Regional Water Quality Control Board
North Coast Region

Executive Officer's Summary Report
8:30 A.M., Thursday, August 23, 2012
Santa Rosa

ITEM: 3

SUBJECT: Public Hearing on Order No. R1-2012-0068, to consider adoption of Waste Discharge Requirements to renew NPDES permit in the matter for City of Ukiah Wastewater Treatment Facility, WDID No. 1B84029OMEN, NPDES Permit No. CA0022888, Mendocino County (*Cathleen Goodwin*)

BOARD ACTION: Consider adoption of renewed NPDES Permit, Order No. R1-2012-0068.

BACKGROUND: The Regional Water Board adopted a NPDES Permit andWaste Discharge Requirements Order No. R1-2006-0049 on September 20, 2006 for the City of Ukiah Wastewater Treatment Facility (WWTF).

NPDES permits must be renewed every five years, thus the City of Ukiah submitted a Report of Waste Discharge (ROWD) on March 18, 2011, for renewal of the existing permit.

The City of Ukiah (hereinafter Permittee) owns and operates a collection, treatment and disposal system, which serves approximately 20,700 residential, commercial, and industrial users in the City of Ukiah and Ukiah Valley Sanitation District (UVSD). The UVSD serves Mendocino College, El Dorado Estates, Vichy Springs and areas contiguous to the City of Ukiah.

The WWTF is designed to provide secondary treatment for an average dry weather flow (ADWF) of 3.01 million gallons per day (mgd) and peak wet weather flow (PWWF) of 21.7 mgd and advanced wastewater treatment(AWT) for a peak wet-weather flow (PWWF) of 7.0 mgd.

The WWTF was upgraded during the term of Order No. R1-2006-0049 and consists of a headworks facility with a new influent pumping station, bar screen and grit removal system; primary clarifiers; two trickling filters; new secondary clarifiers; coagulation; media filtration; chlorination;

dechlorination; and biosolids digestion and dewatering. Disinfected secondary effluent is discharged year-round to three percolation ponds with a combined storage capacity of 115 million gallons adjacent to the Russian River. Disinfected secondary effluent is filtered to achieve advanced wastewater treatment and subsequently chlorinated and dechlorinated as needed during the winter discharge season and discharged directly to the Russian River through an outfall pipe.

ISSUES: Significant issues include the following:

Correction of Effluent Limitation Violations.
Prior to the WWTF upgrade, the Permittee was experiencing violations of effluent limitations for BOD_5, TSS, copper, residual chlorine, total coliform, and toxicity effluent limitations during periods of discharge to the percolation ponds as well as the Russian River. Many of the violations occurred between late 2006 and 2009. Since the WWTF upgrade project was completed in June 2009, the number of effluent limitation violations have been reduced. Since the completion of the WWTF upgrade project, violations at Discharge Point 001 include: 6 BOD_5, 34 copper, 4 dichlorobromomethane (DCBM), and 3 acute toxicity effluent limitation violations, and at Discharge Point 002: 2 coliform violations.

- All of the BOD_5 violations occurred during a month of heavy rain in January 2011.
- The Permittee conducted an investigation regarding its copper violations and completed a Water Effect Ratio (WER) Study that demonstrated that site-specific effluent and receiving water conditions allow for the use of a WER to evaluate reasonable potential for copper and to establish appropriately protective copper effluent limitations. Use of the WER to calculate effluent limitations for copper is expected to eliminate copper violations.
- The DCBM violations occurred in April and May 2012, thus the Permittee is currently evaluating the cause of the violations. Regional Water Board Staff will prepare a notice of violation requiring the Permittee to assess the cause of DCBM violations and to take corrective action.
- The acute toxicity violations occurred in May 2012 (2), December 2010 (1) and February 2007(1) and the cause of the acute toxicity has not been identified due to the

intermittent nature of the violations and the fact that two of the four violations were recently determined. Regional Water Board Staff will prepare a notice of violation requiring the Permittee to be prepared to assess the cause of acute toxicity the next time that it occurs and to take corrective action.

Ammonia

Monitoring of effluent at Discharge Point 001 during the term of Order No. R1-2006-0049 revealed the presence of ammonia at concentrations that exceed USEPA water quality objectives. The draft Order includes final effluent limitations for ammonia including an AMEL of 3.5 mg/L and an MDEL of 6.8 mg/L. The cease and desist order (CDO) that is proposed for adoption concurrently with the proposed permit, includes a compliance schedule for the Permittee to achieve compliance with final effluent limitations for ammonia and interim effluent limitations, including an AMEL of 14 mg/L and an MDEL of 20 mg/L. See the Executive Officer's Summary Report for adoption of the CDO for more details.

Disposal Capacity:

In 2010 and 2011, wet winters followed by late rains into May and June, caused the percolation ponds to fill to capacity and the Permittee was unable to completely empty any of the ponds for maintenance needed to maintain percolation capacity. The Permittee's water balance is dependent on having sufficient percolation pond capacity available at the beginning of each rainy season. In addition, the Permittee is limited to discharging no more than one-percent of the Russian River flow, and the Permittee has stated that Russian River flows have decreased over the years, reducing the volume of effluent that can be discharged each year. The Permittee has evaluated this situation and identified two methods of improving its water balance. First, the Permittee proposes to develop a reclamation system to provide for beneficial reuse of its treated effluent. The Permittee recently conducted a reclamation feasibility study. Second, the Permittee requested that the Regional Water Board consider increasing Ukiah's allowed discharge rate to five percent of the Russian River flow. The Permittee submitted an analysis as required by the Basin Plan, but due to the fact that the WWTF currently has ammonia in its effluent at levels that exceed water quality

objectives, the discharge rate increase cannot be granted at this time.

Due to the fact that the Permittee's percolation ponds were at capacity at the end of June 2012, the Permittee submitted a letter to the Regional Water Board Executive Officer on July 3, 2012 (Attachment 1), requesting permission to set up a temporary irrigation system on 40 acres of land that the Permittee recently purchased adjacent to the WWTF for its proposed reclamation system. Due to the critical situation, the Regional Water Board Executive Officer prepared a letter to the Permittee, dated July 12, 2012 (Attachment 2), acknowledging that the Permittee's unpermitted but controlled discharge of disinfected tertiary effluent to land at agronomic rates is preferable to an uncontrolled discharge of secondary or tertiary effluent to the Russian River during the summer.

Permittee's Comment Letter.
Regional Water Board Staff met with the Permittee and its representatives on June 28, 2012 to discuss the Permittee's concerns regarding the draft permit. The Permittee's July 11, 2012 letter addressed the City's concerns and several requested changes to the permit. Comments received from the Permittee requested the following:

- that the less-stringent mass-based effluent limitations for BOD_5 be retained from the previous Order;
- inclusion of a reopener that would allow the City to request a 5% discharge rate to the Russian River upon achieving full compliance with ammonia and nitrate effluent limitations;
- an interim allowance for acute toxicity tests to be conducted with modifications to eliminate ammonia toxicity;
- an allowance for chronic toxicity tests to be conducted with standard laboratory water to be used in place of receiving water, for control water and dilution water when conducting chronic toxicity tests; and
- corrections and clarifications regarding analytical methods, detection limits, and permit compliance issues.

These requests, Regional Water Board Staff's responses and changes made to the draft permit in response to the Permittee's comments are described in greater detail in the Response to Comments document included as Attachment 3. As Regional Water Board Staff responded to the Permittee's comments, several other changes were made to the draft permit and these changes are summarized in Attachment 4. The Permittee's July 11, 2012 comment letter on the draft permit is included as Attachment 5.

SIGNIFICANT CHANGES: The proposed Order No. R1-2012-0068 contains several significant changes from the existing permit, Order No. R1-2006-0049 as follows:

- The permit format has been modified based on a new permit template established by the State Water Board staff. The new permit format reduces redundancy of language between the permit and the Fact Sheet. Most of the findings have been removed from the permit and retained in the Fact Sheet.
- A water effect ratio (WER)of 5.33 was used in the reasonable potential analysis for copper and in the calculation of final effluent limitations. The WER was established through a special study conducted by the Permittee. Although the RPA showed reasonable potential for copper even after applying the WER, it is anticipated that the Permittee will rarely, if ever, exceed the final effluent limitations for copper. This is because the maximum detected concentration of copper of 60 ug/L occurred only one time and all other copper results have been less than the proposed AMEL of 35 mg/L.
- New effluent limitations and requisite monitoring for cyanide and 2,3,7,8-TCDD have been established based on an evaluation of monitoring data submitted with the ROWD that showed reasonable potential for these two pollutants.
- More stringent effluent limitations for chlorine residual have been established based on criteria for the protection of aquatic life. The new effluent limitations include a monthly average limit of 0.01 mg/L and a maximum daily limit of 0.02 mg/L. These requirements are more stringent than the requirement in the previous permit to achieve non-detectable levels at a detection limit of 0.1 mg/L.

- Effluent limitations and monitoring requirements for settleable solids have been removed based on a demonstration during the term of Order No. R1-2006-0049 that there is no reasonable potential for this pollutant to cause or contribute to any exceedances of water quality objectives.
- New permit reopener language addressing the topics of reclamation, discharge rate, and salt and nutrient management plans has been added.
- Revised chronic toxicity monitoring triggers have been established based on USEPA's recommendations as established in the USEPA *Technical Support Document for Water Quality-Based Toxics Control* and *Toxicity Training Tool.* The chronic toxicity trigger has been changed from a three sample median of 1 TUc and a single sample maximum of 2 TUc to a monthly median of 1.0 TUc and single-sample maximum of 1.6 TUc.
- New source control language has been added requiring the Permittee to conduct a source control survey of all non-domestic facilities in the service area of the WWTF that might discharge pollutants that could pass through or interfere with the operation or performance of the WWTF and to monitor influent for priority pollutants.
- New compliance determination language has been added to section VII of the Order for mass-based effluent limitations, coliform limitations, chronic toxicity triggers, and mean daily flow. This language provides clarity regarding how compliance will be determined for these pollutants.
- The monitoring and reporting program (MRP) has been modified to remove receiving water monitoring requirements for BOD_5, total suspended solids, settleable solids and phosphorus based on receiving water data collected during the term of Order No. R1-2006-0049 showing that the effluent discharge does not affect the concentrations of these pollutants in the receiving water.
- New monitoring requirements for discharges to the percolation ponds include nitrogen compounds (ammonia, nitrate, and organic nitrogen) and salts (TDS, sodium, and chloride) to gather monitoring data needed to assess impacts to ground water. This data will also be useful for designing a reclamation system that is protective of

groundwater quality and meets the requirements of the State Board Recycled Water Policy.

- New receiving water limitations and monitoring requirements have been added for total dissolved solids and specific conductance. These requirements are established pursuant to the Basin Plan.
- The MRP has been modified to allow the use of standard laboratory water as control water and dilution water for chronic toxicity testing.
- New standard language has been added requiring electronic submittal of monitoring reports.

RECOMMENDATION: Adopt NPDES Permit, Order No. R1-2012-0069 as proposed

SUPPORTING DOCUMENTS:

1. Hearing Procedure
2. Proposed NPDES Permit
3. City of Ukiah Emergency Disposal Plan letter dated July 3, 2012 – Attachment 1
4. Letter from Regional Water Board EO to Ukiah dated July 17, 2012 – Attachment 2
5. Response to Comments - Attachment 3
6. Staff Changes Document – Attachment 4
7. Comment Letter from City of Ukiah dated July 11, 2012 – Attachment 5
8. Public Notice