: *Stantec requests adding a footnote to MRP Table E-2 indicating that equivalent analytical test methods can be used (similar to footnote 1 in Attachment G).*

Response: We disagree. MRP section I.B already states this.

Stantec Comment 10: *Stantec requests that Attachment G specify a minimum level for TPH-motor oil.*

Response: Attachment G lists minimum levels specified in State Implementation Policy Appendix 4. In all other cases, dischargers must determine minimum levels for themselves. As defined in Attachment A, the minimum level is the concentration in a sample at which the entire analytical system gives a recognizable signal and acceptable calibration point. It is also the concentration in a sample equivalent to the concentration of the lowest calibration standard analyzed by the specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed. The minimum level is to be based on the proper application of method-based analytical procedures for sample preparation. Dischargers must use sufficiently sensitive methods as described in Attachment D section III.B.

Stantec Comment 11: *Stantec requests adding CAS numbers to the chemicals listed in Attachment G.*

Response: We disagree. See our response to Stantec Comment 2.

Stantec Comment 12: *Stantec points out that footnote 1 of Attachment G is inconsistent with MRP section I.B and requests clarification regarding the use of equivalent methods.*

Response: We agree and revised footnote 1 of Attachment G as follows:

> 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~~ an equivalent test method if that method is more sensitive than those specified in 40 C.F.R. § 136 and is specified in this Order or the Discharger's Authorization to Discharge. ~~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.~~

Stantec Comment 13: *Stantec points out that the tentative order does not cite any new EPA source supporting the revised TBELs. The previous order cited an EPA document as a basis for the TBELs therein.*

Response: As explained in Fact Sheet IV.B, the Clean Water Act requires U.S. EPA to develop effluent limitations, guidelines, and standards for deriving TBELs; however, CWA section 402(a)(1) and 40 C.F.R. section 125.3 also authorize the use of best professional judgment on a case-by-case basis when U.S. EPA has not established effluent limitations, guidelines, and standards within the *Code of Federal Regulations*. In this case, U.S. EPA has not promulgated applicable effluent limitations, guidelines, and standards for groundwater treated to remove VOCs and fuels. The 30-year-old document the previous order used to derive VOC and fuels TBELs (*NPDES Permit Limitations for Discharge of Contaminated Groundwater: Guidance Document*) only provided guidance. When applying best professional judgment to establish the TBELs in this tentative order, we used permittees' actual performance data and more recent documents, which together we view as better than the information in the 1986 document (see Fact Sheet section IV.B.2).

Stantec Comment 14: *Stantec points out that the TBEL derivation is based on effluent data exclusively from groundwater treatment systems operating with GAC adsorption technologies. Other technologies, such as air stripping, were not considered. Stantec asserts that selecting only GAC treatment systems leads to a biased determination of the Best Practicable Treatment Control Technology. It claims GAC treatment is not appropriate for all scenarios. Stantec requests consideration of other technologies, such as air stripping, which may result in higher TBELs. It also asks that the TBELs be revised to reflect a national industry EPA standard reference source for best professional judgment.*

Response: See our responses to IBM and GA Comment 2 regarding the evaluation of treatment technologies other than GAC, and Schlumberger Comment 5 regarding the rationale for the TBELs.

Stantec Comment 15: *Stantec asks how the change in TBELs is justified when groundwater treatment systems have not changed since the previous order's adoption.*

Response: Although the treatment systems have not changed, we have sufficient data to assess treatment performance and no longer need to rely on relatively old guidance. See our responses to Schlumberger Comment 5 and Stantec Comment 13.

Stantec Comment 16: *Stantec asks for an industry reference document justifying the TBELs. It also asserts that the TBELs should not be based on limited data from currently operating systems within the San Francisco Bay Region.*

Response: We disagree. The data collected and reported pursuant to the previous order are not only of sufficient quality to establish new TBELs but are clearly representative of the types of discharges likely to be enrolled under the tentative order. Regarding an industry reference document that supports the TBELs, Fact Sheet section IV.B.2 cites two documents. Also see our response to Stantec Comment 13.

Stantec Comment 17: *Stantec states that imposing TBELs based on the 99th percentile of effluent concentrations penalizes treatment system operators because it represents a reliability standard in which a well-maintained system would have a 1 percent chance of noncompliance due to the inherent nature of the treatment process, sampling errors, cross-contamination issues, or minor maintenance adjustments. As such, Stantec states that the TBELs are arbitrary and serve no benefit to the public, and that system upsets do not indicate a risk to potential receptors. Additionally, Stantec points out that the potential for unnecessary violations increases when limitations are reduced to levels at or near reporting levels.*

Response: See our response to Schlumberger Comment 4.

Stantec Comment 18: *Stantec points out that some TBELs are only one tenth of the corresponding limits in the previous order and that, in many cases, the TBELs are well below concentrations protective of receiving water quality.*

Response: Fact Sheet section IV.B.2 explains the basis for the TBELs, which relate to treatment technology performance, not water quality considerations. Also, see our response to Schlumberger Comment 4.

Stantec Comment 19: *Stantec points out that water quality objectives are different for receiving waters with drinking water and non-drinking water beneficial uses. It says TBELs based on best*

professional judgment should account for these differences. It requests less stringent limits for discharges to receiving waters with non-drinking water beneficial uses.

Response: We disagree. See our responses to Stantec Comment 18, Schlumberger Comment 4, and WSP Comment 1.

Stantec Comment 20: *Stantec asserts that the lower TBELs in the tentative order are based on antidegradation policies, which require waste discharge requirements that ensure the highest water quality consistent with the maximum benefit to the people of the State. Stantec adds that many proposed effluent limitations are well below water quality objectives and notes that current discharges do not unreasonably affect beneficial uses or create pollution or nuisance conditions. Therefore, Stantec asks whether the cost of compliance with the proposed TBELs was considered and weighed against their benefits to ensure that the TBELs are consistent with the maximum benefit to the people of the State. Stantec asks for the cost-benefit analysis to be made available for public review.*

Response: We disagree. First, the antidegradation policies are not a basis for the TBELs. In fact, the requirements for deriving TBELs are unrelated to the requirements to comply with antidegradation policies. As explained in Fact Sheet section IV.D.2, the tentative order complies with the antidegradation policies because its limits are at least as stringent as those in the previous order. The Regional Water Board need only balance water quality reductions against other benefits to people of the State when a discharge is permitted with less stringent restrictions that could degrade receiving water quality; that is not the case here.

Regarding costs and benefits, the Clean Water Act does not require a formal cost-benefit analysis when deriving TBELs, and none was completed. However, as explained in Fact Sheet sections IV.B.1 and IV.B.2, the TBELs are based on best professional judgment, which means we considered all the factors listed in 40 C.F.R sections 125(d)(1) and 125(d)(3), including cost relative to benefits and cost of achieving any effluent reductions. To better explain this in the tentative order, we revised Fact Sheet Table F-3 as follows:

Table F-3. Factors Considered Pursuant to 40 C.F.R. section 125.3(d)(1) and (3)

Factors	Considerations
Cost relative to benefits	The cost of imposing these TBELs is reasonable given that existing dischargers can comply with them with existing practicable and economically achievable treatment technologies. Some dischargers may need to modify their existing treatment processes, but most will not. Overall, the limited cost associated with implementing the TBELs is warranted to minimize pollutant discharges and create a level playing field for the discharger community. ~~without modifying their existing treatment processes.~~
Cost of effluent reduction ~~Comparison of cost and pollutant reductions from publicly owned treatment works to cost and pollutant reductions from facilities subject to this permit~~	The cost of achieving effluent reductions is reasonable because most dischargers are already employing practicable and economically achievable treatment technologies that comply with the TBELs; therefore, such technologies are readily available and affordable. ~~The facilities subject to this Order provide treatment through means such as air stripping and activated carbon. Such treatment systems are readily commercially available at costs considerably less than the cost of operating publicly owned treatment works, which must comply with the secondary treatment standards of 40 C.F.R. section 133.~~
Age of equipment and facilities	Most dischargers already employ treatment technologies that comply with the TBELs, regardless of the age of their existing equipment and facilities.

Factors	Considerations
	Those that do not will need to upgrade or replace their systems, or seek to discharge under an individual permit.
Processes employed	Most dischargers already employ treatment technologies that comply with the TBELs; therefore, the processes dischargers can employ to comply with the TBELs are readily available. ~~The TBELs can be met with existing processes.~~
Engineering aspects of application of control techniques	~~The existing~~ Most dischargers already employ treatment technologies that comply with the TBELs; therefore, the engineering aspects of such technologies have been largely resolved. Available controls are practicable and capable of meeting the TBELs.
Process changes	Some dischargers may need to modify their existing treatment processes, but most will not. ~~No process changes are necessary to meet the TBELs.~~
Non-water-quality environmental impact (including energy requirements)	Some dischargers may need to modify their existing treatment processes, such as replacing air stripping technologies with GAC. The environmental impact of such changes would likely be insignificant, but could involve lower air emissions (as fewer VOCs are released through air stripping) and more solid waste disposal (as more GAC is used). ~~Because no process changes are necessary, no non-water-quality impacts are foreseeable.~~

Stantec Comment 21: *Stantec points out that the proposed decrease in the frequency of submitting self-monitoring reports will save its clients money without any deleterious effect on water quality.*

Response: We agree.

HP, Inc. (HP)

HP Comment 1: *HP requests that the Regional Water Board maintain coverage of discharges that combine extracted groundwater with stormwater prior to treatment, which the tentative order prohibits.*

Response: See our response to WSP Comment 14.

HP Comment 2: *HP seeks to ensure that the monitoring requirements in MRP Table E-2 are consistent with the effluent limitations in the tentative order. It suggests adding language to MRP Table E-2 to clarify that effluent monitoring requirements apply only to discharges subject to an effluent limitation for each listed parameter.*

Response: We disagree. Monitoring is not only necessary to determine compliance with effluent limitations. Monitoring data inform the next permit reissuance and may also provide an early warning if one or more new pollutants are being extracted that the treatment system may not have been designed to remove. Nevertheless, for parameters not known to be present in influent, footnote 5 of MRP Table E-2 provides a mechanism for a discharger to remove parameters from its monitoring program. (We revised footnote 5 of MRP Table E-2 in our response to Schlumberger Comment 8 and footnote 4 of MRP Table E-2 in our response to WSP Comment 32).

HP Comment 3: *HP points out that MRP Table E-2 includes analytical test methods not approved under 40 C.F.R part 136 and requests that they be expressly listed as authorized. Additionally, HP*

requests language that specifically authorizes dischargers to use alternative methods if approved by the State or Regional Water Board.

Response: MRP section I.B already provides this flexibility. It states dischargers may use any analytical test method listed in MRP Table E-2.

HP Comment 4: *According to HP, the approach used to establish new TBELs that are at or below laboratory detection limits is neither technically valid nor legal. Additionally, HP states that the finding in Fact Sheet section IV.B.2 that there would only be a one percent chance that a particular effluent sample would exceed the 99th percentile is inaccurate because the Regional Water Board did not consider monitoring data from all dischargers and their treatment systems. HP adds that setting effluent limits at laboratory reporting levels would increase the likelihood of false positives. HP points out that these risks create unfair burdens and costs for discharger compliance with no water quality benefit. In conclusion, HP prefers to retain the previous order's TBELs.*

Response: We disagree. First, laboratory detection limits are always below reporting levels. As explained in Fact Sheet section IV.B.2, we used the 99th percentile of performance data to establish the TBELs, and, when the 99th percentile value was reported as being below the reporting level, we assigned the lowest reporting level as the TBEL. Thus, no TBEL is below available laboratory detection limits. See our response to Schlumberger Comment 4 regarding use of the 99th percentile of performance data to establish TBELs. See our response to IBM and GA Comment 2 regarding the types of treatment systems considered in establishing the TBELs. As stated above, TBELs are not intended to comply with water quality standards; they are intended to ensure good treatment performance. Because monitoring results below laboratory reporting levels will not be considered violations (see MRP IX.B.5.a), the risk of false positives is negligible.

HP Comment 5: *HP asserts that the proposed use of best professional judgment to derive TBELs is flawed technically and legally because best professional judgment should be applied on a case-by-case basis considering site-specific conditions. HP disagrees with using monitoring data from a limited scope of dischargers to impose uniform requirements on all dischargers. HP refers to Fact Sheet Table F-3, which reflects data from only 30 dischargers. HP states that the Fact Sheet does not point to any cost or performance information requested from dischargers. Therefore, HP prefers to retain the previous order's TBELs.*

Response: We disagree. NPDES regulations at 40 C.F.R. section 125.3 specify that best professional judgment should be exercised on a case-by-case basis considering the appropriate technology for the point source category considered, including any unique factors relating to the applicant. We developed the proposed TBELs considering readily available case-specific information for the point source category covered by this general permit. Because the tentative order is a general permit, it cannot account for every unique factor relating to each specific applicant. If the general permit's TBELs are inappropriate for a particular discharger, it can apply for an individual permit. See our response to IBM and GA Comment 2 regarding the scope of the dischargers used to derive the TBELs.

We revised the analysis presented in Fact Sheet Table F-3 to better reflect cost considerations. See our response to Stantec Comment 20.

HP Comment 6: *HP states that the TBEL derivation is flawed because it only considered treatment system performance data from dischargers using GAC adsorption technologies and not other technologies already operating under the permit. HP states that the approach fails to distinguish*

between existing and new sources. HP states that a valid approach would consider data from all regulated sources using currently allowed technologies and cost-benefit information. It asserts that the Regional Water Board did not ask dischargers to submit necessary information.

Response: We disagree. See our response to IBM and GA Comment 2 regarding the scope of the dischargers used to derive the TBELs. See our response to Stantec Comment 20 regarding costs and benefits.

The Regional Water Board did not need to ask dischargers to submit additional information because the information they already submitted with their self-monitoring reports, annual reports, and NOI forms was sufficient to derive the TBELs.

The TBELs do not distinguish between existing and new sources because new source performance standards apply only to sources constructed after U.S. EPA promulgates effluent limitations, guidelines, and standards. U.S. EPA has not done so for the types of discharges addressed in this general permit; therefore, until it does, no existing or future discharge of this nature can legally be considered a "new" source.

HP Comment 7: *HP points out that there has been no change in federal or State regulatory requirements since the previous order was adopted that would justify changing the TBELs. Instead, HP says the Fact Sheet relies on a generalized assumption that all dischargers should be able to meet the TBELs because treatment systems using GAC adsorption and aeration technologies are already capable of meeting TBELs. HP states that the Regional Water Board has not provided an adequately factual, technical, or legal justification for this approach.*

Response: We disagree. No change in federal or State regulatory requirements is necessary for the Regional Water Board to reconsider its requirements. In fact, the Regional Water Board is required to re-examine its requirements every five years because that is the maximum permit term. The assumption that all dischargers should be able to meet the TBELs because most treatment systems already do so is reasonable. More to the point, the TBELs represent the best practicable treatment control technology and best available technology economically achievable (see our response to IBM and GA Comment 2). Dischargers unable to meet these standards are required to upgrade their treatment systems. Fact Sheet section IV.B provides the factual, technical, and legal basis for the TBELs.

HP Comment 8: *HP states that the 99th percentile of effluent concentrations used to establish the TBELs merely reflects GAC adsorption treatment systems and ignores the performance of other types of treatment systems. HP states that exceedances can occur for reasons other than the design or management of the treatment system. HP concludes that the 99th percentile metric means only that a well-maintained GAC system has a one percent chance of being out of compliance at any given time due to the inherent nature of the treatment process. Other treatment technologies could have a higher chance of noncompliance. HP asserts that that the potential for false positives would significantly increase for parameters with TBELs set at reporting levels.*

Response: Regarding use of the 99th percentile of performance data to establish TBELs, see our response to Schlumberger Comment 4. We acknowledge that some non-GAC treatment systems may have difficulty complying with the TBELs; however, because the Clean Water Act requires TBELs that reflect the best practicable treatment control technology and best available technology economically achievable, treatment systems that cannot achieve these standards may require upgrades. Regarding the potential of false positives, see HP Comment 4.

HP Comment 9: *HP states that because many of the previous order's effluent limits were already below applicable water quality objectives, there is no legal or technical basis to support more stringent effluent limits. HP points to the case of trichloroethylene, which has an effluent limit of 0.65 µg/L regardless of whether discharged to receiving waters with drinking or non-drinking water beneficial uses.*

Response: TBELs must be based on treatment technology performance, not water quality considerations. Therefore, TBELs do not depend on the nature of the receiving water. See our response to WSP Comment 1.

HP Comment 10: *HP states that the tentative order does not consider relevant information from the regulated sector or weigh the costs of compliance with, and environmental benefits of, the proposed TBELs. HP states that the Regional Water Board used antidegradation policies as the basis for decreasing effluent limits.*

Response: The TBELs are not based on antidegradation policies; see our response to Stantec Comment 20. Regarding the costs of compliance versus the environmental benefits of the TBELs, the cost relative to benefits is reasonable given that most existing dischargers can already meet the TBELs at a cost they can afford. For more about how we considered costs, see our response to Stantec Comment 20.

Park Center Plaza Investors, L.P. (Park Center)

Park Center Comment 1: *Park Center states that the tetrachloroethylene (PCE) TBEL is too low to manage its system effectively. Its single-stage treatment system would violate the TBEL upon the first PCE detection. For Park Center, having a small difference between the effluent limitation and the analytical reporting level is essential. Park Center previously used a two-stage treatment system, but it was unable to treat large groundwater flows during more extreme wet weather. To ensure compliance, Park Center would have to double its treatment capacity, increasing its carbon footprint and the cost of installation and maintenance. Park Center points out that the stated probability that dischargers might exceed TBELs does not reflect its effluent monitoring data. Park Center also notes that the previous order's PCE limit of 0.8 µg/L was already well below the drinking water standard.*

Response: We considered Park Center's effluent monitoring data when we derived the TBELs. See our response to Schlumberger Comment 4. Nevertheless, we acknowledge that single-stage treatment systems may require upgrades. In our view, two-stage systems provide better and more reliable treatment because they allow treatment performance to be evaluated mid-treatment (i.e., samples can be taken between the first and second treatment units). We also acknowledge that upgrading treatment systems could require energy consumption that has some carbon footprint. However, most existing dischargers will not require upgrades. Establishing the TBELs proposed with this tentative order will level the playing field when considering all the permit enrollees at once.

Park Center Comment 2: *Park Center states that effluent limitations for discharges of naturally occurring metals in groundwater are inappropriate. It points out that its metals effluent concentrations have exceeded triggers in previous orders—and the proposed WQBELs—for over a decade. It states that it has been unable to identify a technology capable of removing the metals to*

levels consistently below the WQBELs. It says its systems cannot be turned off in case of upsets because of high flows and the potential for flooding. It concludes that the WQBELs could present a greater threat to the environment than the metals they are intended to remove.

Response: We disagree. According to 40 C.F.R. section 122.44(d)(l)(i), permits must include WQBELs 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. The Clean Water Act provides no accommodation for discharges of pollutants originating from groundwater. If Park Center cannot comply with the WQBELs in the tentative order, it can apply for an individual permit. Assuming there is perennial upstream flow from its receiving water (in Park Center's case, the Guadalupe River), the Regional Water Board could consider granting a mixing zone and dilution credit within the context of issuing Park Center an individual permit. This could potentially result in less stringent WQBELs. Alternatively, Park Center could consider alternative means of wastewater disposal, such as routing the water to a wastewater treatment plant.

Park Center Comment 3: *Park Center points out that the NOI form indicates that separate fees should be required for multiple sites. It requests clarification that a single site can have more than one discharge point.*

Response: We agree. See our response to WSP Comment 21.

Park Center Comment 4: *Park Center points out that the anti-backsliding finding in Fact Sheet section IV.D.1 indicates that the Regional Water Board could be unable to change permit requirements after adopting them, even if the Regional Water Board were to conclude in the future that its effluent limitations should be higher.*

Response: Although the Clean Water Act generally prohibits backsliding, Clean Water Act section 402(o)(2) provides several bases for backsliding if necessary and appropriate. At present, available information indicates that most dischargers already meet the new effluent limitations so upward adjustments will probably be unnecessary.

City of Redwood City (Redwood City)

Redwood City Comment 1: *Redwood City requests that the tentative order exempt existing discharges containing naturally occurring metals or contain separate waste discharge requirements for groundwater that contains naturally occurring metals. If not, Redwood City requests a time schedule to allow time for existing dischargers to find solutions to meet the effluent limits or to find alternatives to discharging groundwater.*

Response: The Regional Water Board cannot establish a compliance schedule with this permit; see our response to WSP Comment 6. Nevertheless, we revised the effective date of the tentative order; see our response to Schlumberger Comment 9.

Staff-Initiated Changes

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1. We corrected the title of the tentative order to be consistent with the permit name.

2. We revised Provision VI.C.2.a of the tentative order to specify that all parameters in section IX.A of the NOI should be sampled and analyzed as part of the permit application (see also WSP Comment 21).

> **Notice of Intent (NOI).** A prospective discharger seeking Authorization to Discharge pursuant to this Order shall complete and submit the NOI form in Attachment B, including results for all parameters listed in NOI form section IX.A. A prospective discharger seeking coverage for similar discharges at from multiple sites groundwater treatment facilities may complete one NOI that describes all proposed discharges; however, it shall submit separate fees for each site. A prospective discharger shall submit a separate fee for each non-contiguous site. Dischargers enrolled under the previous order that also submitted an NOI at the end of the previous order term need not submit new NOI forms to continue their authorization to discharge. The Executive Officer may modify the NOI form in Attachment B or require additional information prior to authorizing any discharge.

3. We revised Provision VI.C.4.a.iii of the tentative order to ensure dischargers consider the potential impacts of climate change during regular review of their wastewater facilities and operational practices as follows:

> The Discharger shall regularly review and evaluate its wastewater facilities and operational practices in accordance with the paragraph above and, so as to adapt to the potential impacts of climate change, consistent with then-current projections of sea level rise and storm surge. The Discharger shall conduct these reviews and evaluations as an ongoing component of the administration of its wastewater facilities.

4. We revised NOI form section IX.A to remove parameters that need not be summarized.

A. INFLUENT DISCHARGE DATA

Conventional and Non-Conventional Pollutants

Parameter	Units	Average Monthly Effluent Limitation	Maximum Daily Effluent Limitation	Maximum Concentration	Range	Method Detection Limit	Test Method	Number of Samples
pH	s.u.							
Turbidity	NTU							
Total Dissolved Solids (for construction and dewatering projects)	mg/L							
Dissolved Oxygen	mg/L							
Chloride	mg/L							
Chlorine Residual	mg/L							
⋮								

⋮

Other Pollutants

Parameter	Units	Average Monthly Effluent Limitation	Maximum Daily Effluent Limitation	Maximum Concentration	Range	Method Detection Limit	Test Method	Number of Samples
TPH as gasoline	µg/L							
TPH as diesel	µg/L							
TPHs (other than gasoline and diesel)	µg/L							
Sulfate	mg/L							
~~Foaming Agents~~	~~µg/L~~							
~~Electric conductivity~~	~~mmhos/cm~~							
~~Aluminum~~	~~mg/L~~							
~~Barium~~	~~mg/L~~							
~~Iron~~	~~mg/L~~							
Manganese	µg/L							
~~Nitrate (as N)~~	~~mg/L~~							
~~Nitrate + Nitrite~~	~~mg/L as N~~							
~~Nitrite~~	~~mg/L as N~~							

5. We revised NOI form section IX.B to remove parameters that need not be summarized.

B. EFFLUENT DISCHARGE DATA (for existing dischargers only)

Discharge Point No. _____ – Conventional and Non-Conventional Pollutants

Parameter	Units	Average Monthly Effluent Limitation	Maximum Daily Effluent Limitation	Maximum Concentration	Range	Method Detection Limit	Test Method	Number of Samples
pH	s.u.							
Turbidity	NTU							
~~Total Suspended Solids~~	~~mg/L~~							
Total Dissolved Solids (for construction and dewatering projects)	mg/L							
Dissolved Oxygen	mg/L							
~~Chloride~~	~~mg/L~~							
Chlorine Residual	mg/L							
⋮								

⋮

Discharge Point No. _____ – Other Pollutants

Parameter	Units	Average Monthly Effluent Limitation	Maximum Daily Effluent Limitation	Maximum Concentration	Range	Method Detection Limit	Test Method	Number of Samples
TPH as gasoline	µg/L							
TPH as diesel	µg/L							
TPHs (other than gasoline and diesel)	µg/L							
Sulfate	mg/L							
Foaming Agents	µg/L							
Electric conductivity	mmhos/cm							
~~Aluminum~~	~~mg/L~~							
~~Barium~~	~~mg/L~~							
~~Iron~~	~~mg/L~~							
Manganese	µg/L							
~~Nitrate (as N)~~	~~mg/L~~							
~~Nitrate + Nitrite~~	~~mg/L as N~~							
~~Nitrite~~	~~mg/L as N~~							

6. We revised NOI form section XI.F.4 to specify that design professional engineers also have to be practicing engineers.

> **Design Professional Engineer's Information.** Provide the name and contact information of the practicing professional engineer licensed to practice in California who designed the groundwater treatment system and certified the Engineering Certification Report. The Design Professional Engineer is also responsible for certifying any proposed changes to the groundwater treatment system.

7. We revised footnote 5 of MRP Table E-1 to provide dischargers the option to monitor reclaimed water at the effluent monitoring location.

> Not applicable if no effluent is reclaimed or if a monitoring location upstream of Monitoring Location REC-*n* is Monitoring Location EFF-*n.*

8. We revised MRP section IV.A to include a requirement that all parameters be sampled at least once per permit term.

> When discharging, the Discharger shall monitor the discharge at Monitoring Locations EFF-001 through EFF-00*n* in accordance with Table E-2. Effluent sampling shall occur concurrently (within 30 minutes) with any influent sampling unless the Executive Officer stipulates otherwise. All parameters listed in Table E-2 shall be monitored at least once per permit term.

9. We deleted MRP section IX.B.2.a.vii to remove redundancy with respect to MRP sections IX.B.2.a.iii(d) and IX.B.2.a.iii(e).

> **vi.** Operations and Maintenance Manual that lists facility and regulatory personnel, and describes all equipment, recommended operational strategies, process control monitoring, and maintenance activities. The Operations and Maintenance Manual shall be signed and stamped by the licensed professional engineer identified in Provision VI.C.4 of the Order.
>
> ~~**vii.** Results for all monitoring specified in this MRP.~~

10. We revised MRP section IX.B.b.iii to remove redundancy with respect to MRP section IX.B.b.iv(e) and require listing parameters removed from the monitoring program, if any.

> Introductory section with site background information (e.g., location, cleanup status). A summary table for each monitored parameter with respective ~~analytical results and~~ monitoring frequencies shall be included. A summary table of parameters removed from the monitoring program, with the corresponding last date of monitoring, shall also be included.

11. We revised Fact Sheet sections VIII.B (second paragraph) and VIII.C (first paragraph) to correct the deadline for submittal of written comments and to update the date of the public hearing:

> For full staff response and Regional Water Board consideration, the written comments were due at the Regional Water Board office by 5:00 p.m. on ~~May 5, 2017~~ September 15, 2017.
>
> …

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

Date: Wednesday, ~~November 8, 2017~~ December 13, 2017

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