

**Central Valley Regional Water Quality Control Board
27-28 April 2023 Board Meeting**

**Response to Comments
for the
Reynolds Consumer Products LLC
Reynolds Molded Pulp Mill
Tentative Waste Discharge Requirements**

The following are Central Valley Regional Water Quality Control Board (Central Valley Water Board) staff responses to comments submitted by interested persons and the Discharger regarding the tentative Waste Discharge Requirements, National Pollutant Discharge Elimination System (NPDES) Permit CA0004821 renewal for Reynolds Consumer Products LLC's (Discharger) Reynolds Molded Pulp Mill (Facility).

The tentative NPDES Permit was issued for a 30-day public comment period on 22 February 2023 with comments due by 24 March 2023. The Central Valley Water Board received public comments regarding the tentative Permit by the due date from Kimberly Clements, Natural Resource Management Specialist, for National Marine Fisheries Service (NMFS), a department of National Oceanic and Atmospheric Administration (NOAA), and Sarah Adams, EHS Manager, Reynolds Consumer Products (Discharger). Some changes were made to the proposed Permit based on public comments received.

The submitted comments were accepted into the record, and are summarized below, followed by Central Valley Water Board staff responses.

REYNOLDS CONSUMER PRODUCTS (DISCHARGER) COMMENTS

1. DISCHARGER COMMENT No. 1 – GENERAL COMMENT

Reynolds asserts that there was insufficient time provided by the Water Board for a thorough review of the 134-page draft permit before posting for public comment.

RESPONSE: Central Valley Water Board staff disagree. The tentative Order was posted for 30-day public review on 22 February 2023 with a public comment closing date of 24 March 2023. In addition, the Discharger was provided an Administrative Draft of the permit on 6 February 2023 and staff subsequently met with the Discharger on 13 February 2023 to discuss the Administrative Draft prior to public circulation of the subsequent tentative Order.

The Discharger was provided with more review time than is legally required. Furthermore, Central Valley Water Board staff engaged in multiple discussions with the Discharger about the Administrative Draft and subsequent Tentative Draft to explain permit provisions and understand the Discharger's questions and concerns. Appropriate revisions were made in response to these discussions and are reflected in the tentative Order.

2. DISCHARGER COMMENT #2 – PLANT FLOW

The Discharger states that EPA Application Form 2C was filled out incorrectly, as follows:

“The Maximum Daily discharge is reported as 1.27 MGD. This is not correct, and it is suspected that the Long Term Average Daily Discharge was mistakenly entered in this location instead of the Maximum Daily Discharge. From 2016 to 2019, the identified Maximum Daily Discharge was 1.84 MGD, recorded on April 30, 2019. Reynolds is requesting that 1.27 MGD be replaced with 1.84 MGD and that permit language be modified to reflect this change.”

The Long-Term Average Daily Discharge was recorded as NA on Form 2C. This number has been calculated to be 1.3 MGD. 1.3 MGD was calculated using daily total plant discharge flows recorded from 2016 to 2019. Reynolds is requesting that NA be changed to 1.3 MGD and that permit language be modified to reflect this change.”

RESPONSE: The tentative Order presents water quality data from April 2017 through February 2022. Attachment F, Table F-2, provides the maximum daily discharge during the subject time period: 1.9 million gallons per day (MGD). The maximum daily flow value was observed on 14 May 2021. (The data set also includes the Discharger’s identified peak from 2019: 1.84 MGD.)

No revisions to the tentative Order have been made related to the observed maximum daily flow since the correct maximum daily flow value is presented in the tentative Order. However, the tentative Order has been revised to reflect the Facility’s long-term average discharge rate of 1.3 MGD. The long-term average is referenced in the following locations in Attachment F: Facility Description (Page F-4), Table F-5 (Page F-14), and Table F-7 (Page F-15).

In accordance with Standard Provisions V.I. Other Information, Central Valley Water Board staff have requested that the Discharger submit an amended EPA Application Form 2C in order to correct the errors that exist on the application form.

3. DISCHARGER COMMENT No. 3 – BOD₅ CONCENTRATION

“Reynolds is requesting that the maximum daily concentration limit be calculated using 1.3 MGD, resulting in a maximum daily concentration limit of 22.4 mg/L and that language within the draft permit be modified to reflect the requested change in the BODS maximum daily discharge limit. It is important to point out that this request is not to modify the mass limitation which is the basis for development of the limits for the facilities Subcategory.”

RESPONSE: Central Valley Water Board staff concur that the concentration-based effluent limitation for BOD5 should be calculated using the Facility's long-term average daily flow value of 1.3 MGD rather than the maximum flow capacity of 2.7 MGD. The use of the maximum daily flow is not appropriate to determine the concentration-based limit from the mass limitation because it will reduce the concentration below the value which could be expected in a well operated facility. The use of the long-term average flow is most appropriate for the calculation of the concentration limit because it will reflect the range of concentrations that could be expected in a well operated facility.

The tentative Order has been revised to reflect concentration-based limitations based on the Facility's long-term average flow of 1.3 MGD, rather than the design capacity flow of 2.7 MGD. The revision impacts the final technology-based concentration limits for both BOD5 and Total Suspended Solids (TSS). BOD5 and TSS maximum daily effluent concentration-based effluent limits have been revised as follows:

BOD5: Revise maximum daily BOD5 limit of 11.4 mg/L to 22.3 mg/L.

TSS: Revise maximum daily TSS limit of 26 mg/L limit to 54.8 mg/L.

As a result of the revision, the following locations in the tentative Order have been modified to reflect the correct limits and/or the use of the long term daily average flow value of 1.3 MGD:

- Table 4 – Effluent Limitations (Page 5).
- Attachment F, Table F-5 - BPT Effluent Limitations for Secondary Fiber Non-Deink Facilities Where Molded Products from Wastepaper Are Produced Without Deinking (Page F-14).
- Attachment F, Table F-7 - Summary of Technology-based Effluent Limitations (Page F-15).
- Attachment F, Table F-13 - Summary of Final Effluent Limitations (Page F-40).

The existing Order contains technology-based concentration limits for BOD5 and TSS that were calculated using design capacity flow of 2.7 MGD and the prescribed Effluent Limitation Guidelines (ELGs). The existing Order's BOD5 and TSS maximum effluent limitations are 11.4 mg/L and 26 mg/L, respectively. The new, proposed technology-based concentration limits are less stringent than the existing Order's concentration-based limits. Therefore, updates have been made to address Anti-backsliding requirements in Attachment F, section IV.D.3. (Page F-37).

4. DISCHARGER COMMENT No. 4 – TEMPERATURE STUDY

"The draft permit proposes a new temperature study on a shorter time frame without any work plan or prior consultation with relevant federal and state agencies. In addition, the proposed timeline does not allow for periods of review and consultation before moving to subsequent actions. Reynolds asserts that the actions mandated in the draft permit are premature and is concerned that it will perform the updated temperature study requested in the draft permit only to have to repeat the study a third time if the other agencies or the Water Board later identify additional data requests that could have been incorporated if the permit provided time for advance consultation. Any actions

associated with the Temperature Study should be identified after appropriate federal and state agency review and comment of the November 2020 Temperature Study.

Reynolds proposes instead a schedule with preliminary consultation and an orderly phased approach where each task only begins after completion and agency approval of the preceding step.”

RESPONSE: Staff concur with the Discharger’s comment. The tentative Order has been revised to allow for the 2020 Temperature Study to be circulated and reviewed by appropriate resources agencies and parties prior to a Central Valley Water Board decision on an update to the Study. References to requirements related to a Temperature Study Update and the subsequent Alternative Analysis have been removed as a result of the revision.

The following locations in the tentative Order have been modified to reflect this revision:

- (Page 15) WDR section VI.C.1.g. The Temperature Study reopener provision has been revised by removing reference to the Temperature Study Update.
- (Page 16) WDR section VI.C.2.e. The Temperature Study Update Special Provision has been revised by removing reference to the Temperature Study Update. The Special Provision has been revised to reflect the requirement for a 2020 Temperature Study Review.
- (Page 16) WDR section C.2.f. Alternatives Analysis: The requirement to submit an Alternative Analysis has been removed.
- (Page E-27) Attachment E, section VIII.B.7.d. Temperature Receiving Water Limitations: “The Discharger shall calculate and report the temperature increase in the receiving water based on the difference in temperature at Monitoring Locations RSW-001 and RSW-002. ~~Additional monitoring of temperature impacts may be required based on implementation of the Compliance Schedule included in this Order.”~~
- (Page E-30) Attachment E, section VIII.D. Table E-10 - Technical Reports: The references to an “Updated Final Temperature Report” and an “Alternatives Analysis” deadline have been removed. However, a Temperature Study Review submittal deadline has been added to Table E-10 - Technical Reports.
- (Page F-31) Attachment F, section IV.C.3.d(i)(b) Temperature RPA. “A determination on the reasonable potential for the effluent to cause an exceedance in the temperature water quality objectives cannot be made at this time. Additional information on the applicable time periods when temperature increases will be detrimental to the fishery must be verified with appropriate resource agencies. This Order requires the Discharger to submit for review their 2020 aTemperature Study Update to appropriate federal and state resource agencies. The input received by the resource agencies during the review process will help gather the necessary information for a reasonable potential analysis on temperature to be conducted on the discharge. This Order may be

reopened in accordance with Special Provision VI.C.1.g. and modified by adding an appropriate temperature effluent limitation.”

- (Page F-44) Attachment F, section VI. B.1.e. “Temperature Study. If after review of the Temperature Study Update results it is determined that the discharge has reasonable potential to cause or contribute to an exceedance of a water quality objective this Order may be reopened and effluent limitations added for temperature.”
- (Page F-45) Attachment F, section VI.B.2.e. Remove reference to the requirement to submit a Temperature Study Update. In place of the update, add a requirement that the Discharger shall submit the 2020 Temperature Study to applicable federal and state resource agencies for review and comment. The Temperature Study shall be submitted to the resource agencies within 60 days of the permit effective date.
- (Page F-47) Attachment F, section VI.B.2.f. Alternatives Analysis: Remove the rationale for the Alternative Analysis.

5. DISCHARGER COMMENT No. 5 – REQUESTED TEXT EDITS FOR CLARIFICATION

The Discharger provided an attachment to their comment letter, titled: “*Guide to Requested Changes for draft NPDES CA0004821 Order R5-2023-XXXX*” (Attachment). The Attachment is intended to assist Central Valley Water Board staff in addressing changes requested by the Discharger during the review of the draft permit. The attachment proceeds from Discharger Comment No. 2, Comment No. 3, to Comment No. 4 (discussed above). The Guide provides specific “text edits for clarifications.”

RESPONSE: The tentative Order has been updated accordingly, as described in the response to the previous comments (see response to Comments No. 2, No. 3, and No. 4). The remaining requested text edits have been found to be unnecessary or inappropriate and the tentative Order remains unchanged except for the edits described in Central Valley Water Board staff response to Discharger Comments Nos. 2, 3, and 4.

KIMBERLY CLEMENTS (NOAA) COMMENTS

1. NOAA COMMENT #1 –CONSTITUENTS WITH INSUFFICIENT DATA: TEMPERATURE

“NMFS requests the opportunity to discuss with the Central Valley Water Board additional information on the applicable time periods when temperature increases could be detrimental to NMFS ESA listed salmonids and sturgeon, in particular Sacramento River winter-run Chinook salmon. NMFS also recommends including the California Department of Fish and Wildlife (CDFW) and U.S. Fish and Wildlife Service (USFWS) in these discussions.”

RESPONSE: As noted in Section VI.B.2.e of the Fact Sheet to the tentative Order, NMFS, USFW, and CDFW will have the opportunity to discuss with Central Valley Water Board staff the applicable time periods when temperature increases could be detrimental to fisheries.

No revisions proposed to the tentative Order.

2. NOAA COMMENT No. 2 – TEMPERATURE STUDY UPDATE

“We recommend the Central Valley Water Board provide the previous study results to NMFS, as well as providing it to our partner fisheries agencies identified in the above language under F-46, “California Department of Fish and Wildlife, U.S. Fish and Wildlife Agency”. Review of any previous study information will help the fisheries agencies prepare for providing input on future study updates and assess potential impacts to NMFS. ESA-listed salmonids and sturgeon, if applicable. When available please send a copy of the study results to Kimberly Clements, kimberly.clements@noaa.gov. In the interim, NMFS will identify relevant staff from the USFWS Red Bluff Office and CDFW Redding Office for the Central Valley Water Board to include for study result distribution as well as include in discussions we recommended in Comment #1.”

RESPONSE: As noted in Section VI.B.2.e of the Fact Sheet to the tentative Order, NMFS, as well as other applicable resource agencies, will have the opportunity to review the Discharger’s Temperature Study and provide input on any future study update, if needed.

No revisions proposed to the tentative Order.

3. NOAA COMMENT No. 3 – TEMPERATURE STUDY UPDATE

“NMFS requests the opportunity to review the Temperature Study Update, and provide site specific input, if applicable, to support appropriate interpretation of the temperature objective for discharge as well as provide additional information on the potential discharge impacts to receiving waters/habitat in the Sacramento River. The Sacramento River, including this reach, is listed as critical habitat for ESA-listed salmonids and sturgeon. In addition, there are many activities currently in place or being planned for this reach of Sacramento River to contribute to the recovery of ESA-listed salmon, in particular, critically endangered Sacramento River winter-run Chinook salmon. NMFS also recommends the Temperature Study Update be provided to the USFWS and CDFW for their review and input. When available please send a copy of the study update to Kimberly Clements, kimberly.clements@noaa.gov. In the interim, NMFS will identify relevant staff from the USFWS Red Bluff Office and CDFW Redding Office for the Central Valley Water Board to include for study update distribution as well as include in discussions.”

RESPONSE: In response to Discharger Comment No. 4 (Temperature Study), the tentative Order's requirement for a Temperature Study Update has been removed in order to allow time for resource agency review of the original (2020) Temperature Study.

An update to the 2020 Temperature Study, if needed, may be required by the Central Valley Water Board at a future date after input from applicable resource agencies. The Central Valley Water Board welcomes NMFS involvement in any future review opportunity.

CENTRAL VALLEY WATER BOARD STAFF - MISCELLANEOUS CORRECTIONS

1. CORRECTION #1 – REFERENCE TO FLOW LIMITATION

(Page F-40) Attachment F, Section IV.D.5 and Table F-13: Reference to TBELs that restrict flow and a reference to a maximum daily effluent flow limit of 2.7 MGD in Table F-13 has been removed. The tentative Order contains a Discharge Prohibition on flow of 2.7 MGD, not an effluent limitation. While the Discharger Prohibition is referenced in multiple locations in the Order, the incorrect reference to a flow limit is limited to Attachment F, Section IV.D.5.

2. WHOLE EFFLUENT TOXICITY

The Tentative Order contained Chronic Whole Effluent Toxicity requirements as per the State Water Resources Control Board's Statewide Toxicity Provisions. Central Valley Water Board staff was recently informed by the United States Environmental Protection Agency that the Statewide Toxicity Provisions will not be approved (and therefore will not take effect) prior to the Central Valley Water Board's April 2023 Board meeting. Accordingly, the tentative Order has been revised to remove the Toxicity Provisions requirements and include aquatic toxicity requirements based on the Basin Plan's narrative toxicity objective and the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (2005). Changes are shown below:

Waste Discharge Requirements sections IV.A.1.c has been revised as follows to include the Whole Effluent Toxicity Limitations:

- c. Acute Whole Effluent Toxicity. Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:
 - i. 70%, minimum for any one bioassay; and
 - ii. 90%, median for any three consecutive bioassays.

Waste Discharge Requirements section VI.C.1.d has been revised as follows to include Whole Effluent Toxicity in the Reopener Provisions section:

- d. **Whole Effluent Toxicity.** As a result of a Toxicity Reduction Evaluation (TRE), this Order may be reopened to include a new chronic toxicity effluent limitation, a revised acute toxicity effluent limitation, and/or an effluent limitation for a specific toxicant identified in a TRE. Additionally, if the State Water Board revises the SIP's toxicity control provisions, this Order may be reopened to implement the new provisions.

Waste Discharge Requirements section VI.C.2.a has been revised as follows to include Toxicity Reduction Evaluation Requirements in the Special Studies, Technical Reports and Additional Monitoring Requirements section:

- a. **Toxicity Reduction Evaluation Requirements.** This Provision requires the Discharger to investigate the causes of, and identify corrective actions to reduce or eliminate, effluent toxicity. If the discharge exceeds the chronic toxicity thresholds defined in this Provision, the Discharger is required to initiate a Toxicity Reduction Evaluation (TRE) in accordance with an approved TRE Work Plan and take actions to mitigate the impact of the discharge and prevent recurrence of toxicity. A TRE is a site-specific study conducted in a stepwise process to identify the source(s) of toxicity and the effective control measures for effluent toxicity. TREs are designed to identify the causative agents and sources of whole effluent toxicity, evaluate the effectiveness of the toxicity control options, and confirm the reduction in effluent toxicity. Alternatively, under certain conditions as described in this provision below, the Discharger may participate in an approved Toxicity Evaluation Study (TES) in lieu of conducting a site-specific TRE.
 - i. **Numeric Toxicity Monitoring Trigger.** The numeric Toxicity Unit (TUc) monitoring trigger is 1 TUc (where TUc = 100/NOEC). The monitoring trigger is not an effluent limitation; it is the toxicity threshold above which the Discharger is required to initiate additional actions to evaluate effluent toxicity as specified in subsection ii, below.
 - ii. **Chronic Toxicity Monitoring Trigger Exceeded.** When a chronic whole effluent toxicity result during routine monitoring exceeds the chronic toxicity monitoring trigger, the Discharger shall proceed as follows:
 - (a) **Initial Toxicity Check.** If the result is less than or equal to 1.3 TUc (as 100/EC₂₅) AND/OR the percent effect is less than 25 percent at 100 percent effluent, check for any operation or sample collection issues and return to routine chronic toxicity monitoring. Otherwise, proceed to step (b).
 - (b) **Evaluate 6-week Median.** The Discharger may take two additional samples within 6 weeks of the initial routine sampling event exceeding the chronic toxicity monitoring trigger to evaluate compliance using a 6-week median. If the 6-week median is greater than 1.3 TUc (as 100/EC₂₅) and the percent effect is greater than 25 percent at 100 percent effluent,

proceed with subsection (c). Otherwise, the Discharger shall check for any operation or sample collection issues and return to routine chronic toxicity monitoring. See Compliance Determination Section VII.D for procedures for calculating 6-week median.

- (c) **Toxicity Source Easily Identified.** If the source(s) of the toxicity is easily identified (e.g., temporary plant upset), the Discharger shall make necessary corrections to the facility and shall resume routine chronic toxicity monitoring; If the source of toxicity is not easily identified the Discharger shall conduct a site-specific TRE or participate in an approved TES as described in the following subsections.
- (d) **Toxicity Evaluation Study.** If the percent effect is ≤ 50 percent at 100 percent effluent, as the median of up to three consecutive chronic toxicity tests within a 6-week period, the Discharger may participate in an approved TES in lieu of a site-specific TRE. The TES may be conducted individually or as part of a coordinated group effort with other similar dischargers. If the Discharger chooses not to participate in an approved TES, a site-specific TRE shall be initiated in accordance with subsection (e)(1), below. Nevertheless, the Discharger may participate in an approved TES instead of a TRE if the Discharger has conducted a site-specific TRE within the past 12 months and has been unsuccessful in identifying the toxicant.
- (e) **Toxicity Reduction Evaluation.** If the percent effect is > 50 percent at 100 percent effluent, as the median of three consecutive chronic toxicity tests within a 6-week period, the Discharger shall initiate a site-specific TRE as follows:
- (i) **Within thirty (30) days** of exceeding the chronic toxicity monitoring trigger, the Discharger shall submit a TRE Action Plan to the Central Valley Water Board including, at minimum:
- Specific actions the Discharger will take to investigate and identify the cause(s) of toxicity, including a TRE WET monitoring schedule;
 - Specific actions the Discharger will take to mitigate the impact of the discharge and prevent the recurrence of toxicity; and
 - A schedule for these actions.

Waste Discharge Requirements section VII.G has been revised as follows to include Chronic Whole Effluent Toxicity Effluent Trigger:

Chronic Whole Effluent Toxicity Effluent Trigger (Section VI.C.2.a.i). To evaluate compliance with the chronic whole effluent toxicity effluent trigger, the median chronic toxicity units (TUc) shall be the median of up to three consecutive chronic toxicity bioassays during a six- week period. This includes a routine chronic toxicity monitoring event and two subsequent optional compliance monitoring events. If additional compliance monitoring events are not conducted, the median is equal to the result for routine chronic toxicity monitoring event. If only one additional compliance monitoring event is conducted, the median will be established as the arithmetic mean of the routine monitoring event and compliance monitoring event.

Where the median chronic toxicity units exceed 1 TUc (as 100/NOEC) for any end point, the Discharger will be deemed as exceeding the chronic toxicity effluent trigger if the median chronic toxicity units for any endpoint also exceed a reporting level of 1.3 TUc (as 100/EC25) AND the percent effect at 100% effluent exceeds 25 percent. The percent effect used to evaluate compliance with the chronic toxicity effluent trigger shall be based on the chronic toxicity bioassay result(s) from the sample(s) used to establish the median TUc result. If the median TUc is based on two equal chronic toxicity bioassay results, the percent effect of the sample with the greatest percent effect shall be used to evaluate compliance with the chronic toxicity effluent trigger.

Attachment A Definitions has been revised as follows to include Whole Effluent Toxicity definitions:

Effect Concentration (EC)

A point estimate of the toxicant concentration that would cause an observable adverse effect (e.g. death, immobilization, or serious incapacitation) in a given percent of the test organisms, calculated from a continuous model (e.g. Probit Model). EC25 is a point estimate of the toxicant concentration that would cause an observable adverse effect in 25 percent of the test organisms.

Inhibition Concentration

Inhibition Concentration (IC) is a point estimate of the toxicant concentration that would cause a given percent reduction in a non-lethal biological measurement (e.g., reproduction or growth), calculated from a continuous model (i.e., Interpolation Method). IC25 is a point estimate of the toxic concentration that would cause a 25-percent reduction in a non-lethal biological measurement.

No-Observed-Effect-Concentration (NOEC)

The highest concentration of toxicant to which organisms are exposed in a full life-cycle or partial life-cycle (short-term) test, that causes no observable adverse effects on the test organisms (i.e., the highest concentration of toxicant in which the values for the observed responses are not statistically significantly different from the controls).

Attachment E, Monitoring and Reporting Program (MRP) section III.A.1 Monitoring Location EFF-001 Table E-2 is revised as follows to include Acute Toxicity Testing in the table:

Parameter	Units	Sample Type	Minimum Sampling Frequency
Whole Effluent Toxicity	See Section IV	--	1/Quarter

Attachment E, Monitoring and Reporting Program (MRP) sections IV.A-E Whole Effluent Toxicity Testing Requirements are revised as follows:

- A. Acute Toxicity Testing.** The Discharger shall conduct acute toxicity testing to determine whether the effluent is contributing acute toxicity to the receiving water. The Discharger shall meet the acute toxicity testing requirement:
 - 1. **Monitoring Frequency** – The Discharger shall perform **quarterly** acute toxicity testing, concurrent with effluent ammonia sampling.
 - 2. **Sample Types** – The Discharger may use flow-through or static renewal testing. For static renewal testing, the samples shall be flow proportional 24-hour composites and shall be representative of the volume and quality of the discharge. The effluent samples shall be taken at Monitoring

Location EFF-001. The receiving water control can be a grab sample obtained from Monitoring Location RSW-001, as identified in this Monitoring and Reporting Program.

3. **Test Species** – Test species shall be **rainbow trout** (*Oncorhynchus mykiss*).
4. **Methods** – The acute toxicity testing samples shall be analyzed using EPA-821-R-02-012, Fifth Edition. Temperature, total residual chlorine, and pH shall be recorded at the time of sample collection. No pH adjustment may be made unless approved by the Executive Officer.
5. **Test Failure** – If an acute toxicity test does not meet all test acceptability criteria, as specified in the test method, the Discharger must re-sample and re-test as soon as possible, not to exceed 7 days following notification of test failure.

B. Chronic Toxicity Testing. The Discharger shall meet the chronic toxicity testing requirements:

1. **Monitoring Frequency** – The Discharger shall perform routine **once per permit term** chronic toxicity testing. If the result of the routine chronic toxicity testing event exhibits toxicity, demonstrated by a result greater than 1.3 TUC (as 100/EC₂₅) AND a percent effect greater than 25 percent at 100 percent effluent, the Discharger has the option of conducting two additional compliance monitoring events and perform chronic toxicity testing using the species that exhibited toxicity in order to calculate a median. The optional compliance monitoring events shall occur at least one week apart, and the final monitoring event shall be initiated no later than 6 weeks from the routine monitoring event that exhibited toxicity. See Compliance Determination section VII.D for procedures for calculating 6-week median.
2. **Sample Types** – Effluent samples shall be flow proportional 24-hour composites and shall be representative of the volume and quality of the discharge. The effluent samples shall be taken at Monitoring Location EFF-001. The receiving water control can be a grab sample obtained from Monitoring Location RSW-001, as identified in this Monitoring and Reporting Program.
3. **Sample Volumes** – Adequate sample volumes shall be collected to provide renewal water to complete the test in the event that the discharge is intermittent.
4. **Test Species** – Chronic toxicity testing measures sublethal (e.g., reduced growth, reproduction) and/or lethal effects to test organisms exposed to an effluent compared to that of the control organisms. The Discharger shall conduct chronic toxicity tests with:

- a. The cladoceran, water flea, *Ceriodaphnia dubia* (survival and reproduction test);
 - b. The fathead minnow, *Pimephales promelas* (larval survival and growth test); and
 - c. The green alga, *Pseudokirchneriella subcapitata* (growth test).
5. **Methods** – The presence of chronic toxicity shall be estimated as specified in Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition, EPA/821-R-02-013, October 2002.
6. **Reference Toxicant** – As required by the SIP, all chronic toxicity tests shall be conducted with concurrent testing with a reference toxicant and shall be reported with the chronic toxicity test results.
7. **Dilutions** – For routine and compliance chronic toxicity monitoring, the chronic toxicity testing shall be performed using the dilution series identified in Table E-4, below. For TRE monitoring, the chronic toxicity testing shall be performed using the dilution series identified in Table E-4, below, unless an alternative dilution series is detailed in the submitted TRE Action Plan. A receiving water control or laboratory water control may be used as the diluent.

Table E-1. Chronic Toxicity Testing Dilution Series

Samples	Dilution%	Dilution%	Dilution%	Dilution%	Dilution%	Controls
% Effluent	100	75	50	25	12.5	0
% Control Water	0	25	50	75	87.5	100

8. **Test Failure** – The Discharger must re-sample and re-test as soon as possible, but no later than fourteen (14) days after receiving notification of a test failure. A test failure is defined as follows:
- a. The reference toxicant test or the effluent test does not meet all test acceptability criteria as specified in the Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition, EPA/821-R-02-013, October 2002 (Method Manual), and its subsequent amendments or revisions; or
 - b. The percent minimum significant difference (PMSD) measured for the test exceeds the upper PMSD bound variability criterion in the Method Manual.

- C. WET Testing Notification Requirements.** The Discharger shall notify the Central Valley Water Board within 24-hours after the receipt of test results exceeding the chronic toxicity monitoring trigger, or an exceedance of the acute toxicity effluent limitation.
- D. WET Testing Reporting Requirements.** All toxicity test reports shall include the contracting laboratory's complete report provided to the Discharger and shall be in accordance with the appropriate "Report Preparation and Test Review" sections of the method manuals. At a minimum, whole effluent toxicity monitoring shall be reported as follows:
1. **Chronic WET Reporting.** Routine and compliance chronic toxicity monitoring results shall be reported to the Central Valley Water Board with the quarterly self-monitoring report, and shall contain, at minimum:
 - a. The results expressed in TU_c, measured as 100/NOEC, and also measured as 100/LC50, 100/EC25, 100/IC25, and 100/IC50, as appropriate.
 - b. The percent effect for each endpoint at the IWC.
 - c. The statistical methods used to calculate endpoints;
 - d. The statistical output page, which includes the calculation of the percent minimum significant difference (PMSD);
 - e. The dates of sample collection and initiation of each toxicity test; and
 - f. The results compared to the numeric toxicity monitoring trigger.

Additionally, the quarterly self-monitoring reports shall contain an updated chronology of chronic toxicity test results expressed in TU_c, and organized by test species, type of test (survival, growth or reproduction), and monitoring type, i.e., routine, compliance, TES, or TRE monitoring.

2. **Acute WET Reporting.** Acute toxicity test results shall be submitted with the monthly discharger self-monitoring reports and reported as percent survival.
3. **TRE Reporting.** Reports for TREs shall be submitted in accordance with the schedule contained in the Discharger's approved TRE Workplan, or as amended by the Discharger's TRE Action Plan.
4. **Quality Assurance (QA).** The Discharger must provide the following information for QA purposes:

- a. Results of the applicable reference toxicant data with the statistical output page giving the species, NOEC, LOEC, type of toxicant, dilution water used, concentrations used, PMSD, and dates tested.
- b. The reference toxicant control charts for each endpoint, which include summaries of reference toxicant tests performed by the contracting laboratory.
- c. Any information on deviations or problems encountered and how they were dealt with.

E. Most Sensitive Species Screening. The Discharger shall perform rescreening to re-evaluate the most sensitive species if there is a significant change in the nature of the discharge. If there are no significant changes during the permit term, a rescreening must be performed prior to permit reissuance and results submitted with the Report of Waste Discharge.

1. **Frequency of Testing for Species Sensitivity Screening.** Species sensitivity screening for chronic toxicity shall include, at a minimum, chronic WET testing four consecutive calendar quarters using the water flea (*Ceriodaphnia dubia*), fathead minnow (*Pimephales promelas*), and green alga (*Pseudokirchneriella subcapitata*). The tests shall be performed using 100 percent effluent and one control. If the first two species sensitivity re-screening events result in no change in the most sensitive species, the Discharger may cease the species sensitive re-screening testing and the most sensitive species will remain unchanged.
2. **Determination of Most Sensitive Species.** If a single test in the species sensitivity screening testing exceeds 1 TUc (as 100/NOEC), then the species used in that test shall be established as the most sensitive species. If there is more than a single test that exceeds 1 TUc (as 100/NOEC), then of the species exceeding 1 TUc (as 100/NOEC) that exhibits the highest percent effect shall be established as the most sensitive species. If none of the tests in the species sensitivity screening exceeds 1 TUc (as 100/NOEC), but at least one of the species exhibits a percent effect greater than 25 percent, then the single species that exhibits the highest percent effect shall be established as the most sensitive species. In all other circumstances, the Executive Officer shall have discretion to determine which single species is the most sensitive considering the test results from the species sensitivity screening.

Attachment F, Fact Sheet (Fact Sheet) section IV.C.5 has been revised as follows to add the Water Quality-based Effluent Limitations for Whole Effluent Toxicity:

For compliance with the Basin Plan's narrative toxicity objective, this Order requires the Discharger to conduct whole effluent toxicity testing

for acute and chronic toxicity, as specified in the Monitoring and Reporting Program (Attachment E section IV.). This Order also contains effluent limitations for acute toxicity, a monitoring trigger for chronic toxicity, and requires the Discharger to implement best management practices to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity.

- a. **Acute Aquatic Toxicity.** The Basin Plan contains a narrative toxicity objective that states, "All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life." (Basin Plan at section 3.1.20) The Basin Plan also states that, "...effluent limits based upon acute biotoxicity tests of effluents will be prescribed where appropriate...".

For priority pollutants, the SIP dictates the procedures for conducting the RPA. Acute toxicity is not a priority pollutant. Therefore, the Central Valley Water Board is not restricted to one particular RPA method. Acute whole effluent toxicity is not a priority pollutant. Therefore, due to the site-specific conditions of the discharge, the Central Valley Water Board has used professional judgment in determining the appropriate method for conducting the RPA. U.S. EPA's September 2010 NPDES Permit Writer's Manual, page 6-30, states, "State implementation procedures might allow, or even require, a permit writer to determine reasonable potential through a qualitative assessment process without using available facility-specific effluent monitoring data or when such data are not available...A permitting authority might also determine that WQBEL's are required for specific pollutants for all facilities that exhibit certain operational or discharge characteristics (e.g., WQBEL's for pathogens in all permits for POTW's discharging to contact recreational waters)." Although the discharge has been consistently in compliance with the acute effluent limitations, the Facility is a POTW that treats domestic wastewater containing ammonia and other acutely toxic pollutants. Acute toxicity effluent limits are required to ensure compliance with the Basin Plan's narrative toxicity objective.

U.S. EPA Region 9 provided guidance for the development of acute toxicity effluent limitations in the absence of numeric water quality objectives for toxicity in its document titled "Guidance for NPDES Permit Issuance", dated February 1994. In section B.2. "Toxicity Requirements" (pgs. 14-15) it states that, "In the absence of specific numeric water quality objectives for acute and chronic toxicity, the narrative criterion 'no toxics in toxic amounts' applies. Achievement of the narrative criterion, as applied herein, means that ambient waters shall not demonstrate for acute toxicity: 1) less

than 90% survival, 50% of the time, based on the monthly median, or 2) less than 70% survival, 10% of the time, based on any monthly median. For chronic toxicity, ambient waters shall not demonstrate a test result of greater than 1 TUc." Accordingly, effluent limitations for acute toxicity have been included in this Order as follows:

Acute Toxicity. Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:

70%, minimum for any one bioassay; and

90%, median for any three consecutive bioassays.

- a. **Chronic Aquatic Toxicity.** The Basin Plan contains a narrative toxicity objective that states, "All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life." (Basin Plan at page section 3.1.20) The table below is chronic WET testing performed by the Discharger from February 2017 through February 2022. This data was used to determine if the discharge has reasonable potential to cause or contribute to an in-stream excursion above the Basin Plan's narrative toxicity objective.

Table F-11. Whole Effluent Chronic Toxicity Testing Results

Date	Fathead Minnow (<i>Pimephales promelas</i>) Survival (TUc)	Fathead Minnow (<i>Pimephales promelas</i>) Growth (TUc)	Water Flea (<i>Ceriodaphnia dubia</i>) Survival (TUc)	Water Flea (<i>Ceriodaphnia dubia</i>) Reproduction (TUc)	Green Algae (<i>Pseudokirchneriella subcapitata</i>) Growth (TUc)
11/06/2017	1	1	1	1	1

- i. **RPA.** No dilution has been granted for chronic whole effluent toxicity. Chronic toxicity testing results exceeding 1 chronic toxicity units (TUc) (as 100/NOEC) and a percent effect at 100 percent effluent exceeding 25 percent demonstrates the discharge has a reasonable potential to cause or contribute to an exceedance of the Basin Plan's narrative toxicity objective. Based on chronic toxicity testing conducted between February 2017 and February 2022 the maximum chronic toxicity result was 1 TUc on 6 November 2017 with a percent effect of 10 percent, therefore, the discharge does

not have reasonable potential to cause or contribute to an instream exceedance of the Basin Plan’s narrative toxicity objective.

Attachment F, Fact Sheet (Fact Sheet) section IV.D.5 has been revised as follows to add effluent limitations for Whole Effluent Toxicity in the Table F-12 Summary of Final Effluent Limitations:

Parameter	Units	Effluent Limitations	Basis ¹
Acute Toxicity	Percent Survival	70% minimum for one 90% median for three	BP

Attachment F, Fact Sheet (Fact Sheet) section VI.B.1.d has been revised as follows to add Whole Effluent Toxicity in the Reopener Provisions section:

- d. **Whole Effluent Toxicity.** This Order requires the Discharger to investigate the causes of, and identify corrective actions to reduce or eliminate, effluent toxicity through a site-specific Toxicity Reduction Evaluation (TRE). This Order may be reopened to include a new chronic toxicity limitation, a new acute toxicity limitation, and/or a limitation for a specific toxicant identified in the TRE.

Attachment F, Fact Sheet (Fact Sheet) section VI.B.2.f has been revised as follows to add Chronic Whole Effluent Toxicity Requirements in the Special Studies and Additional Monitoring Requirements section:

- f. **Chronic Whole Effluent Toxicity Requirements.** The Basin Plan contains a narrative toxicity objective that states, “All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.” (Basin Plan at page III-8.00) Based on whole effluent chronic toxicity testing performed by the Discharger from February 2017 through February 2022, the discharge does not have reasonable potential to cause or contribute to an in-stream excursion above of the Basin Plan’s narrative toxicity objective.

The Monitoring and Reporting Program of this Order requires chronic WET monitoring to demonstrate compliance with the Basin Plan’s narrative toxicity objective. If the discharge exceeds the chronic toxicity monitoring trigger this provision requires the Discharger either participate

in an approved Toxicity Evaluation Study (TES) or conduct a site-specific Toxicity Reduction Evaluation (TRE).

A TES may be conducted in lieu of a TRE if the percent effect at 100 percent effluent is less than or equal to 50 percent. Determining the cause of toxicity can be challenging when the toxicity signal is low. Several Central Valley facilities with similar treatment systems have been experiencing intermittent low level toxicity. The dischargers have not been successful identifying the cause of the toxicity because of the low toxicity signal and the intermittent nature of the toxicity. Due to these challenges, the Central Valley Clean Water Association (CVCWA), in collaboration with staff from the Central Valley Water Board, has initiated a Special Study to Investigate Low Level Toxicity Indications (Group Toxicity Study). This Order allows the Discharger to participate in an approved TES, which may be conducted individually or as part of a coordinated group effort with other similar dischargers that are exhibiting toxicity. Although the current CVCWA Group Toxicity Study is related to low-level toxicity, participation in an approved TES is not limited to only low-level toxicity issues.

See the WET Monitoring Flow Chart (Figure F-1), below, for further clarification of the decision points for determining the need for TES/TRE initiation.

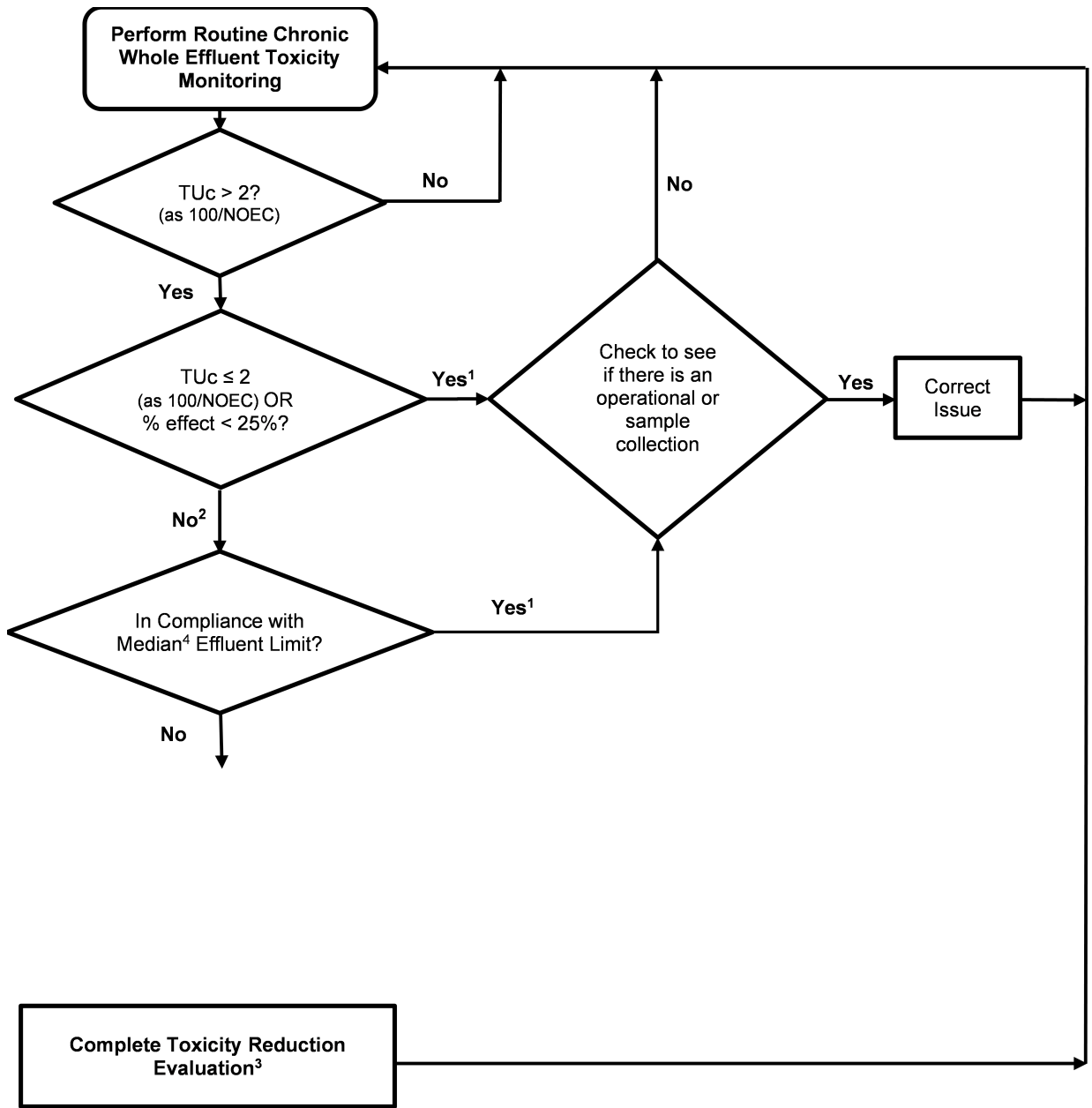


Figure F-1 Notes:

1. The Discharger may participate in an approved TES if the discharge has exceeded the chronic toxicity effluent limitation twice or more in the past 12-month period and the cause is not identified and/or addressed.
2. The Discharger may elect to take additional samples to determine the 3-sample median. The samples shall be collected at least one week apart and the final sample shall be within 6 weeks of the initial sample exhibiting toxicity.
3. The Discharger may participate in an approved TES instead of a TRE if the Discharger has conducted a TRE within the past 12 months and has been unsuccessful in identifying the toxicant.

4. See Compliance Determination section VII.I for procedures for calculating 6-week median.

Attachment F, Fact Sheet (Fact Sheet) section VII.C.1-3 has been revised as follows to add Whole Effluent Toxicity Testing Requirements:

C. Whole Effluent Toxicity Testing Requirements

1. **Acute Toxicity.** Quarterly 96-hour bioassay testing is required to demonstrate compliance with the effluent limitation for acute toxicity.
2. **Chronic Toxicity.** Once per permit term chronic whole effluent toxicity testing is required in order to demonstrate compliance with the Basin Plan's narrative toxicity objective.
3. **Sensitive Species Screening.** The Discharger shall perform rescreening to re-evaluate the most sensitive species if there is a significant change in the nature of the discharge. If there are no significant changes during the permit term, a rescreening must be performed prior to permit reissuance and results submitted with the Report of Waste Discharge. Species sensitivity screening for chronic toxicity shall include, at a minimum, chronic WET testing four consecutive calendar quarters using the water flea (*Ceriodaphnia dubia*), fathead minnow (*Pimephales promelas*), and green alga (*Pseudokirchneriella subcapitata*). The tests shall be performed using 100 percent effluent and one control. For rescreening, if the first two species sensitivity re-screening events result in no change in the most sensitive species, the Discharger may cease the species sensitive re-screening testing and the most sensitive species will remain unchanged.