EOSR Attachment 3

Response to Comments Made to Public Review Draft
City of Ukiah Wastewater Treatment and Disposal Facility

NPDES No. CA0022888, WDID No. 1B84029OMEN

Waste Discharge Requirements Order No. R1-2012-0068

The City of Ukiah (the Permittee) submitted a comment letter to the Regional Water Board, dated July 11, 2012, with comments on the draft WDRs/NPDES Permit (Order No. R1-2012-0068) for the City of Ukiah Wastewater Treatment Facility. This document contains the Permittee's comments and Regional Water Board Staff's responses to the Permittee's comments. Where appropriate, proposed additions to permit language are identified with underline text and proposed deletions are identified with strikeout text.

In addition, Regional Water Board Staff also identified several changes that needed to be made to the draft permit. These changes are summarized in Attachment 4.

Comment 1. Section IV.A.1.a, Table 4 of the draft Order includes average monthly and weekly mass limits for biochemical oxygen demand (BOD_5) that have been reduced from the mass limits that the Permittee has been permitted to discharge for many years. The mass-limits have been reduced from an average monthly effluent limitation (AMEL) of 580 pounds per day (lbs/day) and a maximum daily effluent limitation (MDEL) of 880 lbs/day (wet weather) to an AMEL of 330 lbs/day and an MDEL of 650 lbs/day (wet weather), while all other BOD_5 limits including concentration and dry weather loading have remained the same. The Fact Sheet, particularly page F-24, indicates that this reduction is justified based on plant performance during the previous permit period. However, review of the 2011 discharge season data indicates that the plant has needed the higher mass limitations during wet weather season. The Permittee respectfully requests that the AMEL of 580 lbs/day and the MDEL of 880 lbs/day wet weather loading limits be retained in this permit cycle.

Response: Regional Water Board Staff evaluated the Permittee's request and determined that it is appropriate to retain the mass-based effluent limitations for BOD_5 and total suspended solids (TSS) from Order No. R1-2006-0049 because those limits were properly based on the design flow of the advanced wastewater treatment filters of 7.0 mgd. Thus the proposed Order has been revised to include the following mass-based effluent limitations from Order No. R1-2006-0049 for BOD_5 and TSS: a maximum daily effluent limitation of 880 lbs/day and an average monthly effluent limitation 580 lbs/day. Table 4 has been revised as follows:

Table 4. Final Effluent Limitations – Discharge Point 001 (Discharge to Russian River)

Parameter	Units	Effluent Limitations				
		Average Monthly[1]	Average Weekly[1]	Maximum Daily[1]	Instantaneous Minimum[1]	Instantaneous Maximum[1]
Biochemical Oxygen Demand 5-day @ 20°C (BOD_5)	mg/L	10	15	--	--	--
	~~lbs./day[2,3] (dry-weather)~~	~~250~~	~~375~~	--	--	--
	lbs/day[2,~~4~~] (wet-weather)	~~330~~580	~~650~~880	--	--	--
Total Suspended Solids (TSS)	mg/L	10	15	--	--	--
	lbs/day[2,~~3~~] (~~dry~~wet-weather)	~~250~~580	~~375~~880	--	--	--

[1] See Definitions in Attachment A and Compliance Determination discussion in section VII of this Order.

[2] Mass-based effluent limitations apply during periods of discharge to surface waters (Russian River). See section VII.H of this Order regarding compliance with mass-based effluent limitations.

~~[3] Mass-based effluent limitations are based on the dry weather design flow of the Facility of 3.01 mgd and apply whenever influent flows to the Facility are less than or equal to 3.01 mgd.~~

~~[4] During wet weather periods, when the influent flow rate exceeds the dry weather design flow, mass emission limitations are performance-based, as explained in the Fact Sheet.~~

In addition, Fact Sheet section IV.B.4.a.iv. has been modified to be consistent with this change and reads as follows:

"**Mass-Based Effluent Limitations.** Mass-based effluent limitations for BOD_5 and TSS are required pursuant to 40 CFR 122.45(f) for the purpose of assuring that dilution is not used as a method of achieving the concentration limitations in the permit. Mass-based effluent limitations established in the Order are technology-based. TSS mass-based effluent limitations are based on the Facility's design ~~dry=weather~~ capacity of the advanced wastewater treatment (AWT) filtration system of 7.0 ~~3.01~~mgd ~~The Order includes dry-weather and wet-weather BOD_5 mass-based effluent limitations. The dry-weather limits~~ and are retained from the previous permit. ~~and are based on the Facility's design dry-weather flow, while the wet-weather TSS mass-based limits are more stringent than the previous Order and are based on Facility performance during the term of the previous Order~~."

Comment 2. In addition, the Permittee is seeking clarification that the "dry weather" limits for BOD_5 and TSS specified in Table 4 of section IV.A.1.a apply when flows are less than 3.01 mgd during the discharge season, which is typically the "wet weather" season.

Response: The dry-weather mass-based effluent limitations for BOD_5 and TSS have been removed from Table 4 of section IV.A.1.a of the proposed Order in light of the change made in response to Comment 1. All mass-based limits are based on the wet-weather design flow of the AWT filtration system.

Comment 3: Section IV.A.1.a, Table 4 of the Order includes a proposed limit for 2,3,7,8-TCDD of $1.3E^{-8}$ pg/L. The Permittee's laboratory indicates that it can detect constituents to approximately 1 pg/L. The Permittee requests that the limit be reviewed for correctness and believes the limit should be 1.3 pg/L or $1.3E^{-8}$ g/L.

In addition the Permittee requests clarity regarding two different analytical methods being referenced in the MRP for 2,3,7,8-TCDD. Table E-1 of the MRP requires 2,3,7,8-TCDD to be analyzed by EPA Method 1613 however Table E-6 of the MRP references Standard Methods.

Also, Table 4 of the draft Order says "monthly" testing and Table E-6 says "annually". The Permittee requests annual testing.

Response: Table 4 of section IV.A.1.a of the draft Order has been corrected to reflect AMEL of 1.3 pg/L and an MDEL of 2.6 pg/L for 2,3,7,8-TCDD. The limits of $1.3E^{-8}$ pg/L and $2.6E^{-8}$ pg/L were erroneous.

Table E-6 of the MRP has been corrected to reflect the proper sampling method which is <u>EPA Method 1613</u>.

Table 4 of section IV.A.1.a of the draft Order does not establish monthly testing, rather it establishes an AMEL and MDEL for 2,3,7,8-TCDD. The State Implementation Policy method of calculating effluent limitations for California Toxics Rule pollutants establishes maximum daily and monthly limits. The MRP requires annual sampling. The annual sample will be compared to both the average monthly and maximum daily limits. The monitoring result will need to be less than the average monthly limit to be in full compliance with both effluent limitations.

Comment 4: The Permittee requests that section VI.C.1 of the draft Order be modified to include a reopener that would allow the Permittee to request a 5% discharge rate for discharges to the Russian River upon achieving full compliance with the nitrate and ammonia limits in its permit.

Response: Section VI.C.1 of the draft Order and section VII.B.1 of the Fact Sheet have been modified to include a reopener to allow the Permittee to request an increase in its discharge rate upon achieving full compliance with nitrate and ammonia limits in its permit and upon submittal of an antidegradation analysis demonstrating that the increase in discharge rate will not impact beneficial uses of the receiving water.

New Section VI.C.1.g has been added to the draft Order as follows: "**Discharge Rate.** As part of its ROWD/permit application, the Permittee requested an exception to the Basin Plan one percent discharge rate limitation. The Permittee requested an increase in discharge rate to 5 percent of the Russian River flow during the discharge season, October 1 through May 14. The Permittee's discharge does not currently comply with ammonia effluent limitations. Upon demonstration that the Permittee's discharge is compliant with all effluent limitations and upon submittal of an antidegradation analysis, this Order may be reopened to consider the requested increase in discharge rate."

New Section VII.B.1.g has been added to the Fact Sheet as follows: "**Discharge Rate. (Special Provision VI.C.1.g).** This Order may be reopened to consider an increase in the discharge rate upon the Permittee's demonstration that the discharge is compliant with all effluent limitations and upon submittal of an antidegradation analysis."

Comment 5: Section VI.C.2.a.i of the draft Order states that the single-sample limit is 1.2 TUc. However, footnote 8 at the bottom of that page seems to be saying that a TRE will be triggered anytime there is toxicity at 100% effluent (i.e. TUc = 1.0). These seem to be inconsistent.

Response: Footnote 8 is inconsistent with allowing a single sample limit greater than 1.0 TUc. Footnote 8 has been deleted as follows: "~~This Order does not allow any credit for dilution for the chronic condition. Therefore, a TRE is triggered when the effluent exhibits a pattern of toxicity at 100% effluent.~~"

In addition, USEPA notified Regional Water Board staff that the single-sample limit for chronic toxicity should be 1.6 TUc, thus section VI.C.2.a.i of the Order, section V.B.9 of the MRP, and section IV.C.5.b of the Fact Sheet have been modified to include a single-sample limit of 1.6 TUc rather than 1.2 TUc.

Comment 6: Section VI.C.2.a.i of the draft Order defines chronic toxicity TUc as 100/NOEC. The Permittee requests that the draft Order be revised to allow chronic toxicity to be calculated using the EC25 or IC25 stating that it is widely recognized in the scientific literature that the use of NOEC to calculate TUc is inappropriate and the use of EC25 and IC25 point estimates as the preferred scientific approach.

Response: Although the federal requirements provide flexibility in determining how to calculate TUc for compliance purposes, USEPA Region 9 recommends that effluent limitations and triggers for chronic toxicity be based on the no observed effect concentration (NOEC). Fact Sheet section IV.C.5.b, 6th paragraph explains the rationale behind USEPA Region 9's recommendation.

No change has been made in response to this comment.

Comment 7: Section VI.C.2.a.i of the draft Order defines compliance for chronic toxicity as a single-sample limit of 1.2 TUc, or a "monthly median of 1.0 TUc". However, the period of time covered by the term "monthly median" is never defined. Clarification is needed as to what period of time (or how many tests) for which the median is to be determined.

Response: New language has been added to the Compliance Determination section of the draft Order, section VII.J, describing how compliance with the chronic toxicity triggers will be determined. The new language reads as follows:

"**VII.J. Chronic Toxicity Triggers**

1. When a single chronic toxicity test result is available in a monthly monitoring period, compliance will be determined by comparing the single result to the monthly median chronic toxicity trigger of 1.0 TUc.

2. If two or more chronic toxicity test results are available in a monthly monitoring period, compliance will be determined by calculating the median of the test results and comparing the calculated median to the monthly median chronic toxicity trigger of 1.0 TUc, and the individual sample results will be compared to the single sample chronic toxicity trigger of 1.6 TUc. If the first monthly chronic toxicity test result is greater than 1.0 TUc, a minimum of three chronic toxicity results would be needed to demonstrate compliance with the monthly median chronic toxicity trigger of 1.0 TUc.

In addition, Section VI.C.2.a.i of the draft Order has been modified to include a new footnote, Footnote 8 that states, "See Section VII.J of this Order regarding compliance with chronic toxicity triggers."

In responding to this comment, Staff determined that clarification regarding chronic toxicity accelerated monitoring requirements in sections V.B.9 and V.B.10 of the draft MRP is also needed. In discussions with USEPA, it has been determined that once monitoring has been completed and compared to the monitoring triggers in section VI.C.2.a.i of the Order, accelerated monitoring results greater than 1.0 TUc confirm persistent toxicity. Therefore, section V.B.9 of the MRP has been modified to incorporate a modified version of section V.B.10 as condition V.B.9.a and other modifications have been made as follows:

9. "**Accelerated Monitoring Requirements.** If the result of any routine chronic toxicity test exceeds the chronic toxicity monitoring trigger of ~~1.2~~1.6 TUc as a single sample result or 1.0 TUc as a monthly median, as specified in section VI.C.2.a. of the Order, and the testing meets all test acceptability criteria, the Permittee shall initiate accelerated monitoring. Accelerated monitoring shall consist of up to four additional effluent samples and dilution series (specified

in number 5 above) – with one test for each test species showing toxicity results exceeding the toxicity trigger, as defined by conditions a. through d. below. Accelerated monitoring tests shall be conducted approximately every week over a 4 week period.

Testing shall commence within 14 days of receipt of initial sample results which indicated an exceedance of the chronic toxicity trigger. If the discharge will cease before the additional samples can be collected, the Permittee shall contact the Executive Officer within 21 days with a plan to address elevated levels of chronic toxicity in effluent and/or receiving water. The following protocol shall be used for accelerated monitoring and TRE implementation:

a. If the result of any accelerated toxicity test exceeds ~~an effluent limitation or monitoring trigger~~1.0 TUc, the Permittee shall cease accelerated monitoring and, within thirty (30) days of the date of completion of the accelerated monitoring test, initiate the TRE Workplan developed in accordance with Section VI.C.2.a.(2) of the Order to investigate the cause(s) and identify corrective actions to reduce or eliminate the chronic toxicity. Within thirty (30) days of completing the TRE Workplan implementation, the Permittee shall submit a report to the Regional Water Board including, at a minimum:

    i. Specific actions the Permittee took to investigate and identify the cause(s) of toxicity, including a TRE WET monitoring schedule;

    ii. Specific actions the Permittee took to mitigate the impact of the discharge and prevent the recurrence of toxicity;

    iii. Recommendations for further actions to mitigate continued toxicity, if needed; and

    iv. A schedule for implementation of recommended actions.

b. If the results of four consecutive accelerated monitoring tests do not exceed ~~the chronic toxicity monitoring trigger of 1.2 TUc as a single sample result or~~ 1.0 TUc ~~as a monthly median~~, the Permittee may cease accelerated monitoring and resume regular chronic toxicity monitoring. However, if there is adequate evidence of a pattern of effluent toxicity, the Regional Water Board's Executive Officer may require that the Permittee initiate a TRE.

c. If the source(s) of the toxicity is easily identified (i.e. temporary plant upset), the Permittee shall make necessary corrections to the facility and shall continue accelerated monitoring until four (4) consecutive accelerated tests do not exceed the monitoring "trigger." Upon confirmation that the chronic toxicity has been removed, the Permittee

may cease accelerated monitoring and resume regular chronic toxicity monitoring.

~~10.~~ ~~If the result of any accelerated toxicity test exceeds an effluent limitation or monitoring trigger, the Permittee shall cease accelerated monitoring and, within thirty (30) days of the date of completion of the accelerated monitoring test, initiate the TRE Workplan developed in accordance with Section VI.C.2.a.(2) of the Order to investigate the cause(s) and identify corrective actions to reduce or eliminate the chronic toxicity. Within thirty (30) days of completing the TRE Workplan implementation, the Permittee shall submit a report to the Regional Water Board including, at a minimum:~~

~~i. Specific actions the Permittee took to investigate and identify the cause(s) of toxicity, including a TRE WET monitoring schedule;~~

~~ii. Specific actions that Permittee took to mitigate the impact of the discharge and prevent the recurrence of toxicity;~~

~~iii. Recommendations for further actions to mitigate continued toxicity, if needed; and~~

~~iv. A schedule for implementation of recommended actions.~~

Comment 8: Table E-6 of the draft MRP requires the use of Standard Methods for analyzing bis(2-ethylehexyl) phthalate, chloroform, dichlorobromomethane, chlorodibromomethane and bromoform. The Permittee requests referencing EPA methods for these analyses.

Response: Table E-6 of the draft MRP has been revised to identify EPA Method 625 for bis(2-ethylehexyl) phthalate and EPA Method 624 for chloroform, dichlorobromomethane, chlorodibromomethane, and bromoform.

Comment 9: Section V.A.10 of the draft MRP states that the acute toxicity test must be performed without any modifications to eliminate ammonia toxicity. The Permittee requests consideration of allowing methods to eliminate ammonia toxicity until the plant modifications to reduce ammonia and nitrate, required by the Cease and Desist Order, have been completed.

Response: Although the proposed Cease and Desist Order provides the Permittee with interim effluent limitations for ammonia, it is not appropriate to allow the acute toxicity test to be performed with modifications to eliminate ammonia toxicity. If toxicity tests are modified to eliminate toxicity ammonia toxicity, the presence of toxicity would go unrecognized with potentially serious impacts on the receiving water.

No changes were made to the draft Order in response to this comment.

Comment 10: The Permittee requests that Section V.B.3 of the draft MRP be revised to reflect that the name of the green algae specified in the monitoring program has changed from *Selenastrom capricorntum* to *Raphodocephalus subcapita* [*note correct spelling in response below]* and that the new name is used on the State's DMR forms.

Response: Regional Water Board Staff discussed this comment with USEPA and learned that both scientific names are recognized by USEPA. Therefore section V.B.3 of the draft MRP has been modified to be consistent with USEPA permit language as follows:

"**Test Species.** Test species for chronic WET testing shall be a vertebrate, the fathead minnow, *Pimephales promelas* (~~l~~Larval ~~s~~Survival and ~~g~~Growth Test Method 1000.0), an invertebrate, the water flea, *Ceriodaphnia dubia* (~~s~~Survival and ~~r~~Reproduction ~~t~~Test Method 1002.01), and a plant, the green algae, *Selanastrum capricornutum* (also named *Raphidocelis subcapitata)* (~~g~~Growth ~~t~~Test Method 1003.0). Initial testing for the first two suites of tests, shall include the three species listed above. After this screening period, monitoring shall be conducted annually using the most sensitive species. At least once every five years, the Permittee shall rescreen with the three species listed above, and continue to monitor with the most sensitive species."

Comment 11: The Permittee requests that Section V.B.5 of the draft MRP be revised to allow chronic toxicity testing to be performed using laboratory water rather than receiving water for control and dilution water. This change is requested because receiving water can create false positives in the algae test due to biostimulation and it can contain pathogens that interfere with the fathead minnow test.

Response: Regional Water Board Staff recognize that the Permittee, as well as several other dischargers in the North Coast Region, has encountered situations where the receiving water did in fact cause false positives related to the biostimulation and pathogen issues noted in the Permittee's comment. Section V.B.5 of the draft MRP has been revised to allow the use of laboratory water, and the revised language reads as follows:

"**Test Dilutions.** The chronic toxicity test shall be conducted using a series of at least five dilutions and a control. The series shall consist of the following dilution series: 12.5, 25, 50, 75, and 100 percent, and a control. ~~Control and dilution water shall be receiving water collected at an appropriate location upstream of the discharge point.~~ Effluent dilution and control water may be standard synthetic ~~L~~laboratory water, ~~may be substituted for receiving water~~ as described in the USEPA test methods manual ~~upon approval by the Executive Officer~~. Where toxicity or biostimulatory issues are not a concern in the receiving water, receiving water is preferred for control and dilution water. If the dilution water used is different from the test organism culture water, a second control using culture water shall be used."

Comment 12: The Permittee requests correction of an erroneous reference to Green Valley Creek in section IV.A.10 of the draft Fact Sheet (Discharge Prohibition III.J).

Response: Fact Sheet section IV.A.10 has been corrected to read as follows: "**Discharge Prohibition III.J.** During the period from October 1 through May 14, discharges of treated wastewater shall not exceed 1 percent of the flow of ~~Green Valley Creek~~ the Russian River.