CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

RESPONSE TO WRITTEN COMMENTS

on the Tentative Order for
for discharges of groundwater to surface waters
San Francisco Bay Region

The Regional Water Board received written comments from the parties below regarding a draft NPDES permit (tentative order) distributed for public comment on January 17, 2025.

A. Elevate Environmental Consultants, Inc. (February 13, 2025)
B. HP Inc. (February 14, 2025)
C. Ulrick & Associates (February 14, 2025)
D. Roux Inc. (February 14, 2025)
E. Tamalpais Environmental Consultants (February 17, 2025)
F. ERM International Group Limited (February 17, 2025)
G. WSP USA, Inc. (February 17, 2025)
H. Schlumberger Technology Corporation (February 17, 2025)
I. Arcadis U.S. Inc. (February 17, 2025)
J. R. Morgan, Barg Coffin-Lewis & Trapp Attorneys
on behalf of Advanced Micro Devices, Inc. (February 18, 2025)
K. R. Morgan, Barg Coffin-Lewis & Trapp Attorneys
on behalf of McKesson Corporation (February 18, 2025)
L. Western States Petroleum Association (February 18, 2025)

The Regional Water Board also distributed for public comment an Addendum to the Tentative Order (First Addendum) on July 3, 2025, in response to the U.S. Supreme Court's ruling in *City and County of San Francisco, California v. Environmental Protection Agency* (2025), which removes end-result requirements (e.g., receiving water limitations) in NPDES permits. The public comment period ended on August 4, 2025. The only comments received (Langan, August 4, 2025) were beyond the scope of the First Addendum and largely addressed by other commenters.

The Regional Water Board distributed for public comment a Second Addendum to the Tentative Order (Second Addendum) on October 17, 2025, in response to the California Court of Appeal ruling in *Camarillo Sanitary District et al. v. State Water Resources Control Board* (2025), which held that the State Water Board appropriately adopted the *State Policy for Water Quality Control: Toxicity Provisions* (Toxicity Provisions) under State law, but that the Toxicity Provisions' Test of Significant Toxicity cannot be used to evaluate compliance under federal law. The public comment period ended on November 17, 2025. No comments were received.

Regional Water Board staff has summarized all 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, refer to the comment letters. To request a copy of the comment letters, please contact Marcos De la Cruz at marcos.delacruz@waterboards.ca.gov or 510-622-2365.

All revisions to the tentative order are shown with underline text for additions and strikethrough ~~text~~ for deletions. This document also contains staff-initiated revisions.

Elevate Environmental Consultants, Inc. (Commenter A)

Commenter A Comment 1: *The tentative order appears to omit the protocol included in the previous order (Order R2-2017-0048 as amended by Order R2-2018-0050) that specifies how to determine compliance with an effluent limit when multiple samples are collected and the dataset contains one or more reported determinations of detected but not quantified (DNQ) or not detected (ND) results. We request clarification on how the average result should be calculated for determining compliance.*

Response: We inadvertently omitted this information in the tentative order. Therefore, we revised Attachment E section 6.2.5 of the tentative order to include compliance determination protocols for the scenarios described above, as follows:

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

6.2.5.1. **Multiple Samples**. When determining compliance with effluent limitations (other than instantaneous effluent limitations) and more than one sample result is available, the Discharger shall compute the arithmetic mean. If the data set contains one or more results that are "Detected, but Not Quantified" (DNQ) or "Not Detected" (ND), the Discharger shall instead compute the median in accordance with the following procedure:

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

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

6.2.5.2. **Duplicate Samples**. The Discharger shall report the average of duplicate sample analyses when reporting for a single sample result (or the median if one or more of the duplicates is DNQ or ND (see Provision 6.2.5.1, above).

Commenter A Comment 2: *Compliance with PFAS startup phase monitoring requirements is potentially infeasible because analytical laboratory turnaround times for PFAS can be longer than the turnaround times described in Attachment E sections 5.1.1 and 5.1.2. Furthermore, we request clarification on Attachment E section 5.1.2, which contains confusing wording on startup phase monitoring requirements.*

Response: We agree. Currently, standard analytical turnaround times for PFAS analytical results are no less than ten calendar days. We acknowledge that the permit should incorporate reasonable turnaround times for analytical results and that the startup phase monitoring requirements could be clearer. Therefore, we revised Attachment E sections 5.1.1 and 5.1.2 as follows:

5.1.1. On the first day of operation, the Discharger shall monitor the influent and effluent after starting up the treatment system following its standard operating procedures. No discharge to the receiving water shall occur until effluent monitoring indicates compliance with this Order's requirements. Influent and effluent monitoring must be repeated if the treatment system is shut down for more than ~~seven~~14 calendar days after monitoring.

5.1.2. The Discharger may commence discharge to the receiving water for five calendar days (120 hours) upon receiving monitoring results compliant with this Order's requirements, as described in Attachment E section 5.1.1. On the fifth day of discharge to the receiving water (weekend days may be excluded), the Discharger shall monitor the influent and effluent. ~~If by the fifth day of discharge, monitoring results are not received or are not compliant with this Order's effluent limitations,~~ Discharge may continue for up to an additional 14 calendar days or until the results are received, whichever is sooner. If the results are not received within 14 calendar days or they show non-compliance with the Order's requirements, the Discharger must cease discharge and repeat Startup Phase monitoring until compliance is achieved.

Any non-compliant effluent shall not be discharged~~,~~ and shall be retreated or disposed of in accordance with applicable regulations.

HP Inc. (Commenter B)

Commenter B Comment 1: *We request that Tables 1 and 2 of the tentative order include a footnote similar to footnote 3 to Table 2 in the current permit (Order R2-2018-0050) to specify how compliance with the total residual chlorine effluent limit will be assessed.*

Response: We agree. We revised and added a clarifying footnote to Tables 1 and 2 (see Footnote 2 of each table). The revisions shown below also include changes made in Response to Commenter L Comment 1, which removes the PFAS effluent limits from Table 1).

Table 1. Effluent Limitations for Class 1, 2, and 3 Discharges

Parameter	Units	Receiving Waters Used as Drinking Water [1]		Other Receiving Waters	
		Average Monthly	Maximum Daily	Average Monthly	Maximum Daily
pH	standard units	Between 6.5 and 8.5 at all times			
Chlorine, Total Residual [2]	mg/L	0.0 mg/L at all times			
Cadmium, Total Recoverable	µg/L	0.9	1.8	0.9	1.8
Copper, Total Recoverable [2][3]					
Lower or South SF Bay Discharge [3][4]	µg/L	10.	20.	10.	20.
Central SF Bay Discharge [3][4]	µg/L	5.4	11	5.4	11
Suisun or San Pablo Bay Discharge [3][4]	µg/L	7.1	14	7.1	14
Freshwater Discharge	µg/L	7.0	14	7.0	14
Lead, Total Recoverable	µg/L	2.6	5.2	2.6	5.2
Nickel, Total Recoverable [2][3]					
Lower or South SF Bay Discharge [3][4]	µg/L	22	44	22	44
Central SF Bay Discharge [3][4]	µg/L	10.	21	10.	21
Suisun or San Pablo Bay Discharge [3][4]	µg/L	25	50.	25	50.
Freshwater Discharge	µg/L	43	86	43	86
Selenium, Total Recoverable [4][5]	µg/L	2.5	5.1	-	-
~~Per- and Polyfluoroalkyl Substances (PFAS)~~					

Parameter	Units	Receiving Waters Used as Drinking Water [1]		Other Receiving Waters	
		Average Monthly	Maximum Daily	Average Monthly	Maximum Daily
~~*Perfluorooctanoic acid (PFOA)*~~	~~ng/L~~	~~4.0~~	-	~~4.0~~	-
~~*Perfluorooctane sulfonic acid (PFOS)*~~	~~ng/L~~	~~4.0~~		~~4.0~~	
~~*Perfluorohexane sulfonic acid (PFHxS)*~~	~~ng/L~~	~~10~~		~~10~~	
~~*Perfluorononanoic acid (PFNA)*~~	~~ng/L~~	~~10~~		~~10~~	
~~*Hexafluoropropylene oxide dimer acid (HFPO-DA)*~~	~~ng/L~~	~~10~~		~~10~~	

Footnotes:

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

[2] This limit shall be applied as an instantaneous maximum. There shall be no detectable residual chlorine in the effluent (as explained in Attachment E section 6.2.5, a non-detect result using a detection level equal to or less than 0.1 milligrams per liter [mg/L] will not be considered out of compliance).

~~[2]~~[3] The applicable limit depends on the sub-embayment into which the discharge eventually flows. Freshwater limits apply when the receiving water salinity is no greater than one part per thousand at least 95 percent of the time.

~~[3]~~[4] These limits also apply to discharges to tidally influenced reaches of waters draining to San Francisco, San Pablo, and Suisun Bays.

~~[4]~~[5] These limits apply to discharges to freshwater and estuarine reaches of Stevens Creek in Santa Clara County. Estuarine reaches are determined where the receiving water salinity is between one and ten parts per thousand at least 95 percent of the time.

Table 2. Effluent Limitations for Class 4 Discharges

Parameter	Units	Receiving Waters Used as Drinking Water [1]		Other Receiving Waters	
		Average Monthly	Maximum Daily	Average Monthly	Maximum Daily
pH	standard units	Between 6.5 and 8.5 at all times			
Chlorine, Total Residual [2]	mg/L	0.0 mg/L at all times			
Antimony, Total Recoverable	µg/L	12	6.0	4,300	8,600
Arsenic, Total Recoverable	µg/L	20	10.	30.	59
Cadmium, Total Recoverable	µg/L	0.90	1.8	0.90	1.8
Chromium VI	µg/L	-	10.	8.1	16
Copper, Total Recoverable ~~[2]~~[3]					
Lower or South SF Bay Discharge ~~[3]~~[4]	µg/L	10.	20.	10.	20.
Central SF Bay Discharge ~~[3]~~[4]	µg/L	5.4	11	5.4	11
Suisun or San Pablo Bay Discharge ~~[3]~~[4]	µg/L	7.1	14	7.1	14

Parameter	Units	Receiving Waters Used as Drinking Water [1]		Other Receiving Waters	
		Average Monthly	Maximum Daily	Average Monthly	Maximum Daily
Freshwater Discharge	µg/L	7.0	14	7.0	14
Lead, Total Recoverable	µg/L	2.6	5.2	2.6	5.2
Mercury, Total Recoverable	µg/L	0.050	0.10	0.050	0.10
Nickel, Total Recoverable ~~[2]~~[3]					
Lower or South SF Bay Discharge ~~[3]~~[4]	µg/L	22	44	22	44
Central SF Bay Discharge ~~[3]~~[4]	µg/L	10.	21	10.	21
Suisun or San Pablo Bay Discharge ~~[3]~~[4]	µg/L	25	50.	25	50.
Freshwater Discharge	µg/L	43	86	43	86
Selenium, Total Recoverable ~~[4]~~[5]	µg/L	2.5	5.1	-	-
⋮			⋮		
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ng/L	10.		10.	-

Footnotes:

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

[2] This limit shall be applied as an instantaneous maximum. There shall be no detectable residual chlorine in the effluent (as explained in Attachment E section 6.2.5, a non-detect result using a detection level equal to or less than 0.1 mg/L will not be considered out of compliance).

~~[2]~~[3] The applicable limit depends on the sub-embayment into which the discharge eventually flows. Freshwater limits apply when the receiving water salinity is no greater than one part per thousand at least 95 percent of the time.

~~[3]~~[4] These limits also apply to discharges to tidally influenced reaches of waters draining to San Francisco, San Pablo, and Suisun Bays.

~~[4]~~[5] These limits apply to discharges to freshwater and estuarine reaches of Stevens Creek in Santa Clara County. Estuarine reaches are determined where the receiving water salinity is between one and ten parts per thousand at least 95 percent of the time.

Commenter B Comment 2: *We request clarification on how the receiving water limit in section 5.1.9 of the tentative order will be enforced. Section 5.1.9 prohibits in receiving waters "Concentrations or quantities of toxic or other deleterious substances that cause deleterious effects on wildlife, waterfowl, or other aquatic life, or render any of these unfit for human consumption, either at levels created in the receiving waters or as a result of biological concentration…."*

Response: As explained in the First Addendum to the tentative order distributed between July 3, 2025, and August 4, 2025, the receiving water limit in section 5.1.9 of the tentative order has been removed.

Commenter B Comment 3 *We request that monitoring frequencies using the term "once" in Attachment E Tables E-2, E-3, and E-5, and throughout the tentative order, be clarified because the term's definition may vary according to context.*

Response: We partially agree. The monitoring period "once," among other monitoring periods, is defined in Attachment E Table E-5 and is reflected accordingly in Tables E-2 and E-3. However, we agree that Footnote 6 of Table E-2 and Footnote 7 of Table E-3 may be confusing. Therefore, we revised these footnotes as explained in Response to Commenter J and Commenter K Comment 4 below.

Commenter B Comment 4: *We request clarification on which dischargers are subject to Attachment D section 5.3.2, which requires that monitoring results be reported in a Discharger Monitoring Report form or forms provided or specified by the Regional Water Board or State Water Board.*

Response: Dischargers subject to this permit are not required to file Discharge Monitoring Reports in accordance with Attachment D section 5.3.2. As stated in Attachment E section 6.3, dischargers are only required to submit Discharge Monitoring Reports if instructed to do so by the Regional Water Board or State Water Board.

Commenter B Comment 5: *We request clarification on how dischargers become subject to Attachment E section 1.4, which requires the annual submittal of a Discharger Monitoring Report-Quality Assurance Study or a recent Water Pollution Performance Evaluation Study to the State Water Board, if U.S. EPA elects to require one.*

Response: Currently, dischargers subject to this permit are not required to submit a Discharge Monitoring Report-Quality Assurance (DMR-QA) Study or Water Pollution Performance Evaluation Study. U.S. EPA requires all major permittees and selected minor permittees to participate in annual the DMR-QA Study. Dischargers subject to this permit are considered minor permittees and would only be required to participate in the DMR-QA study if they received a letter from U.S. EPA. (For an example letter, see https://www.epa.gov/system/files/documents/2025-07/dmr-qa_study-45_final_0-25_re.pdf.) However, California has a waiver from U.S. EPA that exempts the state from the DMR-QA study program. If a discharger receives a letter from U.S. EPA requiring participation in the DMR-QA study, the letter will include instructions for permittees in a state that has a waiver.

Commenter B Comment 6: *We request that Attachment E Tables E-2 and E-3 exempt monitoring parameters when they are not detected in the influent, just as the previous order allowed for chlorine, cyanide, volatile organic compounds (VOCs) semi-volatile organic compounds (SVOCs), total petroleum hydrocarbons (TPHs), and fuel oxygenates, such as TAME, DIPE, ETBE, TBA, ethanol, and methanol. This would avoid unnecessary influent and effluent sampling when these pollutants are not present in influent. Additionally, we request that Footnote 6 of Attachment E Table E-2 be revised so that the PFAS monitoring frequency is not misleading in the use of the term "Once"; the footnote specifies to monitor once only in 2026 and 2028. Finally, we request that, in the absence of a rationale, metals monitoring frequencies be returned to the previous annual frequency from the quarterly monitoring frequency in the tentative order.*

Response: We partially agree. We added a new footnote (Footnote 4) to Attachment E Table E-3 to allow dischargers to remove parameters, such as VOCs, SVOCs, and TPHs, from their monitoring program when these pollutants have not been detected in their influent. We also revised Footnote 6 of Table E-2 and Footnote 7 of Table E-3 to clarify PFAS monitoring frequencies. We did not revise the metals monitoring frequencies. Monitoring data over the past five years show metals detections at concentrations greater than water quality criteria, which supports quarterly monitoring frequencies and is consistent with the previous order for discharges from sites contaminated by fuel and fuel-related compounds. See new footnote 4 to Table E-3, revised footnote to Table E-2, and revised footnote 7 to Table E-3 below in Response to Commenter J and Commenter K Comment 4.

Commenter B Comment 7: *We request a grace period of five years, until 2030, to comply with PFAS effluent limits established in the tentative order, consistent with U.S. EPA's National Primary Drinking Water Regulation (NPDWR) for PFAS (April 10, 2024).*

Response: The Clean Water Act (CWA) and regulations thereunder do not authorize a grace period for technology-based effluent limits. We do not expect the lack of a grace period to be a significant problem because most existing dischargers to be covered by this permit already implement best available technologies at their facilities capable of treating PFAS to levels that meet the proposed effluent limits. The tentative order only required PFAS monitoring to commence in 2026 and provided existing dischargers until the end of 2026 to assess their groundwater quality and treatment systems for adequate PFAS treatment, if needed. Because the proposed order effective date of the permit has been revised (see Staff Initiated Change 1), the revised tentative order now provides existing dischargers until the end of 2027 to assess their groundwater quality and treatment systems for adequate PFAS treatment, if needed. See Footnote 7 of Table E-3 in Response to Commenter J and Commenter K Comment 4 regarding PFAS monitoring for current dischargers.

The National Primary Drinking Water Regulation for PFAS established Maximum Contaminant Levels for PFAS in drinking water provided by public water systems nationwide. U.S. EPA established the five-year compliance timeline for public water systems to comply with the PFAS Maximum Contaminant Levels pursuant to Safe Drinking Water Act section 1412(b)(10), which requires a drinking water regulation to take effect three years after the date on which the regulation is promulgated for public water systems unless an earlier date is practicable. Section 1412(b)(10) also authorizes U.S. EPA to allow up to two additional years to comply with a maximum contaminant level if the Administrator determines that additional time is necessary for capital improvements. U.S. EPA determined that two additional years for compliance was necessary because public water systems are currently facing ongoing labor and workforce challenges and need additional time to apply for and procure funds from the federal Drinking Water State Revolving Loan Fund to make capital improvements to meet the PFAS maximum contaminant levels. The technology-based effluent limitations included in the tentative order are not subject to the compliance framework in the Safe Drinking Water Act and thus the five-year compliance timeline is not appropriate.

Ulrick & Associates (Commenter C)

Commenter C Comment: *We request that permit violation penalties not be assessed for single anomalous analytical results, such as for a single occurrence per year, if a duplicate sample analysis meets effluent limits, or if a resample and analysis during the same month meets monthly effluent limits. Since 2013, our facility has infrequently exceeded effluent limits for metals, such as cadmium, copper, lead, and nickel, which appear to be related to fluctuating groundwater levels during drought conditions. Outside of these conditions, groundwater metals concentrations are either undetected or below effluent limits. Our Class 3 Discharge facility is located in a parking garage, is not identified as a contaminated site, and is not equipped with a treatment system to remove metals. Moreover, proposed increased monitoring frequencies for pH (quarterly to monthly), copper (biannually to quarterly), and nickel (biannually to quarterly), and the addition of quarterly monitoring for cadmium and lead, could lead to substantial penalties during future droughts.*

Response: Water Code section 13385, subdivisions (h) and (i), require the Water Board to assess mandatory minimum penalties for certain effluent limit violations. Attachment E section 6.2.5 specifies how compliance with maximum daily and average monthly effluent limits is to be determined when one or more sample results are available. If a discharger believes sample results are not representative of the discharge, they may provide evidence to support that conclusion with the report required by Attachment E section 6.6.3, or they may submit a formal request to invalidate data previously submitted in a self-monitoring report. We revised Attachment E section 6.2.2.1.1.5 to include a protocol to invalidate data, as follows:

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

6.2.2.1.1.~~5~~6. Signature and certification in accordance with Attachment D sections 5.2 and 5.3.

Roux, Inc. (Commenter D)

Commenter D Comment 1: *Compared to the previous order, the tentative order contains additional effluent limits and no longer exempts monitoring of pollutants not detected in influent. We request that monitoring and reporting only be required for pollutants detected in influent. Otherwise, the tentative order would result in inappropriate use of resources and increased sampling and reporting costs without apparent impacts to receiving waters.*

Response: We agree. We revised Attachment E Table E-3 (see Footnote 4) as shown in Response to Commenter J and Commenter K Comment 4.

Commenter D Comment 2: *Given the ubiquitous nature of PFAS in the environment and the additional costs PFAS treatment may impose on dischargers, we request that the tentative order clarify the concentration at which continued PFAS monitoring will be triggered when present in influent.*

Response: We agree. We revised Footnote 6 of Table E-2 to clarify when PFAS monitoring is required for Class 1-3 discharges. We also revised Footnote 7 of Attachment E Table E-3 for Class 4 discharges to clarify that PFAS monitoring is required if PFAS are detected in influent at concentrations greater than test method reporting limits and exceed PFAS effluent limits shown in Table 2. See Response to Commenter J and Commenter K Comment 4. See also Response to Commenter L Comment 1, which clarifies that Class 1-3 Dischargers are not subject to continued PFAS monitoring requirements.

Commenter D Comment 3: *We ask for clarification on whether existing permit enrollees, or just new permit applicants, will be subject to preparing a Contingency Plan and a Spill Preventions Plan as described in Provisions 6.3.3 and 6.3.4 of the tentative order.*

Response: Provisions 6.3.3 and 6.3.4 of the revised tentative order require all permit enrollees, regardless of time of enrollment, to maintain a Contingency Plan and a Spill Prevention Plan.

Tamalpais Environmental Consultants (Commenter E)

Commenter E Comment: *The tentative order increases monitoring frequencies for pollutants, such as fuel-leak compounds, semi-volatile organic compounds, and metals, not detected at our facility. We request that the tentative order be revised to allow Regional Water Board staff to review and modify monitoring requirements for dischargers where such compounds are not detected because the proposed monitoring*

requirements would be wasteful and increase costs at laboratories, in the field, and for project management.

Response: We agree that continued monitoring for certain pollutants not found in influent is unnecessary. As such, we revised Attachment E Table E-3 (see Footnote 4) to allow dischargers to remove pollutants from their monitoring program when they are not detected in influent. See Response to Commenter J and Commenter K Comment 4 for these and other revisions. We also revised Attachment E section 6.2.2.1.4 to require dischargers to report parameters removed from their monitoring programs because they were undetected in influent, as follows:

> 6.2.2.1.4. A tabulated summary of monitored parameters and corresponding monitoring frequencies. The tabulated summary shall include parameters removed from the monitoring program with the corresponding last date of monitoring, if any.

ERM International Group Limited (Commenter F)

Commenter F Comment 1: *We request clarification on whether the tentative order requires monitoring of pollutants not present in influent. Continued sampling of fuel-leak and semi-volatile compounds when they are not detected in influent would result in significant cost increases for facilities that have been operating for years.*

Response: We revised Attachment E Table E-3 (see Footnote 4) to allow dischargers to remove pollutants from their monitoring program when they are not detected in the influent. See Response to Commenter J and Commenter K Comment 4.

Commenter F Comment 2: *Are the municipal supply pollutants that Attachment E Tables E-2 and E-3 require to be monitored also listed in Attachment F Tables F-7 and F-8?*

Response: No. Attachment F Tables F-7 and F-8 do not list all the municipal supply pollutants because they summarize our reasonable potential analyses based on available data collected by dischargers during the previous order term. Dischargers should refer to Attachment E Tables E-2 and E-3 for monitoring requirements. The pollutants grouped under “Municipal Supply Pollutants” in Tables E-2 and E-3 (except for radionuclides) are listed in California Code of Regulations, Title 22, section 64431, Table 64431-A (Inorganic Chemicals); section 64433.2, Table 64433.2-A (Fluoride); and section 64444, Table 64444-A (Organic Chemicals) and represent all pollutants with Maximum Contaminant Levels. The tentative order requires monitoring for these pollutants to characterize and assess potential effects on receiving waters with Municipal and Domestic Supply and Groundwater Recharge (MUN) beneficial uses.

WSP USA Inc. (Commenter G)

Commenter G Comment 1: *Instead of imposing PFAS effluent limits for receiving waters without drinking water beneficial uses, consider requiring aquatic toxicity tests and numeric actions levels. Otherwise, we request the rationale for the PFAS effluent limits proposed in the tentative order. An approach using numeric action levels of 4,000 ng/l and 75 ng/l for two PFAS was used to regulate a PFAS-contaminated site enrolled in the Construction General NPDES Permit.*

Response: Attachment F sections 4.2.1 and 4.2.2.4 explain the rationale for the PFAS effluent limits, which are technology-based effluent limits. CWA section 301(b) and 40 C.F.R. sections 122.44 and 125.3 require the development of technology-based effluent limits in permits and authorize use of best professional judgment in the absence of effluent limitation guidelines. The proposed technology-based effluent limits reflect a minimum level of treatment based on best available and economically achievable technologies without regard to the receiving water beneficial uses. Water quality-based effluent limits, in contrast, are established where technology-based effluent limits are not sufficient to meet water quality standards, including receiving water beneficial uses.

In this case, the technology-based PFAS effluent limits were derived considering that many dischargers covered by this permit, including those involved in construction dewatering activities (Class 4 discharges), already implement best available treatment technologies, such as granular activated carbon (GAC) or ion exchange resins, capable of treating PFAS to levels below the Maximum Contaminant Levels (MCLs) that U.S. EPA established on April 10, 2024. In developing the MCLs, U.S. EPA considered GAC and ion exchange resins, among other treatment technologies, to be the best available treatment technologies. See Response to Commenter L Comment 1 for more on the development of PFAS effluent limits.

Commenter G Comment 2: *We request confirmation that the tentative order does not contain a turbidity effluent limit.*

Response: The revised tentative order does not contain a turbidity effluent limit. As explained in Attachment F section 4.3.3.3.3.19 of the revised tentative order, discharges covered by this permit receive at least filtration and more advanced treatment that also removes turbidity in treated groundwater. Therefore, there is no reasonable potential for turbidity to exceed water quality standards. Dischargers will, however, be required to monitor for turbidity as described in Attachment E section 3 to confirm that filtration and other treatment systems are effectively removing turbidity.

Commenter G Comment 3: *We ask that the Regional Water Board raise the effluent limits for cyanide, benzidine, hexachlorobenzene, and 3,3-dichlorobenzidine because they are lower than corresponding method detection limits and could be reported as estimated concentrations if they are detected at levels lower than reporting limits.*

Response: We disagree. The water quality-based effluent limits for cyanide, benzidine, hexachlorobenzene, and 3,3-dichlorobenzidine must be based on the numeric aquatic life and human health criteria designed to protect beneficial uses of receiving waters. Nevertheless, Attachment E section 6.2.5 addresses the commenter's concern, stating, "the Discharger shall be deemed out of compliance with effluent limitations if the concentration of the pollutant in the monitoring sample is greater than the effluent limitation and, if applicable, greater than or equal to the [reporting limit]." See also Response to Commenter G Comment 6, where we explain that we added more sensitive methods to those dischargers can use to monitor SVOCs.

Commenter G Comment 4: *Attachment E section 1.4 requires the potential submittal of a DMR-QA Study or Water Pollution Performance Evaluation Study to U.S. EPA, but it does not specify what would trigger the requirement. We request clarification.*

Response: See Response to Commenter B Comment 5.

Commenter G Comment 5: *We request that the Regional Water Board add an upstream receiving water monitoring location to Attachment E Table E-1 to assess background conditions because PFAS chemicals are ubiquitous, as reflected in a 2021 study conducted by the San Francisco Estuary Institute's Regional Monitoring Program, which detected 11 of 40 PFAS in ambient surface water at 22 sites in San Francisco Bay.*

Response: Requiring upstream receiving water monitoring for PFAS to assess background conditions is unnecessary because we revised Attachment E Tables E-2 and E-3 to remove receiving water monitoring requirements for PFAS and all other parameters other than total dissolved solids, turbidity, and salinity. See Response to Commenter J and Commenter K Comment 4.

Commenter G Comment 6: *The tentative order suggests U.S. EPA test methods 624.1 and 625.1 for VOCs. However, the previous order suggested test method 8260B. We ask whether test method 8260B would still be acceptable. Otherwise, we ask that the Regional Water Board provide the rationale for only allowing the new methods.*

Response: Attachment D section 3.2 and Attachment E section 1.2 require that monitoring be conducted according to test procedures approved under 40 C.F.R. part 136. As indicated in Attachment E section 1.2, equivalent test methods must be more sensitive than those specified in 40 C.F.R. section 136 and must be specified in the permit or the discharger's Authorization to Discharge. Test methods 624.1 and 625.1 are listed in 40 C.F.R. part 136 as approved test methods for VOCs and SVOCs. Test method 8260B may be used as an equivalent test method because it has been demonstrated to be a sufficiently sensitive test method in accordance with Attachment D section 3.2 and is more sensitive than test methods 624.1. Similarly, test method 8270 is at least as sensitive as test method 625.1. We revised Attachment E Table E-3 to include these alternative methods to provide dischargers additional options in the selection of analytical test methods for VOCs and SVOCs monitoring. We also specified

the use of low-level detection techniques for SVOCs to achieve reporting levels below effluent limitations. See Response to Commenter J and Commenter K Comment 4.

Commenter G Comment 7: *We request that the Regional Water Board change the suggested U.S. EPA test methods for nickel from 130.1 and SM4500B to test method 200.8 because the former measures total hardness.*

Response: We agree. We revised the suggested test methods for nickel in Attachment E Tables E-2 and E-3 to be test methods 200.8 and 200.9, consistent with 40 C.F.R. part 136. See revisions to Tables E-2 and E-3 in Response to Commenter J and Commenter K Comment 4.

Commenter G Comment 8: *Attachment E Table E-1 requires dischargers to establish a midstream monitoring location within multi-stage PFAS treatment systems, and Attachment E section 3.4 requires influent, midstream, and effluent monitoring for PFAS when detected in initial influent monitoring. We request clarification on what would constitute PFAS treatment. We further request clarification on the purpose of PFAS monitoring and whether it would be to understand the extent of PFAS in groundwater discharges at sites without a prior history of using PFAS in their operations. Finally, we ask whether dischargers would be held responsible for the design and monitoring of PFAS treatment systems if they have no prior history of using PFAS in their operations; this would represent significant additional annual costs in design, laboratory testing, training, and equipment.*

Response: See Response to Commenter G Comment 9 below.

Commenter G Comment 9: *Attachment E section 6.2.2.1.6 requires dischargers treating PFAS to report tabulated summaries of adsorptive media replacements in their self-monitoring reports, among other information. Additionally, Attachment E section 6.4 requires submittal of a PFAS Monitoring Summary Report when a discharger treating PFAS seeks to terminate or renew permit coverage. We request clarification on how a treatment system would be considered to be treating for PFAS and whether it would be based on the presence of PFAS in the influent or the historical use of PFAS by the discharger.*

Response: Class 4 Dischargers enrolled under this revised tentative order are required to treat for PFAS or would be “treating PFAS” when their PFAS influent concentrations are detected at levels at or greater than reporting limits and above PFAS effluent limits. Class 4 Dischargers must implement best available treatment technologies to treat PFAS regardless of the PFAS source, just as they must treat other pollutants, such as VOCs, regardless of the source. Attachment E section 3.2, Table E-3, requires PFAS monitoring to screen for the presence of PFAS in wastewater that could be subject to treatment. Attachment E section 3.4 requires specific PFAS monitoring for dischargers treating PFAS. PFAS treatment and continued monitoring is not required for Class 1-3 discharges. See Response to Commenter L Comment 1 for more information on PFAS monitoring requirements, and Response to Commenter J and K Comment 4, where we

define the initial screening criterion for PFAS for Class 4 Dischargers (see Footnote 7 of Table E-3).

Commenter G Comment 10: *Attachment E section 3.4.2 requires accelerating influent, midstream, and effluent PFAS monitoring from quarterly to monthly when a midstream PFAS sample result equals or exceeds a concurrent upstream PFAS sample result. It also allows accelerated monitoring to cease after the discharger has implemented corrective actions to address oversaturation and subsequent sloughing or breakthrough of PFAS through adsorptive media. Attachment E section 6.5 requires a PFAS Treatment Evaluation Report when a discharger cannot correct oversaturation of adsorptive media, which may also include a request to cease accelerated PFAS monitoring. We ask which conditions would be appropriate to request a cease in accelerated PFAS monitoring.*

Response: We revised Attachment E section 3.4.2 to remove accelerated monitoring and to modify the corrective action requirements. See revisions to Attachment E section 3.4.2 in Response to Commenter L Comment 9 below.

Schlumberger Technology Corporation (Commenter H)

Commenter H Comment 1: *We request that the Regional Water Board modify the midstream monitoring location description in Attachment E Table E-1 so it allows midstream monitoring after the first vessel when a treatment system has more than two vessels with adsorptive media in series. This would provide more useful and efficient data collection to assess oversaturation or breakthrough of PFAS through adsorptive media and support operational decision-making.*

Response: We agree. PFAS treatment systems have various designs, and it may be useful to collect data elsewhere in the system. As such, we revised Attachment E Table E-1 as follows:

Table E-1. Monitoring Locations

Monitoring Location Type	Monitoring Location [1]	Monitoring Location Description
Influent	INF-00n	Any point immediately prior to the treatment system.
Midstream	MID-00n	Any point in the waste stream ~~immediately~~ prior to the last unit or vessel within the last treatment stage using adsorptive media (applicable only to PFAS treatment systems using GAC or ion exchange technologies) used to assess breakthrough. The Executive Officer may establish additional midstream monitoring locations with the Authorization to Discharge, as needed.
Effluent	EFF-00n	Any point in the discharge line immediately following the treatment system.
Receiving Water	RSW-00n	Any point in the receiving water immediately downstream of the outfall.

Commenter H Comment 2: *We request that the tentative order allow an exemption to routine monitoring of pollutants not detected in influent to reduce unnecessary sampling costs that could be greater than $10,000 per system per year.*

Response: We agree. See Response to Commenter J and Commenter K Comment 4 (specifically Footnote 4 to Attachment E Table E-3).

Commenter H Comment 3: *We request that Attachment E section 3.4.2 apply only to PFAS with effluent limits instead of all PFAS listed in EPA method 1633 because applying this requirement to all PFAS could lead dischargers to implement corrective actions despite complying with PFAS effluent limits.*

Response: We agree. We revised Attachment E section 3.4.2 to specify that Dischargers can adopt their own monitoring strategies to prevent breakthrough in their treatment systems while complying with PFAS effluent limits. See revisions to Attachment E section 3.4.2 in Response to Commenter L Comment 9.

Commenter H Comment 4: *We request that the Regional Water Board clarify in Attachment E section 3.4.2 that only PFAS detections above reporting limits are to be used when evaluating whether a midstream concentration is equal to or higher than an upstream concentration in a treatment system. Elevated reporting limits are common for influent samples because laboratories often dilute samples for analytical purposes. Therefore, PFAS concentrations in midstream samples may be incorrectly compared to PFAS concentrations in influent samples, indicating false evidence of media oversaturation.*

Response: We agree. We revised Attachment E section 3.4.2 to specify that dischargers can adopt their own midstream monitoring strategies to prevent breakthrough in their treatment systems while complying with PFAS effluent limits. See revisions to Attachment E section 3.4.2 in Response to Commenter L Comment 9.

Arcadis U.S. Inc. (Commenter I)

Commenter I Comment: *We request clarification regarding whether U.S. EPA's reported rollback of PFAS effluent limits will affect the language in the tentative order.*

Response: We presume the comment is referring to the withdrawal of U.S. EPA's pending rule, 2040-AG10, that would have revised the existing Organic Chemicals, Plastics, and Synthetic Fibers Effluent Limits Guidelines and Standards (40 C.F.R. Part 414) to address PFAS discharges from PFAS manufacturing facilities. The withdrawal of Rule 2040-AG10 will not affect the requirements of this permit because the rule applies to PFAS manufacturers under the Organic Chemicals, Plastics, and Synthetic Fibers point source category described in 40 C.F.R. part 414, not the types of dischargers enrolled under this permit.

Barg Coffin Lewis & Trapp Attorneys on behalf of Advanced Micro Devices, Inc. and McKesson Corporation (Commenter J and Commenter K)

Commenter J and Commenter K Comment 1: *We request that the tentative order specify a minimum PFAS concentration at which monitoring would be triggered and below which monitoring would cease.*

Response: We agree. We revised Attachment E Table E-3 to specify the conditions under which frequent PFAS monitoring and treatment would be required. See revisions to Table E-3 in Response to Commenter J and Commenter K Comment 4.

Commenter J and Commenter K Comment 2: *CWA section 402 and California Water Code section 13383 do not authorize the Regional Water Board to require monitoring unrelated to the scope of the tentative order or not necessary to ensure compliance with its requirements. The tentative order is not an appropriate method of investigating groundwater quality unrelated to enrollees' discharges. We request that the Regional Water Board narrow the scope of the monitoring requirements for priority pollutants (e.g., asbestos, cyanide, dioxins, polycyclic aromatic hydrocarbons, plasticizers, pesticides, and PCBs), TPHs, and PFAS to chemicals associated with the permittees' discharges by limiting monitoring to the startup phase; if the pollutants are not detected, then the tentative order should not require further monitoring.*

Response: We disagree that the proposed monitoring requirements are unrelated to the scope of the tentative order and not necessary to ensure compliance with its requirements. Consistent with the CWA and Water Code, the tentative order would require monitoring relevant to cleanup sites. Groundwater at these sites may contain VOCs or fuels, PFAS, or other priority and non-priority pollutants. Monitoring for all

possible pollutants is necessary to inform the potential development of future technology-based effluent limits, to support future reasonable potential analyses, and, if necessary, to calculate future water quality-based effluent limits.

We do agree, however, that continued monitoring for certain pollutants not present in influent is unnecessary and revised Attachment E Table E-3 accordingly. See Response to Commenter J and Commenter K Comment 4 (particularly Footnote 4 of Attachment E Table E-3).

Commenter J and Commenter K Comment 3: *PFAS monitoring is unjustified. There is no evidence that cleanup sites contaminated by VOCs and fuels have contributed to PFAS contamination. Additionally, PFAS is widespread and likely to be detected at some sites regardless of the class of discharge, as defined in section 1.1 of the tentative order. Currently, the tentative order only requires PFAS monitoring for Class 4 discharges and not Class 1-3 discharges.*

Response: We disagree. In the CWA context, whether VOCs and fuels cleanup sites contributed to any PFAS present in the groundwater being treated is immaterial. The CWA prohibits anyone from discharging pollutants through a point source (e.g., a groundwater treatment system) into waters of the United States without an NPDES permit governing the discharge of those pollutants. The revised tentative order would cover sites that extract, treat, and discharge groundwater to surface waters. This treated groundwater could contain PFAS. PFAS monitoring is necessary to identify sites where PFAS is a concern so the Regional Water Board can require appropriate treatment.

The tentative order requires PFAS monitoring for all discharge classes to determine their presence in wastewater. Class 4 dischargers are subject to additional monitoring requirements because the revised tentative order contains technology-based effluent limits for Class 4 dischargers. The revised tentative order contains technology-based effluent limits for Class 4 dischargers in part because they employ technologies to remove them. Class 1-3 dischargers do not employ such treatment technologies. Therefore, no routine monitoring is required for Class 1-3 dischargers at this time. See Fact Sheet section 4.2, the Response to Commenter L Comment 1, and Response to Commenter L Comment 9 for more details on the basis for the PFAS effluent limits, and PFAS monitoring and treatment requirements.

Commenter J and Commenter K Comment 4: *We request that the Regional Water Board clarify footnote 9 of Attachment E Table E-3, which requires dischargers to monitor for municipal supply pollutants and allows priority pollutant monitoring to satisfy this monitoring requirement. Municipal supply pollutants are not entirely a subset of priority pollutants and contain additional pollutants.*

Response: We agree. Footnote 9 is intended to clarify that dischargers need not monitor pollutants twice just because they are both priority pollutants and municipal supply pollutants. We revised Attachment E Tables E-2 and E-3 to clarify this as follows (these revisions also reflect changes in response to other comments as indicated above):

TABLE E-2. Minimum Monitoring for Classes 1, 2, and 3

Parameter	Unit	Suggested Analytical Test Method	Sample Type	Influent	Effluent Water	Receiving Water [4]
Flow	gpm	-	Continuous	-	Continuous	-
pH	standard units	EPA 150.2	Grab	-	Startup Phase (SP) [1][2], then 1/Month	-
Chlorine, Total Residual [2][3]	mg/L	Field Kit, EPA 330 or SM4500-Cl	Grab	SP	SP, then 1/Month	-
Turbidity	NTU	EPA 180.1 or SM 2130B	Grab	-	SP, then 1/Month	SP
Total Dissolved Solids	mg/L	-	Grab		SP, then 1/Quarter	SP
Salinity	‰	-	Grab		SP, then 1/Quarter	SP
~~Hardness (as $CaCO_3$)~~	~~mg/L~~	~~EPA 130.1 or SM2340B~~	~~Grab~~	-	-	[4]
Cadmium, Total Recoverable	µg/L	EPA 200.9 or EPA 200.8	Grab	SP	SP, then 1/Quarter	-
Copper, Total Recoverable	µg/L	EPA 200.9 or EPA 200.8	Grab	SP	SP, then 1/Quarter	-
Lead, Total Recoverable	µg/L	EPA 200.9 or EPA 200.8	Grab	SP	SP, then 1/Quarter	-
Nickel, Total Recoverable	µg/L	EPA 200.9 or EPA 200.8 ~~EPA 130.1 or SM2340B~~	Grab	SP	SP, then 1/Quarter	-
Selenium, Total Recoverable	µg/L	EPA 200.9 or EPA 200.8	Grab	SP	SP, then Once	-
TPH as Gasoline [3][5]	µg/L	EPA 8260B Modified or EPA 8015B Modified	Grab	SP	SP, then Once	-
TPH as Diesel [3][5]	µg/L	EPA 8015B Modified	Grab	SP	SP, then Once	-
TPH as Motor Oil [3][5]	µg/L	EPA 8015B Modified	Grab	SP	SP, then Once	-
PFAS [6]	ng/L	EPA 1633	Grab	SP [4], ~~then Once~~	-	-

Parameter	Unit	Suggested Analytical Test Method	Sample Type	Influent	Effluent Water	Receiving Water [4]
Priority Pollutants, other than limited parameters [5][7]	µg/L	-	Grab	SP	SP, then Once	-
Municipal Supply Pollutants [6][8]	µg/L	-	Grab	-	Once	-

Footnotes:

[1] ~~Receiving water monitoring is required only when discharging directly to the receiving water (e.g., not via storm drains). Monitoring for turbidity, total dissolved solids, and salinity shall be monitored during startup phase monitoring. Then, receiving water monitoring shall occur after any effluent limitation violation. Receiving water monitoring shall occur on the same calendar day as effluent confirmation monitoring for each parameter with an effluent limitation violation.~~

[1][2] See MRP (Attachment E) section 5.1 for startup phase monitoring requirements.

[2][3] Total residual chlorine shall be monitored in effluent only when chlorine is present in the influent or used during treatment.

[4] ~~Receiving water monitoring is required only when discharging directly to the receiving water (e.g., not via storm drains). Monitoring for hardness shall occur after any cadmium or lead effluent limit violation. Receiving water monitoring shall occur on the same calendar day as effluent confirmation monitoring.~~

[3][5] TPH shall be analyzed without silica-gel cleanup.

[4][6] PFAS analytes shall include those listed in U.S. EPA method 1633. ~~The Discharger shall monitor in accordance with MRP section 3.4 if PFAS are detected in influent.~~ For Dischargers enrolled as of the effective date of this Order, monitoring shall occur at least ~~once~~ one time ~~in 2026 and once 2028~~ by the end of 2027.

[5][7] The Discharger shall monitor all priority pollutants listed in Attachment G. Monitoring may be conducted concurrently with other priority pollutants listed on MRP Table E-2 with more frequent monitoring. Mercury shall be analyzed using ultra-clean techniques as described in U.S. EPA methods 1669 and 1631 to eliminate potential sample contamination. Monitoring of bis(2-ethylhexyl)phthalate shall also be performed using ultra clean sampling techniques.

[6][8] The Discharger shall monitor for the pollutants with Primary Maximum Contaminant Levels (MCLs), except for radionuclides. This monitoring requirement applies only to Dischargers discharging to "Receiving Waters Used as Drinking Water," defined as surface waters with existing or potential beneficial uses of "Municipal and Domestic Supply" or "Groundwater Recharge," or both. The MCLs can be found in Title 22 Table 64431-A (Inorganic Chemicals) of section 64431, Table 64433.2-A (Fluoride) of section 64433.2, and Table 64444-A (Organic Chemicals) of section 64444 of the California Code of Regulations. Priority pollutant monitoring conducted in accordance with the table above may be used to satisfy the~~is~~ monitoring requirement for municipal supply pollutants that are also priority pollutants.

TABLE E-3. Minimum Monitoring for Class 4

Parameter	Unit	Suggested Analytical Test Method	Sample Type	Influent	Effluent Water	Receiving Water [4]
Flow	gpm	-	Continuous	-	Continuous	-
pH	standard units	EPA 150.2	Grab	-	Startup Phase (SP) [1][2], then 1/Month	-
Chlorine, Total Residual [2][3]	mg/L	Field Kit, EPA 330 or SM4500-Cl	Grab	SP	SP, then 1/Month	-
Turbidity	NTU	EPA 180.1 or SM 2130B	Grab	-	SP, then 1/Month	SP

Parameter	Unit	Suggested Analytical Test Method	Sample Type	Influent	Effluent Water	Receiving Water [1]
Total Dissolved Solids	mg/L	-	Grab		SP, then 1/Quarter	SP
Salinity	‰	-	Grab		SP, then 1/Quarter	SP
~~Hardness (as $CaCO_3$)~~	~~mg/L~~	~~EPA 130.1 or SM2340B~~	~~Grab~~	-	-	[4]
Antimony, Total Recoverable	µg/L	EPA 204.2 or EPA 200.8	Grab	SP	SP, then 1/Quarter	-
Arsenic, Total Recoverable	µg/L	EPA 206.3 or EPA 200.8	Grab	SP	SP, then 1/Quarter	-
Cadmium, Total Recoverable	µg/L	EPA 200.9 or EPA 200.8	Grab	SP	SP, then 1/Quarter	-
Chromium VI	µg/L	EPA 218.6 or EPA 7199	Grab	SP	SP, then 1/Quarter	-
Copper, Total Recoverable	µg/L	EPA 200.9 or EPA 200.8	Grab	SP	SP, then 1/Quarter	-
Lead, Total Recoverable	µg/L	EPA 200.9 or EPA 200.8	Grab	SP	SP, then 1/Quarter	-
Mercury, Total Recoverable [3]~~[5]~~	µg/L	EPA 1631	Grab	SP	SP, then 1/Quarter	-
Nickel, Total Recoverable	µg/L	EPA 200.9 or EPA 200.8 ~~EPA 130.1 or SM2340B~~	Grab	SP	SP, then 1/Quarter	-
Selenium, Total Recoverable	µg/L	EPA 200.9 or EPA 200.8	Grab	SP	SP, then Once	-
Silver, Total Recoverable	µg/L	EPA 200.9 or EPA 200.8	Grab	SP	SP, then 1/Quarter	-
Thallium, Total Recoverable	µg/L	EPA 200.9 or EPA 200.8	Grab	SP	SP, then 1/Quarter	-
Zinc, Total Recoverable	µg/L	EPA 200.8	Grab	SP	SP, then 1/Quarter	-
Cyanide, Total [4]	µg/L	SM 4500-CN D or E	Grab	SP	SP, then 1/Quarter	-

Parameter	Unit	Suggested Analytical Test Method	Sample Type	Influent	Effluent Water	Receiving Water [4]
Dichlorobromomethane [4]	µg/L	EPA 624.1 or EPA 8260B	Grab	SP	SP, then 1/Month	-
Benzene [4]	µg/L	EPA 624.1 or EPA 8260B	Grab	SP	SP, then 1/Month	-
Chloroform [4]	µg/L	EPA 624.1 or EPA 8260B	Grab	SP	SP, then 1/Month	-
1,1-Dichloroethane [4]	µg/L	EPA 624.1 or EPA 8260B	Grab	SP	SP, then 1/Month	-
1,2-Dichloroethane [4]	µg/L	EPA 624.1 or EPA 8260B	Grab	SP	SP, then 1/Month	-
1,1-Dichloroethylene [4]	µg/L	EPA 624.1 or EPA 8260B	Grab	SP	SP, then 1/Month	-
Ethylbenzene [4]	µg/L	EPA 624.1 or EPA 8260B	Grab	SP	SP, then 1/Month	-
Methylene Chloride [4]	µg/L	EPA 624.1 or EPA 8260B	Grab	SP	SP, then 1/Month	-
Tetrachloroethylene [4]	µg/L	EPA 624.1 or EPA 8260B	Grab	SP	SP, then 1/Month	-
Toluene [4]	µg/L	EPA 624.1 or EPA 8260B	Grab	SP	SP, then 1/Month	-
Cis-1,2-Dichloroethylene [4]	µg/L	EPA 624.1 or EPA 8260B	Grab	SP	SP, then 1/Month	-
Trans-1,2-Dichloroethylene [4]	µg/L	EPA 624.1 or EPA 8260B	Grab	SP	SP, then 1/Month	-
1,1,1-Trichloroethane [4]	µg/L	EPA 624.1 or EPA 8260B	Grab	SP	SP, then 1/Month	-
1,1,2-Trichloroethane [4]	µg/L	EPA 624.1 or EPA 8260B	Grab	SP	SP, then 1/Month	-
Trichloroethylene [4]	µg/L	EPA 624.1 or EPA 8260B	Grab	SP	SP, then 1/Month	-
Vinyl Chloride [4]	µg/L	EPA 624.1 or EPA 8260B	Grab	SP	SP, then 1/Month	-

Parameter	Unit	Suggested Analytical Test Method	Sample Type	Influent	Effluent Water	Receiving Water [1]
2,4-Dichlorophenol [4],[5]	µg/L	EPA 625.1 or EPA 8270D	Grab	SP	SP, then 1/Month	-
2,4,6-Trichlorophenol [4],[5]	µg/L	EPA 625.1 or EPA 8270D	Grab	SP	SP, then 1/Month	-
Benzidine [4],[5]	µg/L	EPA 625.1 or EPA 8270D	Grab	SP	SP, then 1/Month	-
Bis(2-Chloroethyl)Ether [4],[5]	µg/L	EPA 625.1 or EPA 8270D	Grab	SP	SP, then 1/Month	-
Chrysene [4],[5]	µg/L	EPA 625.1 or EPA 8270D	Grab	SP	SP, then 1/Month	-
3,3'-Dichlorobenzidine [4],[5]	µg/L	EPA 625.1 or EPA 8270D	Grab	SP	SP, then 1/Month	-
2,4-Dinitrotoluene [4],[5]	µg/L	EPA 625.1 or EPA 8270D	Grab	SP	SP, then 1/Month	-
1,2-Diphenylhydrazine [4],[5]	µg/L	EPA 625.1 or EPA 8270D	Grab	SP	SP, then 1/Month	-
Hexachlorobenzene [4],[5]	µg/L	EPA 625.1 or EPA 8270D	Grab	SP	SP, then 1/Month	-
1,2,4-Trichlorobenzene [4],[5]	µg/L	EPA 625.1 or EPA 8270D	Grab	SP	SP, then 1/Month	-
Xylenes [4]	µg/L	EPA 624.1 or EPA 8260B	Grab	SP	SP, then 1/Month	-
Methyl Tertiary-Butyl Ether [4]	µg/L	EPA 624.1 or EPA 8260B	Grab	SP	SP, then 1/Month	-
TPH as Gasoline [4],[6]	µg/L	EPA 8260B Modified or EPA 8015B Modified	Grab	SP	SP, then 1/Month	-
TPH as Diesel [4],[6]	µg/L	EPA 8015B Modified	Grab	SP	SP, then 1/Month	-
TPH as Motor Oil [4],[6]	µg/L	EPA 8015B Modified	Grab	SP	SP, then 1/Month	-
PFAS [7]	ng/L	EPA 1633	Grab	SP [7], ~~then Once~~	-	-

Parameter	Unit	Suggested Analytical Test Method	Sample Type	Influent	Effluent Water	Receiving Water [1]
Priority Pollutants, other than limited parameters [8]	µg/L	-	Grab	SP	SP, then Once ~~1/Year~~	-
Municipal Supply Pollutants [9]	µg/L	-	Grab	-	Once	-

Footnotes:

~~[1] Receiving water monitoring is required only when discharging directly to the receiving water (e.g., not via storm drains). Monitoring for turbidity, total dissolved solids, and salinity shall be monitored during startup phase monitoring. Then, receiving water monitoring shall occur after any effluent limitation violation. Receiving water monitoring shall occur on the same calendar day as effluent confirmation monitoring for each parameter with an effluent limitation violation.~~

~~[1]~~[2] See MRP section 5.1 for startup phase monitoring requirements.

~~[2]~~[3] Total residual chlorine shall be monitored in effluent only when chlorine is present in the influent or used during treatment.

~~[4] Receiving water monitoring is required only when discharging directly to the receiving water (e.g., not via storm drains). Monitoring for hardness shall occur after any cadmium or lead effluent limit violation. Receiving water monitoring shall occur on the same calendar day as effluent confirmation monitoring.~~

~~[3]~~[5] Mercury shall be analyzed using ultra-clean techniques as described in U.S. EPA methods 1669 and 1631 to eliminate potential sample contamination.

[4] Influent and effluent monitoring are required only if the pollutant is known to be present in the influent at concentrations greater than test method detection limit. Dischargers enrolled as of the effective date of this Order may use historical monitoring data to evaluate the applicability of this monitoring requirement. Otherwise, three monthly influent monitoring results shall be submitted with the Discharger's first self-monitoring report due February 15, 2027. Dischargers enrolled after the effective date of this Order shall use monitoring data collected during the application process and startup phase to determine the applicability of this monitoring requirement.

[5] Monitoring shall be performed using low-level detection techniques to achieve reporting levels below effluent limitations.

[6] TPH shall be analyzed without silica-gel cleanup.

[7] PFAS analytes shall include those listed in U.S. EPA method 1633. If PFAS in Table 2 of the Order are detected in influent at concentrations greater than test method reporting limits and exceed their effluent limits, then ~~T~~the Discharger shall monitor in accordance with MRP section 3.4 ~~if PFAS are detected in influent~~. For Dischargers enrolled as of the effective date of this Order, monitoring shall occur at least ~~once~~ one time ~~in 2026 and once in 2028~~ by the end of 2027; if PFAS in Table 2 are detected in influent at concentrations greater than test method reporting limits and exceed their effluent limits, then beginning in 2028, the Discharger shall monitor in accordance with MRP section 3.4.

[8] The Discharger shall monitor all priority pollutants listed in Attachment G. Monitoring may be conducted concurrently with other priority pollutants listed on MRP Table E-3 with more frequent monitoring. Mercury shall be analyzed using ultra-clean techniques as described in U.S. EPA methods 1669 and 1631 to eliminate potential sample contamination. Monitoring of bis(2-ethylhexyl)phthalate shall also be performed using ultra clean sampling techniques.

[9] The Discharger shall monitor for the pollutants with Primary Maximum Contaminant Levels (MCLs), except for radionuclides. This monitoring requirement applies only to Dischargers discharging to "Receiving Waters Used as Drinking Water," defined as surface waters with existing or potential beneficial uses of "Municipal and Domestic Supply" or "Groundwater Recharge," or both. The MCLs can be found in Title 22 Table 64431-A (Inorganic Chemicals) of section 64431, Table 64433.2-A (Fluoride) of section 64433.2, and Table 64444-A (Organic Chemicals) of section 64444 of the California Code of Regulations. Priority pollutant monitoring conducted in accordance with the table above may be used to satisfy the~~is~~ monitoring requirement for municipal supply pollutants that are also priority pollutants.

Western States Petroleum Associates (Commenter L)

Commenter L Comment 1: *We are concerned about the precedent the tentative order is setting by using drinking water MCLs as a basis for technology-based PFAS effluent limits for discharges to non-drinking water receiving waters. To our knowledge, MCLs have been used to derive water quality-based effluent limits, but not technology-based effluent limits. Most toxics effluent limits in the tentative order, as well as in most California general and industrial permits, are based on water-quality based effluent limits that distinguish receiving water type. It is important that the tentative order be consistent with standard practice since it will be the first NPDES permit to establish numeric PFAS effluent limits in California.*

Response: The tentative order is consistent with federal regulations and standard practices. CWA section 301(b) and 40 C.F.R. sections 122.44 and 125.3 require the development of technology-based effluent limits, authorize use of best professional judgment in the absence of effluent limitation guidelines (ELGs), and require more stringent water quality-based effluent limits if technology-based effluent limits are insufficient to maintain water quality standards.

Under the CWA, technology-based effluent limits establish a minimum level of treatment based on available technologies, allowing dischargers to use any control techniques they choose to achieve the required pollutant reduction. The purpose of the PFAS technology-based effluent limits is to reduce PFAS discharges to levels representing the best practicable treatment control technology and the best available technology economically achievable. They are derived using our best professional judgment, considering the discharges covered by the tentative order. The analysis does not necessarily match the approach taken for other general or industrial permits that apply to other types of discharges. Technology-based effluent limits also do not consider receiving water conditions. Therefore, the proposed technology-based PFAS effluent limits can be reasonably applied to all Class 4 discharges covered by this tentative order without regard to the beneficial uses of different receiving waters and analyses used in other permits to derive their own effluent limits.

Attachment F section 4.2.2.4 explains our basis for using MCLs to derive technology-based effluent limits. The MCLs were derived considering available treatment technologies and their implementation costs. Before developing the MCLs, U.S. EPA first developed Maximum Contaminant Level Goals (MCLGs) for PFAS in drinking water. The MCLGs represent contaminant levels at which no known or expected human health risks would occur. They only consider public health and do not account for limits of detection or the effectiveness of available treatment technologies. U.S. EPA then established PFAS MCLs that are less stringent than the MCLGs after considering the best available treatment technologies and their implementation costs. In doing so, U.S. EPA ensured that compliance with the MCLs would be feasible. This revised tentative order relies on U.S. EPA's technological assessment for the PFAS MCL

development process to apply the values established for the MCLs as technology-based effluent limits based on best professional judgment.

The PFAS technology-based limits are practicable and achievable limits for Class 4 discharges because nearly all Class 4 enrollees already implement the best available technologies, such as GAC, necessary to treat PFAS. The PFAS technology-based limits are not necessarily practicable or achievable for Class 1-3 enrollees because those dischargers do not necessarily implement the best available technologies already. To clarify this distinction, we revised Attachment F section 4.2.2.4 as shown below. We also revised Table 1 of the tentative order (see Response to Commenter B Comment 1) and Footnote 6 of Attachment E Table E-2 (see Response to Commenter J and Commenter K Comment 4).

> 4.2.2.4. **Per- and Polyfluoroalkyl Substances (PFAS).** ~~T~~ For Class 4 discharges, this Order establishes TBELs for five PFAS based on BPJ using all reasonably available and pertinent data and information...discharges do not harm surface water quality.
>
> On April 10, 2024… Thus, when properly designed and operated, these treatment technologies can lower PFAS concentrations sufficiently to meet MCLs. Therefore, this Order establishes TBELs for Class 4 discharges based on MCLs for PFOA, PFOS, PFHxS, PFNA, and HFPO-DA. Because regional discharge data reflecting PFAS removal using these technologies is still somewhat limited, this Order establishes only average monthly TBELs, and not maximum daily TBELs, to account for potential treatment performance variation.
>
> These PFAS TBELs do not apply to Class 1-3 Dischargers because Class 1-3 Dischargers do not currently employ treatment technologies that would remove PFAS from their discharge. These Dischargers treat for non-priority pollutants, such as pH, hydrogen sulfide, total suspended solids, or low-level concentrations of naturally occurring metals using technologies (such as cartridge filters, ozone generators, or air spargers) that are ineffective for removing PFAS.

Additionally, the PFAS technology-based effluent limits were developed in a manner comparable to how we developed the technology-based effluent limits for VOCs in previous orders, including most recently Order R2-2012-0012. Those technology-based effluent limits were also based on best professional judgement, also applied regardless of receiving waters, and were based on MCLs established by U.S. EPA in 1985 (Federal Regulations 46902, November 13, 1985). For example, trichloroethylene, carbon tetrachloride, 1,2-dichloroethane, 1,1-dichloroethyelene, and benzene were VOCs with MCLs of 5 µg/L. In 1986, U.S. EPA used the work supporting these MCL regulations to determine that the cost of reducing groundwater VOC concentrations to those levels was economically achievable with technologies such as air stripping and

GAC (*NPDES Permit Limitations for Discharge of Contaminated Groundwater: Guidance Document, U.S. EPA, 1986*). The Regional Water Board used this guidance to derive technology-based effluent limits based on best professional judgment. Those technology-based effluent limits remained in effect until 2018, when the Regional Water Board developed new limits using discharge performance data.

The tentative order would not establish a new precedent for other NPDES permits. In the absence of applicable effluent limitations guidelines, the Regional Water Board will consider appropriate technology-based effluent limits for other discharge types using best professional judgment on a case-by-case basis depending on the specific circumstances of each case.

Commenter L Comment 2: *The tentative order should include information confirming how it followed U.S EPA's NPDES Permit Writer's Manual to develop PFAS effluent limits and considered the factors listed in 40 C.F.R. section 125.3 relating to the cost of technology application and non-water quality environmental impacts, among others. The tentative order should describe how the effluent limits carry out the intent and requirements of the CWA and NPDES regulations when establishing effluent limits based on best professional judgment.*

Response: U.S. EPA's NPDES Permit Writer's Manual provides only guidance and does not contain requirements. Nevertheless, according to the manual (p. 69), best professional judgment (BPJ) "allows the permit writer considerable flexibility in establishing permit terms and conditions. … [T]he need for and derivation of the permit condition, and the basis for its establishment, should be clearly defined and documented. References used to determine the BPJ condition should be identified." As explained more fully in Attachment F section 4.2, we derived the proposed PFAS limits consistent with the NPDES Permit Writer's Manual.

The specific requirements pertaining to the use of best professional judgment are set forth in 40 C.F.R. section 125.3. See Attachment F Table F-5 and Response to Commenter L Comment 6 for more information regarding how we considered the factors listed in 40 C.F.R. section 125.3.

Commenter L Comment 3: *We ask whether the Regional Water Board reviewed regional treatment system data, including data for those systems that treat commingled stormwater and groundwater, to conclude that PFAS effluent limits can be met 99 percent of the time, the statistic used to demonstrate the achievability of the technology-based effluent limits in the previous order and retained in the tentative order. One regional treatment system does not achieve this criterion despite using best available technologies. We request that, if existing PFAS data are insufficient to confirm the achievability of the proposed PFAS effluent limits, the Regional Water Board consider alternatives, such as implementing monitoring-only requirements or non-enforceable benchmarks, to derive achievable PFAS effluent limits in future permit reissuances.*

Response: Best professional judgment provides the Regional Water Board considerable flexibility in establishing technology-based effluent limits. The technology-based effluent limits for VOCs in the previous order and retained in the revised tentative order are based on performance data, but this approach is just one of many that can be used. The PFAS technology-based effluent limits in the revised tentative order are based on a different approach because treatment performance data are not readily available. For the PFAS technology-based effluent limits, the revised tentative order relies on an approach used for VOCs in previous orders. See Response to Commenter L Comment 1, Response to Commenter L Comment 6, and Response to Commenter L Comment 7 for more details.

Commenter L Comment 4: *The tentative order does not demonstrate how technology-based PFAS effluent limits derived from MCLs are achievable when expressed as monthly average effluent limits. If best professional judgment was used, it should replicate U.S. EPA's methodology, which assesses drinking water system compliance with PFAS MCLs using running annual averages. Averaging times and methods significantly affect compliance outcomes; a review of discharge data from one regional treatment system showed that it could comply with running annual average MCLs for PFOS and PFOA, but not average monthly effluent limits. Furthermore, average monthly effluent limits complicate compliance because laboratory turnaround times are typically three weeks, precluding the ability for operators to make necessary corrections to the treatment system or anticipate potential effluent limit exceedances.*

Response: We disagree. The proposed average monthly limits are based on best professional judgement. We do not propose annual average limits, as U.S. EPA uses for public water systems, because such limits would be insufficient to ensure that groundwater treatment system performance is adequately maintained. As stated in Attachment F section 4.2.1, 40 C.F.R. section 122.45 requires that effluent limits for continuous discharges, other than for public-owned treatment works, be expressed as maximum daily and average monthly limits, unless impracticable. The revised tentative order proposes only average monthly PFAS effluent limits to account for potential treatment performance variation; average monthly effluent limits will provide dischargers flexibility to maintain compliance while also making necessary adjustments to their treatment systems as needed.

Laboratory turnaround times should not prevent compliance with average monthly effluent limits. Two of three analytical laboratories in our region that we contacted offer standard turnaround times of ten days. If turnaround times are a concern, dischargers can collect and retain more samples throughout the month for subsequent analysis as needed to maintain compliance by averaging results. This would be a more prudent approach than waiting to detect a potential problem before deciding to collect more samples as the comment suggests. In any case, repeated violations should not be a problem because Attachment E section 3.4 requires dischargers that detect PFAS in their influent to monitor midstream to determine and address treatment media breakthrough and prevent PFAS effluent limit exceedances.

Technology-based effluent limits are intended to ensure the use of best available technologies. They cannot be based on poorer performing technologies. When deriving the proposed limits, we considered all existing permit enrollees and their treatment systems. This comment cites just one facility, which may not have implemented sufficient treatment to ensure compliance with the proposed technology-based PFAS effluent limits. Class 4 dischargers that cannot meet the PFAS effluent limits may need to upgrade their treatment system to ensure they are using the best available technologies.

Commenter L Comment 5: *We ask whether the Regional Water Board conducted an evaluation of economic impacts to multiple sites and multiple treatment technologies as required by 40 C.F.R section 125.3(d) considering that the PFAS effluent limits in the tentative order would increase treatment system capital and operating costs across many sites in the region due to more frequent treatment media changeouts, higher monitoring costs, and additional improvements to provide redundancy. At one regional treatment system, this would represent a four-fold increase of GAC media changeout, representing approximately $220,000 in additional annual costs.*

Response: See Response to Commenter L Comment 6 below.

Commenter L Comment 6: *The tentative order should consider non-water quality environmental factors pursuant to 40 C.F.R section 125.3(d) because there are negative environmental impacts associated with the increased frequency of treatment media changeout, delivery, and disposal required to comply with the proposed PFAS effluent limits. The proposed PFAS effluent limits would translate to a carbon footprint of 63 metric tons of carbon dioxide equivalents per year and an approximate annual consumption of 360 metric million British thermal units (MMBTU) or 110,000 kilowatt-hours (kWh) for GAC changeouts alone.*

Response: As described in Attachment F section 4.2.2.4, the tentative order establishes PFAS technology-based effluent limits based on best professional judgment in accordance with CWA section 402(a)(1) and 40 C.F.R. section 125.3. In applying best professional judgment, we considered all reasonably available and pertinent data and information (including the information provided in comments on the tentative order) to form the basis for the limits.

In developing the PFAS technology-based effluent limits, we relied heavily on U.S. EPA's robust technical analyses for the PFAS MCLs. U.S. EPA thoroughly evaluated the current state of science on PFAS removal using different treatment technologies, such as GAC, ion exchange, reverse osmosis, and nanofiltration at laboratory, field pilot scale, and full-scale facilities. Two of these four technologies — GAC and ion exchange — are commonly employed by dischargers enrolled under this permit, particularly Class 4 discharges.

We considered costs. For Class 4 discharges, the PFAS requirements may increase treatment costs because dischargers may need to add GAC or ion-exchange media specifically targeting PFAS, or replace existing media more frequently, depending on

the presence and concentrations of PFAS and PFAS-competing compounds in groundwater. PFAS-competing compounds are compounds that interfere with PFAS removal by decreasing the lifetime of PFAS treatment media and include solvents, fuel-leak compounds, and total dissolved solids. To estimate costs, we worked with several PFAS-treatment vendors operating in California to calculate treatment costs based on regional groundwater monitoring data from the Groundwater Ambient Monitoring Assessment program. Regional groundwater monitoring data captured average and high groundwater concentrations of PFAS and PFAS-competing compounds to represent average and high loading treatment scenarios. The average loading treatment scenario for most compounds was based on the average concentrations of PFAS and PFAS-competing compounds (i.e., all other pollutants). Estimated treatment costs ranged from $0.37 to $0.74 per 1,000 gallons of treated wastewater. The high loading treatment scenario reflected the 95th percentile of PFAS and PFAS-competing compound concentrations. These groundwater concentrations would be in areas with very high salinity and very high concentrations of PFAS and PFAS-competing compounds. Estimated annual operating costs for the high loading scenario started at $1 million, due to the frequency of replacing PFAS treatment media being as high as every seven days. However, the high loading scenario would rarely — if ever — apply because nearly all Class 4 dischargers are located outside areas of high groundwater salinity and already remove low-to-moderate levels of PFAS-competing compounds with existing GAC. Therefore, the average loading scenario better represents Class 4 discharges. Based on the treatment technologies that Class 4 dischargers enrolled in the permit currently use, estimated annual treatment costs for most treatment systems to treat their groundwater would range between $75,000 and $100,000.

We also considered non-water quality impacts. We have no information to confirm or refute the information provided with this comment regarding energy consumption and carbon dioxide emissions. However, we acknowledge that energy consumption and greenhouse gas emissions may increase as dischargers treating PFAS optimize their groundwater treatment systems and replace PFAS treatment media. The magnitude of these impacts, however, will depend on site-specific conditions, such as groundwater quality, treatment media capacity and regenerative capabilities, and distance to supply and disposal centers. In any case, the new requirements are consistent with the CWA's primary goal of eliminating the discharge of pollutants and support U.S. EPA's PFAS Strategic Roadmap to restrict and remediate PFAS impacts in human health and the environment.

In response to this comment, we revised Attachment F Table F-5 as follows:

Table F-5. 40 C.F.R. Section 125.3(d) Factors

Factor	Considerations
Cost of applying technology relative to effluent reduction benefits	The cost of imposing these TBELs, which in most cases should be comparable to the cost of current technology Class 4 Dischargers employ to remove other pollutants, is reasonable given that existing Class 4 Dischargers already implement practicable and economically

Factor	Considerations
	achievable treatment technologies and significant upgrades are unnecessary. Class 4 Dischargers that discharge PFAS will likely experience increased costs resulting from the addition and replacement of PFAS treatment media. These costs are ~~The cost associated with implementing these TBELs is~~ warranted to minimize pollutant discharges; reduce exposure to the public and environment, and hold Class 4 Dischargers to the same performance.
Age of equipment and facilities	Nearly all Class 4 Dischargers already employ treatment technologies sufficient to comply with these TBELs, regardless of the age of their existing equipment and facilities.
Process employed	The processes most Class 4 Dischargers can employ to comply with these TBELs are readily available because Dischargers already employ treatment technologies sufficient to comply with these TBELs.
Engineering aspects of various controls	Nearly all Class 4 Dischargers already employ treatment technologies sufficient to comply with these TBELs; therefore, the engineering aspects of such technologies have been largely resolved. Available controls are practicable and capable of meeting the TBELs.
Process changes	Small or no changes to the treatment process are necessary because nearly all Class 4 Dischargers already employ treatment technologies sufficient to comply with these TBELs. Treating for PFAS will likely result in process changes for the frequency of replacement for GAC and ion-exchange resins.
Non-water quality environmental impacts	Non-water quality environmental impacts are likely because Class 4 Dischargers that discharge PFAS may need to add and replace PFAS treatment media. These impacts may include increased energy consumption and greenhouse emissions due to treatment media consumption, transportation, and installation. The magnitude of these impacts, however, are site-specific and largely depend on groundwater quality and distances to PFAS media supply and disposal centers. ~~There will be little or no change in non-water quality environmental impacts because energy, chemical, and material requirements will continue to be the same as, or similar to, those necessary to comply with the previous orders.~~

Commenter L Comment 7: *We suggest that the Regional Water Board consider addressing PFAS contamination through alternatives, such as using Environmental Screening Levels as temporary non-enforceable benchmarks for PFOS and PFOA. These could be used temporarily while the State of California finalizes its PFAS drinking water and aquatic life objectives.*

Response: The suggested approach would be inconsistent with the CWA and its implementing regulations. CWA section 301(b) and 40 C.F.R. section 122.44 require NPDES permits to include conditions meeting technology-based requirements at a

minimum. Using environmental screening levels as non-enforceable benchmarks would not satisfy this requirement. See Response to Commenter L Comment 6.

Commenter L Comment 8: *We are concerned that anti-backsliding requirements would prevent the Regional Water Board from raising PFAS effluent limits in the tentative order if it finds that higher PFAS effluent limits are appropriate. For example, U.S. EPA recently published acute aquatic life criteria and benchmarks for PFOS and PFOA and eight other PFAS that are orders of magnitude greater than the PFAS effluent limits proposed in the tentative order. We ask whether dischargers that discharge to marine waters would still be required to meet lower technology-based PFAS effluent limits once the higher aquatic life criteria are finalized.*

Response: Technology-based effluent limits are derived independent of water quality standards and any water quality-based effluent limits. Thus, whether new aquatic life water quality objectives for PFAS are established above the proposed technology-based effluent limits would have no bearing on the technology-based effluent limits. CWA section 301(b) and 40 C.F.R. section 122.44 require that we first derive technology-based effluent limits and then only derive more stringent water quality-based effluent limits as necessary to meet water quality standards. If technology-based effluent limits are sufficiently stringent to ensure that receiving waters meet aquatic life criteria, no water quality-based effluent limits would be necessary.

The anti-backsliding requirements in CWA sections 402(o) and 303(d)(4) and 40 C.F.R. section 122.44(l) generally require effluent limits in a reissued permit to be as stringent as those in the previous versions of the permit. Limited exceptions are allowed under CWA section 402(o)(2) for technology-based effluent limits established using best professional judgment. If the revised tentative order is adopted, the Regional Water Board could impose less stringent PFAS effluent limits in the future if one of the listed exceptions were to apply.

Commenter L Comment 9: *Attachment E section 3.4.2 of the tentative order would set a new precedent in defining GAC media oversaturation. To prevent oversaturation, the tentative order requires dischargers to accelerate PFAS and total organic carbon monitoring when midstream concentrations for any PFAS, including those without effluent limits, exceed influent or upstream midstream concentrations of corresponding PFAS. We request that the Regional Water Board explain why this requirement is necessary and how it aligns with guidance. Although Attachment F section 7.4 states that it is required to inform the potential development or revision of the proposed technology-based effluent limits, the same could be accomplished through routine monitoring without accelerated monitoring or corrective actions. The latter does not support the Regional Water Board's expansion beyond the list of PFAS regulated by the state or U.S. EPA, and we see no federal regulation or guidance that all PFAS analyzed by U.S. EPA method 1633, as required by the tentative order, warrant regulation.*

Response: The requirements of the tentative order would not set a precedent for other permits in the region or the state; the requirements only apply to the discharges subject to the tentative order. Accelerated monitoring and corrective actions are warranted

whenever *any* PFAS breaks through a treatment system. As described in section 2.3 of *Technologies and Costs for Removing Per and Polyfluoroalkyl Substances (PFAS) from Drinking Water* (U.S. EPA, March 2024), adsorption treatment technologies, such as GAC, operate on the principle that contaminants will adsorb to the treatment media over time. The media reaches a saturation point when all its adsorption sites are occupied. At that point, the media can no longer remove pollutants. When treating groundwater to remove PFAS, the influent can contain a broad range of PFAS with varying affinities for GAC. For example, long-chain PFAS have a higher affinity for GAC than short-chain PFAS do. As PFAS accumulates in the GAC, the media becomes more saturated with PFAS of various affinities. When the GAC is fully saturated, short chain PFAS desorb from the media as long chain PFAS replace them. This phenomenon is possible when treatment media is not replaced in a timely manner. Accelerated monitoring and corrective actions are warranted when any PFAS breakthrough becomes evident, particularly because it indicates a loss of treatment performance for PFAS subject to effluent limits and PFAS not subject to effluent limits.

Nevertheless, in response to the comment, we revised Attachment E section 3.4.2 to delete references to "oversaturation" and to allow Dischargers to adopt their own monitoring strategies to address PFAS breakthrough in their treatment systems to comply with the PFAS technology-based effluent limits, as follows:

> 3.4.2. For a treatment system with more than one stage of adsorptive media treating PFAS, the Discharger shall adopt midstream monitoring strategies to detect adsorptive media breakthrough and implement corrective actions, such as media replacement, to comply with this Order's PFAS effluent limitations. The Discharger shall submit a PFAS Treatment Evaluation Report as described in Attachment E section 6.5 if it determines, after implementing corrective actions, that it cannot meet this Order's PFAS effluent limitations. ~~accelerate influent, midstream, and effluent TOC and PFAS monitoring to monthly if midstream PFAS concentrations for any PFAS compound equal to or exceed corresponding influent concentrations or other upstream midstream concentrations, which indicates adsorptive media oversaturation. The Discharger may cease accelerated monitoring after it implements corrective actions to address adsorptive media oversaturation and midstream PFAS concentrations for all PFAS compounds are observed at levels less than corresponding influent or other upstream midstream concentrations for three consecutive months. The Discharger may cease accelerated monitoring if it can neither identify nor implement corrective actions, with Executive Officer approval.~~

We similarly revised Attachment E section 6.5, as follows:

> **6.5. PFAS Treatment Evaluation Report**

6.5.1. If the Discharger cannot meet this Order's PFAS effluent limitations ~~correct oversaturation of adsorptive media used for PFAS treatment, as described in MRP section 3.4.2, through media replacement~~, it shall submit a PFAS Treatment Evaluation Report, no later than 90 calendar days after the last non-compliance event, that evaluates treatment performance and identifies alternative corrective actions. ~~The Discharger may also request to cease accelerated PFAS monitoring.~~ The report shall include the following:

6.5.1.1. Description of treatment facility and operational activities in the past year (e.g., treatment shutdowns, maintenance activities) leading up to the breakthrough in the ~~detection of oversaturation of~~ adsorptive media.

6.5.1.2. Description of adsorptive media and design features, including bed size (in pounds), bed life (in days), and bed volume of adsorptive media where breakthrough ~~oversaturation~~ was observed.

6.5.1.3. Tabulated history of adsorptive media replacements, including bed size (in pounds), bed life (in days), and bed volumes per spent media vessel since the initial date of discharge.

6.5.1.4. Analysis of influent, midstream, and effluent TOC and PFAS monitoring data that shows treatment performance trends leading up to the detection of adsorptive media breakthrough ~~oversaturation~~. The analysis shall include a discussion of bed life and bed volumes, adsorption media receptor sites, non-PFAS and PFAS-competing compounds ~~anions~~, and tabulated and graphical summaries of TOC and PFAS monitoring data.

6.5.1.5. Discussion of proposed or adopted corrective actions that maintain high PFAS treatment performance and compliance with this Order's requirements, including any new criteria for adsorptive media management.

Commenter L Comment 10: *We request that the Regional Water Board explain the cost of achieving a reduction of PFAS in effluent and address the non-water quality environmental impact considerations required by 40 C.F.R. 125.3(d) when imposing technology-based effluent limits. Attachment E section 3.4.2 of the tentative order requires accelerated monitoring and corrective actions if midstream PFAS concentrations exceed influent or upstream midstream concentrations. Based on data from one regional PFAS treatment system, short-chain PFAS, such as PFBA, have been shown to break through GAC at a rate five-to-ten times greater than long-chain PFAS, like PFOS or PFOA. This requirement would represent an annual cost increase for GAC changeouts from $1 million to $2 million, while also making it virtually*

impossible for dischargers to maintain normal treatment system operations without triggering accelerated monitoring for non-limited PFAS. In terms of greenhouse gas emissions and energy, this requirement would represent an additional release of 300 to 600 metric tons of carbon dioxide and an annual consumption of 2 to 4 billion MMBTU (500,000 to 1,000,000 kWh) of energy.

Response: We considered the cost of achieving a reduction of PFAS in the effluent and the non-water quality environmental impacts of imposing PFAS technology-based effluent limitations. See Response to Commenter L Comment 6. We also modified the requirement in Attachment E section 3.4.2. See Response to Commenter L Comment 9. The cost estimates in this comment are based on requirements proposed in the tentative order that we subsequently revised to be more flexible.

Commenter L Comment 11: *While the tentative order allows for treatment of groundwater commingled with stormwater, it does not differentiate between monitoring parameters and effluent limits commonly applied to groundwater but not to stormwater. Periodic detections of chloroform and organic compounds eluting in the total petroleum hydrocarbon as diesel (TPH-d) range have occurred at one regional groundwater treatment system using GAC when stormwater water is treated, despite efforts to mitigate the intermittent detections. Given that the technology-based effluent limits are not based on water-quality objectives but rather on data derived from regional groundwater treatment systems, we ask that the Regional Water Board update the tentative order's evaluation using recent discharge data, restrict compliance monitoring to dry weather periods to account for differences in stormwater quality, or include a provision that states that technology-based effluent limits do not apply to commingled discharges.*

Response: We disagree. We did not revise the tentative order to restrict compliance monitoring to dry weather periods or to state that the technology-based effluent limits do not apply to commingled discharges. The technology-based effluent limits for organic analytes, such as chloroform and TPH-d, derived in the previous order and retained in the tentative order, are based on treated wastewater discharge data from 30 dischargers, including those treating groundwater commingled with stormwater. The statistical analysis performed on the discharge data for these two analytes supports our finding that dischargers should be able to meet the corresponding technology-based effluent limits at least 99 percent of the time. Since the establishment of these limits, dischargers have been able to consistently comply, with rare exceptions. Thus, an updated assessment of treatment performance using recent discharge data or limiting the scope of these technology-based effluent limits exclusively to groundwater is unwarranted.

The regional groundwater treatment system referenced in the comment is equipped with GAC and ion exchange technologies to treat PFAS in groundwater and groundwater commingled with stormwater. (Other enrollees do not commingle groundwater with stormwater discharges to the extent that this discharger does.) GAC treatment is effective at removing organic analytes, such as TPH-d or chloroform, sufficiently to comply with the technology-based effluent limits. Based on treatment system data,

particularly monitoring data collected after expansion of the treatment system to include ion exchange technology and following the latest GAC media replacement, TPH-d was detected at a concentration greater than the TPH-d effluent limit in only 1 of 16 samples. Most of these samples were collected when treating groundwater commingled with stormwater. During the same period, no chloroform was detected immediately after GAC treatment, regardless of treating groundwater or groundwater commingled with stormwater.

We believe the chloroform detections mentioned in the comment likely refer to chloroform effluent concentrations following ion exchange treatment when chloroform from an unknown source was present. The particular Discharger in question may need to consider additional treatment technologies or source control measures to ensure compliance.

Staff-Initiated Changes

In addition to making minor editorial and formatting changes, we revised the tentative order as follows:

1. We revised the first page of the tentative order to reflect new effective and expiration dates, as well as a new Notice of Intent (NOI) filing date 270 days prior to permit expiration:

This Order was adopted on:	**Month XX, 2025**
This Order shall become effective on:	**<u>July 1, 2026</u>** **~~January 1, 2026~~**
This Order shall expire on:	**<u>June 30, 2031</u>** **~~December 31, 2030~~**
CIWQS regulatory measure number:	**453066**

   To obtain coverage under this Order, prospective dischargers must submit the Notice of Intent (NOI) form shown in Attachment B and a filing fee equivalent to the first year's annual fee. Discharge is not authorized until the California Regional Water Quality Control Board, San Francisco Bay Region (Regional Water Board), Executive Officer issues an Authorization to Discharge. Authorized Dischargers that intend to continue discharging after this Order's expiration date shall file a new NOI form no later than **<u>October 3, 2030</u>** **~~April 5, 2030~~**.

2. We revised Attachment E Table E-5 to reflect the new NOI filing date:

Table E-5. Monitoring Periods

Sampling Frequency	Monitoring Period Begins On	Monitoring Period
⋮	⋮	⋮
Once	Effective date of this Order	Once during the term of the Order so that all related information is submitted no later than **October 3, 2030** ~~**April 5, 2030**~~.

3. We revised Attachment B section 4 to correct typographical errors:

4. CONTACT INFORMATION

Duly Authorized Representative: The Discharger's duly authorized representative, on its behalf, may sign and certify permit-required documents in accordance with Attachment D section 5.2.3. This individual shall be responsible for the overall operation of the facility or facility environmental matters.	
Company/Organization	
Name	Title
Email	Phone Number
Design Professional Engineer Information (see section ~~10.4~~ 11.4 below)	
Company/Organization	
Name	Title
CA PE License Number	CA PE License Expiration Date
Email	Phone Number
Operation and Maintenance Professional Engineer Information (see section ~~10.4~~ 11.4 below)	
Company/Organization	
Name	Title
CA PE License Number	CA PE License Expiration Date
Email	Phone Number
Consultancy Information	
Company/Organization	

Name	Title
Email	Phone Number

4. We revised Attachment B section 11.4 to correct the information required in Attachment B section 4:

> **11.4. ~~Facility~~ Contact Information.** Provide the name and contact information of the duly authorized representative, design professional engineer, ~~maintenance and operation~~ operations and maintenance professional engineer, and ~~d~~Discharger's consultancy~~, and billing information~~. The design professional engineer is responsible for designing the groundwater treatment system and certifying any proposed changes to it. The operation and maintenance professional engineer is responsible for all operations and maintenance activities performed at the treatment facility. Both engineers must be licensed to practice in California. Exceptions to having a licensed operation and maintenance professional engineer overseeing operation and maintenance activities must be clearly explained, and the Discharger must describe how this exception would not compromise operation and maintenance activities at the treatment facility.

5. We revised Attachment B section 11.9.3 to require that midstream monitoring locations be specified, if applicable:

> **11.9.3. Process Flow Diagram.** A diagram showing the layout of the treatment process units, monitoring locations (e.g., influent, midstream [see Attachment E Table E-1], and effluent), and process wastewater flow from the intake to the exit point of the treatment system. An example of such a diagram is below:

6. We revised Attachment E sections 6.2.2.1.6 and 6.2.2.1.7 to further specify the PFAS treatment information needed in self-monitoring reports:

> 6.2.2.1.6. For a Discharger treating PFAS, a tabulated summary of adsorptive media replacements, if any, including bed size (in pounds), bed life (in days), and bed volumes per spent media vessel since the initial date of discharge.
>
> 6.2.2.1.7. A detailed discussion of maintenance and operation activities or (e.g., media changeouts) or improvements performed on the treatment system. For a Discharger treating PFAS, the discussion should include a description of the criteria used to replace adsorption media, if any.

7. We revised Attachment F sections 4.4.1 and 4.4.2 to confirm that selenium requirements in the revised tentative order are consistent with anti-backsliding and antidegradation provisions:

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

    For Class 1 and Class 2 discharges, this Order does not retain WQBELs for chloride, selenium (except for discharges to Stevens Creek in Santa Clara County), total dissolved solids, and turbidity because data no longer indicate reasonable potential to cause or contribute to exceedances of water quality objectives.

    For Class 4 discharges, this Order does not retain WQBELs for acute toxicity, chromium III, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, selenium (except for discharges to Stevens Creek in Santa Clara County), and turbidity because data no longer indicate reasonable potential to cause or contribute to exceedances of water quality objectives….

    4.4.2. **Antidegradation.** This Order complies with the antidegradation provisions of 40 C.F.R. section 131.12 and State Water Board Resolution 68-16. It does not authorize lowering water quality as compared to the level of discharge authorized in the previous order, which is the baseline by which to measure whether degradation will occur. This Order does not allow for an increased flow, a reduced level of treatment, or increased effluent limitations relative to the previous order.

    This Order does not retain WQBELs for acute toxicity, chloride, total dissolved solids, turbidity, chromium III, selenium (except for discharges to Stevens Creek in Santa Clara County), benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenz(a,h)anthracene, and indeno(1,2,3-cd)pyrene from the previous order because data no longer indicate reasonable potential for these pollutants to exceed water quality objectives….

8. We revised Attachment F section 8.4 to correct the public hearing date of the tentative Order:

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

Date: December 10 ~~April 9~~, 2025
Time: 9:00 a.m.
Contact: Marcos De la Cruz, (510) 622-2365, marcos.delacruz@waterboards.ca.gov

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

Dates and venue can change. The Regional Water Board's web address is https://www.waterboards.ca.gov/sanfranciscobay, where one can access the current agenda for changes.

9. We added a footnote to Attachment E Table E-4 to specify routine PFAS monitoring for Class 4 Dischargers when PFAS effluent limits are unattainable.

TABLE E-4. Minimum Monitoring for PFAS

Parameter	Units	Analytical Test Method	Sample Type	Influent [3]	Midstream [1],[3]	Effluent [3]
PFAS	ng/L	EPA 1633 [2]	Grab	1/Quarter	1/Quarter	1/Quarter
TOC	mg/L	-	Grab	1/Quarter	1/Quarter	1/Quarter

Footnote:

[1] The Discharger shall conduct midstream monitoring if its treatment system includes more than one stage of adsorptive media treatment (e.g., GAC or ion exchange media vessels in series).

[2] PFAS analytes shall include those listed in U.S. EPA method 1633.

[3] Pursuant to Attachment E section 6.5, if the Discharger concludes it cannot meet this Order's PFAS requirements (e.g., due to high groundwater salinity), the Discharger shall monitor only once, but only with prior approval from the Executive Officer. No midstream monitoring is required.