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

Response to Comments
for the
City of Mt. Shasta and U.S. Department of Agriculture Forest Service
City of Mt. Shasta Wastewater Treatment Plant
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 parties regarding the tentative Waste Discharge Requirements, National Pollutant Discharge Elimination System (NPDES) Permit CA0078051 renewal for the City of Mt. Shasta's (Discharger) City of Mt. Shasta Wastewater Treatment Plant (Facility).

The tentative NPDES Permit was issued for a 30-day public comment period on 6 February 2023 with comments due by 8 March 2023. The Central Valley Water Board received public comments regarding the tentative Permit by the due date from Jo Anne Kipps. 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.

JO ANNE KIPPS (KIPPS) COMMENTS

1. **KIPPS COMMENT #1 – FACILITY DESCRIPTION**
   Please consider revising the Fact Sheet's FACILITY DESCRIPTION (especially II.A) to describe the Upgraded Wastewater Treatment Plant (WWTP), including its sludge treatment train. Identify size and depth of the Emergency Retention Basin depicted in the flow schematic (Attachment C-2) and indicate whether it is equipped with a liner.

   RESPONSE: Staff agree. The Discharger confirmed that the Emergency Retention Basin will not be used (see response to Comment #3). The Discharger also noted its intention to use the existing area, noted as the "backwash pond" in the flow schematic for the Existing WWTP, as a future "overflow pond" for emergency use to store overflow from the filters in the Upgraded WWTP and re-route back to the treatment train when used.

   Staff revised the Facility Description in Section II.A of the Fact Sheet to the proposed Permit to add clarification on the existing solids treatment and to describe the Upgraded WWTP. In addition, staff added language requiring an Overflow Pond Operating Plan to Section VI.C.2.d of the proposed Permit; an Overflow Pond Operating Plan reporting requirement in Table E-14 of Attachment E, Monitoring and Reporting Program; and supporting rationale for the requirement in Section VI.B.2.d of the Fact Sheet.

2. **KIPPS COMMENT #2 – SITE MAP**
   Please consider including a site map of the Existing WWTP that identifies the aeration ponds, sand filters, and other treatment units and operations**.**

RESPONSE: Staff agree. Staff added a site map in Attachment B that identifies the Existing WWTP treatment units and the location of the Upgraded WWTP treatment units.

3. **KIPPS COMMENT #3 – FLOW SCHEMATIC**

If available, replace Attachment C with a more legible version of the Existing WWTP flow schematic. Confirm that DAFT scum and solids can be discharged to the sand filters (sand drying bed?). If so, identify the reasons for and frequencies of this discharge and explain why it shouldn't be viewed as treatment bypass.

RESPONSE: Staff agree. Staff revised the flow schematic for the existing WWTP in Attachment C with an updated and more legible version. This version removed the old sand filters that are not in use at the existing WWTP and not described in the Facility Description in Section II of the Fact Sheet. This version also reflects there will not be an Emergency Retention Basin, as noted in comment #1. Additionally, see comment #4 regarding DAFT scum.

4. **KIPPS COMMENT #4 – AERATION POND DECOMMISSIONING**

Ms. Kipps comments that once the Upgraded WWTP is in operation and the oxidation lagoons (aeration ponds) are no longer in use, the City is not authorized to store sludge in the ponds or elsewhere onsite for long periods and that, eventually, the ponds will need to be dewatered and their sludge removed (along with affected soils, as appropriate). Ms. Kipps is requesting that Staff address this issue by adding a Special Provision to the tentative Permit and provides language for "Aeration Pond Decommissioning". Additionally, Ms. Kipps requests we update the Facility Description to include the two options for the former aeration ponds the Discharger considered in their 2015 Mitigated Negative Declaration and Initial Study, which include abandonment or supplementation with treated effluent.

RESPONSE:

Staff agrees with Ms. Kipps' comment to add a Special Provision related to addressing the former aeration ponds once the Upgraded WWTP is in operation. Language requiring a Pond Cleanout Work Plan and Final Technical Report has been added to Section VI.C.2.c of the proposed Permit; a reporting requirement in Table E-14 of Attachment E, Monitoring and Reporting Program; and supporting rationale for the requirement in Section VI.B.2.c of the Fact Sheet.

Staff notes that in addition to the Special Provision above, the solids in the backwash pond will be addressed in Biosolids Management Plan in Special Provisions VI.5.b of the proposed Permit.

The Discharger is not proposing to use any of the former aeration ponds when the Upgraded WWTP is in operation. Also, the flow schematic for the Updated WWTP in Attachment C was updated to show there is no "Emergency Storage Basin" and all flow will be treated without the use of the former aeration ponds. Therefore, the Facility Description has not been updated with the "two options" as requested by Ms. Kipps.

5. **KIPPS COMMENT #5 – STORM WATER RETENTION**
   Ms. Kipps commented on what appeared to be a storm water retention basin at the Facility based on Google Earth imagery, and thus, asked to consider including Construction, Operation, and Maintenance Specifications for storm water basins.

   RESPONSE: As noted in Attachment F, Section III.C.9, "The State Water Board does not require wastewater treatment facilities with design flows less than 1 MGD to obtain coverage under the Industrial Storm water General Order. Therefore, this Order does not regulate storm water." Additionally, the area seen in Google Earth imagery near the chlorination basin is used as a storage area for scum removed from the dissolved air flotation thickener and is not a storm water basin. See response to comment #4 for additional information regarding the backwash pond. Also see response to comment #1 regarding the overflow basin. For these reasons, it is unnecessary to include Construction, Operation, and Maintenance Specifications for storm water basins.

6. **KIPPS COMMENT #6 – GROUNDWATER CHARACTERIZATION**
   Please revise the tentative order to describe the current groundwater conditions at the leachfield, and to present a summary and analysis of the data for compliance with groundwater limitations. The level of detail provided should be comparable to findings for Groundwater and Subsurface Conditions contained in "Non-15 Program" WDRs Orders.

   RESPONSE: Staff added information in Section V.B Groundwater of the Fact Sheet to the proposed Order that summarizes current monitoring data at the effluent and groundwater monitoring wells around the leachfield. Constituents of concern were also analyzed in the section. The information in this section provides rationale for the groundwater limitations included in the proposed Order. The proposed Order also includes a Special Provision in Section VI.C.2.b requiring a Groundwater Antidegradation Re-evaluation due with the Report of Waste Discharge to confirm that any groundwater degradation that has occurred as a result of Facility operations has not resulted in any exceedances of applicable groundwater water quality objectives or in any impacts to beneficial uses.

MISCELLANEOUS EDITS

1. **CORRECTION #1 – SISKIYOU LAKE GOLF RESORT, INC.**
   Changed "Siskiyou Golf Resort, Inc." to legal name "Siskiyou Lake Golf Resort, Inc." and maintained consistency calling throughout for the "Mt. Shasta Resort Golf Course".

2. **CORRECTION #2 – UV MONITORING LOCATION**
   Added Monitoring Location UVS-003 to reflect 3 separate UV disinfection system channels.

3. **CORRECTION #3 – CLERICAL ERRORS - 1**
   Changed "dissolved air floatation thickener" to "dissolved air flotation thickener".

4. **CORRECTION #4 – CLERICAL ERRORS - 2**
Revised Attachment E section VIII.C.2.g under Table E-9 Groundwater Monitoring Requirements for iron and manganese samples to clarify that filtered samples should be taken in addition to total recoverable samples.

    g. **Iron~~,~~ and Manganese** samples shall be analyzed for total <u>recoverable and samples</u> ~~or total~~ filtered using a 1.5-micron filter. Filtered samples shall be filtered prior to preservation and analysis using a 1.5-micron filter.

5. **CORRECTION #5 – GROUNDWATER PROVISIONS**
Revised Section II.D of the proposed Permit to clarify provisions/requirements included to implement state law only.

6. **CORRECTION #6 – WHOLE EFFLUENT TOXICITY**
The tentative NPDES Permit contained Chronic Whole Effluent Toxicity requirements as per the State Water Resources Control Board's Statewide Toxicity Provisions. 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:

<u>Waste Discharge Requirements sections IV.A.1.d and IV.A.1.e have been revised as follows to revise the whole effluent toxicity limitations:</u>

    d. **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.

    e. **Chronic Whole Effluent Toxicity.** The effluent chronic toxicity shall not exceed 2 chronic toxicity units (as 100/NOEC) **AND** a percent effect of 25 percent (%) at 50 percent (%) effluent, for any endpoint as the median of up to three consecutive chronic toxicity tests within a six-week period.

<u>Waste Discharge Requirements section VI.C.2 has been revised as follows to include Toxicity Reduction Evaluation Requirements:</u>

    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. **Chronic Toxicity Effluent Limitation Exceeded.** When a chronic whole effluent toxicity result during routine monitoring exceeds the chronic toxicity effluent limitation, the Discharger shall proceed as follows:

(a) **Initial Toxicity Check**. If the result is less than or equal to 2 TUc (as 100/NOEC) OR the percent effect is less than 25 percent at 50 percent effluent (the instream waste concentration), 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 effluent limitation to evaluate compliance using a 6-week median. If the 6-week median is greater than 2 TUc (as 100/NOEC) and the percent effect is greater than 25 percent at 50 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.I 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 50 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 50 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 effluent limitation, 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.

Compliance determination for Whole Effluent Toxicity Effluent Limitations has been moved to Waste Discharge Requirements section VII.I and has been revised, as follows:

I. Chronic Whole Effluent Toxicity Effluent Limitation Section IV.A.1.e. To evaluate compliance with the chronic whole effluent toxicity effluent limitation, 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 2 TUc (as 100/NOEC) for any endpoint, the Discharger will be deemed out of compliance with the chronic toxicity effluent limitation if the median percent effect at 50 percent effluent for the same endpoint also exceeds 25 percent. The percent effect used to evaluate compliance with the chronic toxicity effluent limitation 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 limitation

Attachment E, Monitoring and Reporting Program (MRP) section IV.A is revised as follows for acute toxicity testing:

A. Acute Toxicity Testing. The Discharger shall meet the following acute toxicity testing requirements:

1. **Instream Waste Concentration (IWC) for Acute Toxicity.** The acute toxicity IWC is 100 percent effluent.

2. **Routine Monitoring Frequency.** The Discharger shall perform routine acute toxicity testing **once per calendar quarter** in quarters in which there are at least 15 days of discharge, concurrent with effluent ammonia sampling.

3. **Sample Types.** The Discharger may use flow-through or static renewal testing. For static renewal testing, the samples shall be grab samples and shall be representative of the volume and quality of the discharge. The effluent samples shall be taken at Monitoring Location EFF-001.

4. **Test Species.** Test species shall be rainbow trout (*Oncorhynchus mykiss*).

5. **Methods.** The acute toxicity testing samples shall be analyzed using EPA-821-R-02-012, Fifth Edition or methods identified in the Code of Federal Regulations, title 40, part 136, or other U.S. EPA-approved methods. 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.

6. **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.

MRP section IV.B is revised as follows for chronic toxicity testing:

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

1. **Instream Waste Concentration (IWC) for Chronic Toxicity.** The chronic toxicity IWC is 50 percent effluent.

2. **Monitoring Frequency** – The Discharger shall perform routine **annual** chronic toxicity testing. If the result of the routine chronic toxicity testing event exhibits toxicity, demonstrated by a result greater than 2 TUc (as 100/NOEC) AND a percent effect greater than 25 percent at 50 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.I for procedures for calculating 6-week median.

3. **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 dilution water and control water shall be laboratory water prepared and used as specified in the test methods manual.

4. **Sample Volumes** – Adequate sample volumes shall be collected to provide renewal water to complete the test in the event that the discharge is intermittent.

5. **Test Species** – The testing shall be conducted using the following three species: the water flea (*Ceriodaphnia dubia*), the fathead minnow (*Pimephales promelas*), and green algae (*Pseudokirchneriella subcapitata*, formerly *Selenastrum capricornutum*), unless otherwise specified in writing by the Executive Officer.

6. **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.

7. **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.

8. **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. Laboratory water control shall be used as the diluent.

Table E-1. Chronic Toxicity Testing Dilution Series

Samples	Dilution%	Dilution%	Dilution%	Dilution%	Dilution%	Controls
% Effluent	100	50	25	12.5	10	0
% Control Water	0	50	75	87.5	90	100

9. **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.

10. **Replacement Test.** When a required toxicity test for routine monitoring is not completed, a new toxicity test to replace the toxicity test that was not completed shall be initiated as soon as possible.

    Any specific monitoring event is not required to be initiated in the required time period when the Central Valley Water Board staff determines that the test was not initiated in the required time period due to circumstances outside of the Discharger's control that were not preventable with the reasonable exercise of care, and the Discharger promptly initiates, and ultimately completes, a replacement test.

MRP section IV.E is revised as follows for WET Testing Reporting Requirements to update the whole effluent toxicity reporting requirements. Additionally, the requirements in section IV.G for Toxicity Reduction Evaluations were revised and moved to Waste Discharge Requirements section VI.C.2, as discussed earlier in this comment.

E. WET Testing Reporting Requirements. The Discharger shall submit the full laboratory report for all toxicity testing as an attachment to CIWQS for the reporting period (e.g., monthly, quarterly, semi-annually or annually) and provide the data in the PET tool for uploading into CIWQS.

1. **Chronic WET Reporting.** Routing and compliance chronic toxicity monitoring results shall be reported to the Central Valley Water Board with the **monthly** self-monitoring report, and shall contain, at minimum:

    a. The results expressed in TUc, 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 effluent limit.

g. The valid toxicity test results for the **TST** statistical approach, reported as "Pass" or "Fail" and "Percent Effect" at the IWC for the discharge, the dates of sample collection and initiation of each toxicity test, all results for effluent parameters monitored concurrently with the toxicity test(s); and progress reports on TRE investigations.

h. The statistical analysis used in National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document (EPA 833-R-10-003, 2010) Appendix A, Figure A-1 and Table A-1, and Appendix B, Table B-1.

i. Statistical program (e.g., TST calculator, CETIS, etc.) output results, including graphical plots, for each toxicity test.

Additionally, the monthly self-monitoring reports shall contain an updated chronology of chronic toxicity test results expressed in TUc, 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.

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:

5. Whole Effluent Toxicity (WET)

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 V.). This Order also contains effluent limitations for acute and 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.

b. **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 May 2019 through April 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-15. Whole Effluent Chronic Toxicity Testing Results

Date	Fathead Minnow Pimephales promelas Survival (TUc)	Fathead Minnow Pimephales promelas Growth (TUc)	Water Flea Ceriodaphnia dubia Survival (TUc)	Water Flea Ceriodaphnia dubia Reproduction (TUc)	Green Algae Selenastrum capricornutum Growth (TUc)
3/02/2020	1	1	Test Failure	Test Failure	1
3/24/2020 - retest	Not Tested	Not Tested	1	1.3	Not Tested
2/22/2021	Test Failure	Test Failure	1	**>8 (30 %eff)**	1.3
3/15/2021 - retest	1	2 **(35 %eff)**	Not Tested	Not Tested	Not Tested
3/29/2021 - retest	Not Tested	Not Tested	1	1.3	Not Tested
2/23/2022	1	1.3	1	**>8 (28 %eff)**	1
3/16/2022	Not Tested	Not Tested	1	2 **(55 %eff)**	Not Tested

Table F-15 Notes:

1. Possible pathogen interference noted during 2/22/2021 test for Ceriodaphnia Dubia. Therefore, a retest was performed on 3/29/2021.

    i. **RPA.** A dilution ratio of 1:1 is available for chronic whole effluent toxicity. Chronic toxicity testing results exceeding 2 chronic toxicity units (TUc) (as 100/NOEC) and a percent effect at 50 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 May 2019 and April 2022, the maximum chronic toxicity result was >8 TUc

on 23 February 2022 with a percent effect of 28 percent, therefore, the discharge does have reasonable potential to cause or contribute to an instream exceedance of the Basin Plan's narrative toxicity objective.

ii. **WQBELs.** The effluent chronic toxicity shall not exceed 2 chronic toxicity units (TUc, as 100/NOEC) AND a percent effect of 25 percent at 50 percent effluent, for any endpoint as the median of up to three consecutive chronic toxicity tests within a 6-week period.

Fact Sheet section VI.B.2 has been revised as follows to include Toxicity Reduction Evaluation Requirements:

a. **Toxicity Reduction Evaluation 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 section 3.1.20) Based on whole effluent chronic toxicity testing performed by the Discharger from May 2019 through April 2022, the discharge has 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 numeric chronic toxicity effluent limitation. If the discharge exceeds the chronic toxicity effluent limitation, 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 50 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.

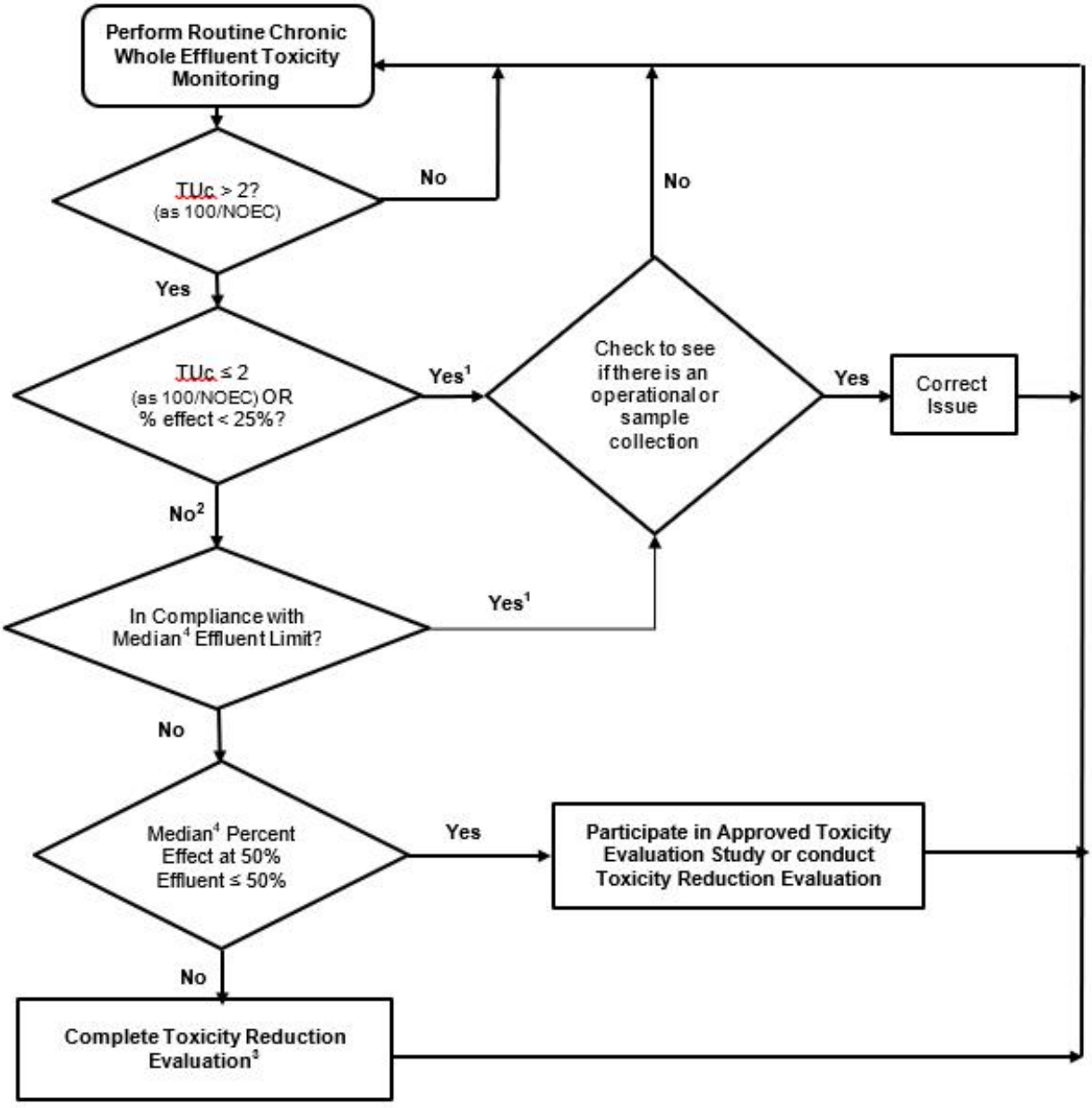

Figure F-1 Notes:

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.

Fact Sheet section VII.F has been revised as follows to change rationale for whole effluent toxicity testing requirements, remove a determination for most-sensitive species, and remove incorrect reference to the Toxicity Reduction Evaluation:

F. 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**. Annual chronic whole effluent toxicity testing is required in order to demonstrate compliance with the numeric chronic toxicity effluent limitation.

3. **Test of Significant Toxicity.** The discharge is subject to determination of "Pass" or "Fail" from a chronic toxicity test using the Test of Significant Toxicity (TST) statistical t-test approach described in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010), Appendix A, Figure A-1 and Table A-1 (Chronic Freshwater and East Coast Methods) and Appendix B, Table B-1.

   The null hypothesis (Ho) for the TST statistical approach is:

   Mean discharge IWC response ≤ RMD x Mean control response, where the chronic RMD = 0.75.

   A test result that rejects this null hypothesis is reported as "Pass." A test result that does not reject this null hypothesis is reported as "Fail."

   The relative "Percent Effect" at the discharge IWC is defined and reported as:

Percent Effect = ((Mean control response – Mean discharge IWC response) / Mean control response) x 100.