

Central Valley Regional Water Quality Control Board  
23/24 October 2008 Board Meeting

Regional Water Board Staff Response to Comments  
City of Lincoln – Wastewater Treatment and Reclamation Facility  
Tentative Waste Discharge Requirements and Time Schedule Order

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The following are Regional Water Quality Control Board, Central Valley Region (Regional Water Board) staff responses to comments submitted by interested parties regarding the tentative Waste Discharge Requirements (proposed NPDES Permit renewal) and Time Schedule Order for the City of Lincoln Wastewater Treatment and Reclamation Facility. Submittal of public comments to the Regional Water Board regarding the proposed Orders was required by 29 September 2008 in order to receive full consideration.

The Regional Water Board received timely comments regarding the proposed permit from the City of Lincoln (Discharger) and Central Valley Clean Water Association (CVCWA). The comments were all accepted into the record, and are summarized below, followed by staff responses.

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**CITY OF LINCOLN (DISCHARGER) COMMENTS**

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**Discharger Comment No. 1 (Page 10, Table 6b):** The Discharger states that the proposed mass limitations are based on an average dry weather flow (ADWF) of 4.2 million gallons per day (mgd). The Discharger regularly stores water in storage ponds for either potential reuse opportunities later in the year or to prevent violations of the temperature receiving water limitations during sensitive time periods. The outfall from the storage ponds has a capacity of 18 mgd. The previous Order allowed for a discharge up to 12 mgd. The Discharger requests that the mass based limitations be modified to either reflect that they are applicable only when discharging without releases from storage or in some other manner that allows for discharging more water than is treated on a daily basis.

**RESPONSE:** Regional Water Board staff confirms that Footnote 2 in Provision C.3 of the existing NPDES Permit (Order No. 5-01-242) allows for a discharge from the outfall of up to 12.2 mgd. In response to this comment, the tentative NPDES Permit has been modified to clarify the mass limitations that are based on the regulated flow of 4.2 mgd (or approved increase in regulated flow). Footnotes have been added to the final effluent limitation tables (Table E-6b and corresponding tables in the Fact Sheet) clarifying that: (1) the mass limitations that are based on the regulated flow of 4.2 mgd (or approved increase in regulated flow) apply to the direct discharge from the Filter Clearwell to the receiving water only, and (2) during periods of storage pond discharge, the mass shall not exceed the amount calculated from a maximum outfall discharge rate of 12 mgd. Additionally, the existing regulated effluent flow of 12.2 mgd from the Tertiary Storage Basins, as specified in the existing NPDES Permit, has been added to the regulated flow of the tentative NPDES Permit (Section IV.A.2.f).

**Discharger Comment No. 2 (Page 11, Interim Limitation 3a):** The Discharger comments that the interim aluminum effluent limitation of 280 ug/L is more restrictive than the final aluminum effluent limitation, and requests that the interim maximum day effluent limitation be 750 ug/L. The Discharger is also requesting that the final average monthly or annual average effluent limitations be not effective until “5 years from permit adoption”.

**RESPONSE:** Regional Water Board staff concurs that the proposed performance-based interim maximum daily effluent limitation of 280 ug/L is more restrictive than the proposed final average monthly limitation of 301 ug/L and the maximum daily limitation of 750 ug/L.

The interim limitation of 280 ug/L was established by analyzing the most recent existing effluent data. Existing effluent data demonstrates that twenty-eight effluent aluminum samples were collected between April 2005 and December 2007, with aluminum concentrations ranging from 17 ug/L to a maximum effluent concentration of 310 ug/L, an average concentration of 67.4 ug/L, and a median concentration of 45.5 ug/L. Data shows the Discharger can comply with the proposed 200 ug/L annual average limitation and the proposed 750 ug/L maximum daily effluent limitation. On a monthly average basis, however, monitoring data demonstrates that higher monthly averages are taking place in the springtime months of February thru April, and the Discharger may not be able to consistently comply with the proposed monthly average effluent limitation of 301 ug/L.

In its Infeasibility Report of 22 July 2008, the Discharger reported that the coagulant poly-aluminum chloride is currently used at the facility in place of alum. The Discharger has reported its intent to modify operation of the facility and to continue testing coagulants without aluminum and/or less bioavailable aluminum compounds. New or modified control measures may be necessary in order to comply with the effluent limitations, and the new or modified control measures cannot be designed, installed, and put into operation prior to the effective date of the final effluent limitations.

Since data demonstrates that the Discharger can comply with the proposed maximum daily and annual average effluent limitations, Regional Water Board staff does not believe an interim limitation to comply with these two final limitations is necessary. In response to the Discharger's comment, Regional Water Board staff believes that an interim maximum daily limit of 750 ug/L, as requested by the Discharger, will allow unnecessary backsliding from the Discharger's existing level of treatment and/or control for aluminum. To address the Discharger's comment and request, the tentative NPDES Permit has been modified to include a monthly average interim limitation of 310 ug/L in lieu of the final monthly-average effluent limitation only. Additionally, staff does not concur

that the changes in operation necessary for the Discharger to comply with the final monthly effluent limitation of 301 ug/L will take five years to complete and implement. Staff believes a compliance schedule of three years in the shortest most practicable compliance schedule for the Discharger to make the necessary changes to reduce the addition of alum, yet maintain compliance with other final effluent limitations. Therefore, the permit has been additionally modified to include a three year time schedule for the Discharger to comply with the final monthly average aluminum effluent limitation.

**Discharger Comment No. 3 (Page 20, Special Provision C1g, and Page 22, Special Provision C2b):** The Discharger is requesting that the proposed requirement for a salinity study to determine the appropriate levels necessary to protect downstream beneficial uses. The basis of this request is that the current salinity of less than 690 umhos/cm is suitable for all uses.

**RESPONSE:** Regional Water Board staff concurs with the Discharger's request and has removed requirements to conduct a Site Specific Salinity/EC Study for the receiving water.

**Discharger Comment No. 4 (Page B-1, Attachment B):** The Discharger requests revision of the site plan in as provided in its public comments.

**RESPONSE:** Regional Water Board staff concurs with the Discharger's request and the site plan has been revised as shown in the figure attached to the Discharger's comment letter.

**Discharger Comment No. 5 (Page E-2, Table E-1):** The Discharger requests that the influent monitoring station description be corrected by removing "grit chamber" from the monitoring location description of INF-001. The Facility does not have a grit chamber.

**RESPONSE:** The tentative Orders have been modified to remove all reference to a grit chamber throughout the tentative documents.

**Discharger Comment No. 6 (Page E-2, Table E-2):** The Discharger request the removal of superscript "2" that requires composite sampling for the priority pollutant monitoring requirement. Contamination at the levels of concern is likely when using composite sampling. Clean techniques can be more readily achieved by making use of grab samples.

**RESPONSE:** Regional Water Board staff concurs with the Discharger's assessment of composite sampling versus clean techniques and grab samples.

The footnotes to Table E-2 and other corresponding tables has been modified to specify grab sampling or composite sampling, as appropriate.

**Discharger Comment No. 7 (Page E-3, Table E-3a):** The Discharger requests that once per week monitoring for Biochemical Oxygen Demand (BOD) and Total Suspended Solids (TSS). Once per week monitoring is consistent with the current Order. More frequent monitoring is really unnecessary considering that turbidity monitoring is also occurring (more restrictive than TSS limit) and compliance with the effluent ammonia limitations assures compliance with the BOD limit (a long mean-cell-resident time is necessary to remove ammonia and if compliant, assures that the wastewater is sufficiently oxidized to comply with Title 22 requirements).

**RESPONSE:** Regional Water Board staff does not concur with the Discharger's request. In the current Order No. 5-01-242, (pages 3 and 4 of the Monitoring and Reporting Program), monitoring of BOD and TSS is required daily at both the discharge point to Auburn Ravine Creek and at the Filter Clearwell. (The Filter Clearwell monitoring point is also referred to as the Internal Waste Stream Compliance Point in the tentative Order.) The tentative Order is consistent with frequency of monitoring in existing Order No. 5-01-242 and other NPDES permits for major facilities in Placer County (i.e. City of Roseville Dry Creek WWTP).

The existing Order requires turbidity compliance monitoring to assure the required tertiary level of treatment. The proposed NPDES Permit requires turbidity monitoring as an operational requirement for the ultraviolet light disinfection system. Therefore, the monitoring for BOD and TSS monitoring are the remaining compliance monitoring that serve as indicators that tertiary treatment standards are being met. Therefore, the tentative NPDES permit remains unchanged due to the above Discharger request.

**Discharger Comment No. 8 (Page E-3, Table E-3a):** The Discharger requests clarification in the proposed NPDES Permit regarding reporting requirements for turbidity. The Discharger suggests daily average and daily maximum turbidity monitoring.

**RESPONSE:** Turbidity monitoring was not intended to be included in the effluent monitoring requirements of the tentative Order. Continuous turbidity monitoring is required for the ultraviolet light disinfection system operational provision. The tentative NPDES permit has been modified to remove the turbidity effluent monitoring requirement in the Filter Clearwell monitoring. The continuous turbidity operational monitoring for the ultraviolet light disinfection system, as footnoted with the requirement of reporting average daily and daily maximum values, remains unchanged.

**Discharger Comment No. 9 (Page E-4, Table E-3b):** The Discharger requests that the required Total Coliform Organism effluent monitoring from the effluent be removed since the requirement is already fulfilled at the Filter Clearwell where all effluent must pass.

**RESPONSE:** Regional Water Board staff concurs with the Discharger comment in that the Total Coliform Organism monitoring in both the filter clear well and the final effluent is duplicative. The tentative NPDES Permit has been modified to delete the coliform effluent monitoring in Table E-3b.

**Discharger Comment No. 10 (Page E-4, Table E-3b):** The Discharger requests clarification in the tentative NPDES Permit as to how to report continuous dissolved oxygen monitoring results, and requests that the results are reported as daily average values.

**RESPONSE:** Table E-3b of the Monitoring and Reporting Program in the tentative NPDES Permit has been modified to include clarify the required dissolved oxygen reporting to be the daily average and the daily minimum dissolved oxygen measures resulting from the continuous monitoring.

**Discharger Comment No. 11 (Page E-9, Table E-8):** The Discharger requests that the requirement to monitor instream flow to determine a dilution ratio be eliminated since it does not rely upon dilution for compliance purposes.

**RESPONSE:** Regional Water Board staff concurs with the Discharger's comment in that the basis for instream flow monitoring is not to determine a dilution ratio since the receiving water, Auburn Ravine Creek, is an ephemeral stream. The footnote referring to dilution has been removed, however, the requirement for instream flow monitoring remains in the tentative NPDES Permit for collection of receiving water flow data.

**Discharger Comment No. 12 (Page E-10, Table E-7):** The Discharger requests that the required reporting for the number of ultraviolet light (UV) disinfection banks in operation be removed. The Discharger states that the number of UV disinfection banks in operation changes over the course of a day. All of the information is maintained should troubleshooting require use of the information. Its reporting would be cumbersome and does not add value unless trouble-shooting a specific problem.

**RESPONSE:** Regional Water Board staff concurs with the Discharger's request based on the description of the operation of the UV disinfection banks. The continuous monitoring of number of UV disinfection banks is not a provision of

the tentative NPDES Permit, and has therefore been removed from the reporting requirement from Table E-7 in the Monitoring and Reporting Program.

**Discharger Comment No. 13 (Page E-10, Table E-7):** The Discharger requests clarification regarding the reporting of transmittance within the UV disinfection system and suggests the reporting be daily average and daily minimum transmittance values.

**RESPONSE:** Regional Water Board staff concurs with the Discharger's suggested reporting requirements for transmittance. A footnote has been added to Table E-7 of the Monitoring and Reporting Program of the tentative NPDES Permit to require daily average and daily minimum reporting of UV transmittance.

**Discharger Comment No. 14 (Page E-10, Table E-7):** The Discharger requests clarification regarding the required reporting of dose, as described in footnote 2 of Table E-7, and suggests that this reporting of dosage is sufficient for the reporting of intensity sensor readings also. The intensity sensor readings will be maintained on site, but their reporting is cumbersome.

**RESPONSE:** Regional Water Board staff does not concur with the Discharger's suggestions for the elimination of the required UV Intensity Sensor Readings reporting. Section VI.C.5.d of the tentative NPDES Permit, Special Provisions, requires the Discharger to provide continuous, reliable monitoring of UV intensity readings to demonstrate compliance with the UV dose requirement, and therefore, remains unchanged in the proposed required monitoring. To provide reporting clarification, however, the footnotes to Table E-7 have been modified for the UV intensity to be reported in the same manner as the UV dose, as daily average and instantaneous daily minimum values.

**Discharger Comment No. 15 (Page F-1, Table F-1):** The Discharger requests that the telephone number of the contract operators' consulting office be removed from the facility contact information, and the telephone number of the treatment facility be used instead.

**RESPONSE:** Regional Water Board staff concurs with the Discharger's request and has modified the contact information in the tentative NPDES Permit to include the telephone number at the treatment facility only.

**Discharger Comment No. 16 (Page F-5, Section D):** The Discharger comments that the new facility came on-line in 2004, not 1994. The suspended solids violation in July 2004 was due to the old plant that is no longer operating. There have not been any finable violations from the new WWTRF.

**RESPONSE:** Regional Water Board staff concurs with the Discharger's reporting of the events that occurred and removed reference of specific individual violations or potential violations has been removed. Additionally, the description of the start up of the new facility has been corrected.

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### **Central Valley Clean Water Association (CVCWA) Comments**

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**CVCWA Comment No. 1:** CVCWA states its concern over the multiple proposed permit limitations for Biochemical Oxygen Demand (BOD), Total Suspended Solids (TSS), and Settleable Solids (SS) in the tentative NPDES Permit at two different monitoring locations. CVCWA recognizes that these requirements may be site specific for the City of Lincoln. CVCWA states that its comments are not intended to contest the Tentative Order, but are intended to express CVCWA's concern should the Regional Water Board decide to make this a standard approach for permitting in the Central Valley.

**RESPONSE:** The multiple limitations for BOD and TSS are site-specific to the City of Lincoln treatment facility that makes use of tertiary-treated effluent storage basins to control ultimate discharge to the receiving water to avoid potential violation of effluent and/or receiving water limitations, or exacerbating flood conditions during winter storm events. The multiple set of effluent limitations, one set at the Filter Clearwell downstream of the tertiary treatment and UV disinfection system, and the second set at the actual discharge location, are not intended as the standard approach of the Regional Water Board for other NPDES permits. The intention is to assure that the wastewater downstream of the filtration and disinfection system receives the appropriate level of tertiary treatment, and that the actual discharge to the receiving stream meets federal secondary treatment standards

The Clean Water Act requires that effluent samples shall be collected from the last connection through which wastes can be admitted to the outfall. In the tentative NPDES Permit, the effluent monitoring location in which no further waste can be admitted to the outfall, is downstream of the tertiary storage basins and referred to as Discharge Point 001, and secondary-level BOD and TSS effluent limitations are applicable at this point of discharge. Tertiary level BOD and TSS effluent limitations are applied to the internal waste stream at the Filter Clearwell, a point in the treatment process that is downstream of the tertiary treatment and UV disinfection, but upstream of the tertiary storage basins. Implementation of the Title 22-level tertiary effluent limitations is to protect the beneficial uses of Auburn Ravine Creek, which include contact recreation, municipal, and agricultural irrigation. (The California Department of Public Health (DPH) requires tertiary treatment requirements be met within the treatment process but does not specify where in the process.) If one set of tertiary

effluent limitations were to be applied at the point of discharge for this facility, re-treatment for much of the stored wastewater would be necessary. The approach of two sets of effluent limitations was established in the existing NPDES Permit. The tentative NPDES Permit carries over the same approach for regulating BOD and TSS for this tertiary treatment facility.

Settleable Solids monitoring and reporting have been removed entirely from the tentative Order. This parameter provides a measure of the performance of sludge settling within a secondary treatment system. Measures of BOD and TSS from this tertiary facility provide the performance information necessary. Therefore, settleable solids effluent limitations and monitoring is not necessary for this Facility.

**CVCWA Comment No. 2:** CVCWA comments that the Fact Sheet (p. F-3 and pp. F-11 through F-13) states that the effluent limitations applicable at the Filter Clearwell are intended to satisfy the Department of Public Health's (DPH) requirements for tertiary standards. The second, duplicative (albeit less stringent) set of limitations for BOD, TSS, and SS are apparently being imposed to satisfy Clean Water Act (CWA) requirements for secondary treatment for the discharged effluent which may consist of either stored tertiary-treated water or tertiary-treated water directly from the Filter Clearwell. Accordingly, the Fact Sheet implies that since the treated wastewater has been stored, it may no longer meet CWA standards. CVCWA does not support the imposition of the second set of effluent limits for BOD, TSS, and SS because they are not necessary for the Discharger to meet the technology treatment limitations of the CWA. These technology requirements have been met at the end of the Filter Clearwell and are more stringent than required by the CWA.

**RESPONSE:** Regional Water Board staff does not concur with the above comment. 40 CFR Section 122.45 allows for the tertiary-level effluent limitations that are based on protection of public health to be located within the internal waste stream, as follows:

(h) *Internal waste streams.* (1) When permit effluent limitations or standards imposed at the point of discharge are impractical or infeasible, effluent limitations or standards for discharges of pollutants may be imposed on internal waste streams before mixing with other waste streams or cooling water streams. In those instances, the monitoring required by § 122.48 shall also be applied to the internal waste stream.

However, as documented in Finding No. 5 of the existing Permit, the tertiary storage basins contribute BOD and TSS through the natural growth of algae. For Publicly Owned Treatment Works (POTWs), 40 CFR 125.3(a) requires effluent limitations to be based on secondary treatment (technology-based treatment as

required under section 301(b) of the Clean Water Act). Wastewater discharged from the storage basins may have BOD and TSS values greater than secondary level due to the contribution of algae downstream of the secondary and tertiary treatment facilities. Therefore, as provided for in the existing NPDES permit, secondary-level effluent limitations are established at the discharge location to assure secondary quality effluent is discharged from this POTW.