

STAFF REPORT

CITY OF LODI WHITE SLOUGH WATER POLLUTION CONTROL FACILITY PROPOSED NPDES PERMIT RENEWAL AND TIME SCHEDULE ORDER SAN JOAQUIN COUNTY

Two items are being considered for adoption: (1) issuance of a renewed National Pollutant Discharge Elimination System (NPDES) permit for the City of Lodi White Slough Water Pollution Control Facility, and (2) a Time Schedule Order (TSO) with a time schedule requiring full compliance with some final effluent limitations by 18 May 2010.

BACKGROUND

The City of Lodi (hereafter Discharger) owns and operates the White Slough Water Pollution Control Facility (Facility), which provides sewerage services to the City of Lodi. The Facility discharges tertiary-level treated wastewater to Dredger Cut, located within the Sacramento-San Joaquin Delta, a water of the United States. The Discharger also disposes of wastewater through irrigation of 790 acres of City-owned land surrounding the Facility. The discharge is currently regulated by Order No. 5-00-031, which was adopted on 28 January 2000, and expired on 28 January 2005. The terms of Order No. 5-00-031 (hereinafter referred to as previous permit) have automatically continued in effect after the permit expiration date.

The Discharger filed a report of waste discharge and submitted an application for renewal of its Waste Discharge Requirements (WDRs) and NPDES permit on 28 July 2004. A site visit was conducted on 22 May 2007, to observe Facility operations and conditions.

FACILITY DESCRIPTION

The Facility collects wastewater from two separate wastewater collection systems, domestic and industrial. The main domestic collection system collects primarily domestic wastewater and is directed to the Facility for treatment and disposal. The Discharger also utilizes an industrial collection system, which collects industrial wastewater from a few industrial users. The industrial wastewater is primarily industrial food processing wastewater (approximately 90%) from Pacific Coast Producers (PCP). The other industries include Holz Rubber Company, Valley Industries, M&R Packing, Lodi Iron Works, Chevron, and Van Ruiten Winery (Holz Rubber Company and Valley Industries are regulated through the Discharger's Industrial Pretreatment Program; Chevron, a groundwater remediation project, has ceased discharging to the industrial line and is awaiting closure from Regional Board staff). The industrial wastewater does not receive treatment prior to disposal on the agricultural irrigation fields.

The Facility's treatment process consists of comminutors, mechanical grit removal, primary sedimentation, conventional activated sludge, secondary sedimentation, tertiary

treatment through cloth media filtration to 10 microns, and ultra violet pathogen deactivation. The biosolids are thickened in dissolved air flotation (DAF) units, anaerobically digested, and directed to a concrete-lined sludge stabilization lagoon. Fluids are decanted from this lagoon, and stored in the Facility's ponds; however, the Discharger is currently modifying the system to reroute the sludge fluids (supernatant and subnatant) to the treatment system, which should be operational by March 2009. During the summer months, the biosolids are pumped from the sludge stabilization lagoon at a solids content of about 2 to 4 percent, blended with the Facility's storage ponds combined wastewaters in a connecting pipeline, and applied to the agricultural fields.

The Facility has three equalization ponds and four unlined storage ponds. During typical winter operations, the Discharger directs municipal wastewater, industrial wastewater, subnatant from its DAF unit and sludge lagoon supernatant to the ponds. As discussed above, the Discharger is currently making modifications (to be completed by March 2009) to cease the discharge of the DAF subnatant and sludge lagoon supernatant to the storage ponds.

MAJOR PERMIT CHANGES OR ADDITIONS

The following is a summary of the major changes and additions to the NPDES Permit. This Staff Report provides general background of the issues. More detail is included in the tentative Order, administrative record, and case file.

- Flow Increase
- Salinity
- New Effluent Limitations
- Land Discharge Specifications
- Groundwater Limits
- Study Requirements

1. **Flow Increase.** The Facility is currently permitted for a 30-day average discharge flow of 7.0 million gallons per day (mgd). However, the previous permit provided for an increase in discharge flow to 8.5 mgd of secondary treated wastewater, but was contingent upon the Discharger demonstrating compliance with the Basin Plan's dissolved oxygen (DO) water quality objective in the receiving water. The Discharger has since increased treatment to a tertiary level, which has significantly reduced the loading of oxygen demanding substances, such as 5-day biochemical oxygen demand (BOD₅) and total suspended solids (TSS). Additionally, this Order contains limits for additional oxygen demanding substances (i.e. ammonia, nitrate, and nitrite) that are more stringent than the previous permit. The Discharger cannot immediately comply with the ammonia, nitrate, and nitrite limits; however, in its ROWD, the Discharger committed to Phase III upgrades that include full nitrification and denitrification, which should be completed in 2-3 years. This Order conditionally

allows an increase in the discharge to Dredger Cut to 8.5 mgd as a daily average, upon compliance with all effluent and receiving water limits (except effluent limits for aluminum) and completion of the Phase III upgrades. Compliance with the final effluent limitations for aluminum prior to increasing the flow is not necessary, because the receiving water aluminum concentration exceeds the effluent concentration, thus there is not an antidegradation issue for aluminum.

2. **Salinity.** On average, the salinity of the effluent is below the salinity screening values used for the reasonable potential analysis. Therefore, there is not a reasonable potential for the discharge to cause or contribute to an excursion of the salinity goals in the receiving water. However, in compliance with State Water Resources Control Board (State Water Board) Resolution 68-16 (Antidegradation Policy), the proposed Order includes an average monthly effluent limitation of 780 µmhos/cm for EC, based on the municipal water supply EC plus an increment of 500 µmhos/cm, which is considered best practicable treatment or control of the discharge. In addition, the proposed Order requires the Discharger to prepare and implement a Salinity Evaluation and Minimization Plan and to report on its progress in reducing salinity discharges to Dredger Cut.
3. **New Effluent Limitations.** The proposed Order contains new water quality-based effluent limitations for aluminum, ammonia, chlorodibromomethane, dichlorobromomethane, manganese, nitrate, nitrite, and electrical conductivity (EC). The proposed Order also contains more stringent effluent limitations for BOD, and TSS. Based on the performance of the Facility, the Discharger may not be capable of immediately complying with the effluent limitations for aluminum, ammonia, chlorodibromomethane, dichlorobromomethane, manganese, nitrate, and nitrite. Pursuant to the SIP, a compliance time schedule is included in the proposed Order for chlorodibromomethane and dichlorobromomethane. Compliance schedules for ammonia and aluminum are also included in the proposed permit in accordance with the Basin Plan, because the new effluent limitations are based upon a new interpretation of the Basin Plan. Compliance time schedules for manganese, nitrate, and nitrite may not be allowed in the permit, therefore, the time schedules are included in the proposed TSO. The compliance time schedules require compliance with the final effluent limitations by 18 May 2010 for all constituents, which coincides with the Discharger's Phase III upgrades that are currently underway.
4. **Land Discharge Specifications and Groundwater Limitations.** To protect the underlying groundwater and to ensure the agricultural practices do not cause odor nuisances, the proposed Order contains new Land Discharge Specifications (loading limits) and narrative and numeric Groundwater Limitations.
 - a. **Land Discharge Specifications.** The new Land Discharge Specifications require the Discharger to comply with new loading limits for total nitrogen and

BOD₅ for the application of reclamation water to the agricultural fields. The proposed Order also limits the hydraulic loading to minimize percolation of wastewater and contains cumulative metal loading limits for each agricultural field, which is more stringent than the previous permit that required compliance for the entire agricultural area (790 acres).

- b. **Groundwater Limits.** The proposed Order contains new numeric groundwater limits for Boron, Chloride, Iron, Lead, Mercury, Molybdenum, Manganese, Sodium, Total Coliform Organisms, TDS, Total Nitrogen, Nitrite (as N), Nitrate (as N), and Ammonia (as NH₄), which are effective upon the characterization of background groundwater quality. To comply, the Discharger cannot cause the groundwater within the influence of the Facility and agricultural fields to exceed the greater of 1) the new groundwater limits or 2) the natural background groundwater quality. The proposed Order contains an associated provision that requires the Discharger to characterize the natural background groundwater quality by 1 August 2010.
5. **Study Requirements.** The proposed Order contains several study requirements, including chronic whole effluent toxicity testing requirements, a temperature study, industrial influent characterization, background groundwater quality and groundwater degradation assessment, a Title 22 engineering report, and effluent and receiving water characterization.

 - a. **Chronic Whole Effluent Toxicity Requirements (Special Provisions VI.C.2.a.).** 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 III-8.00.) Based on quarterly whole effluent chronic toxicity testing performed by the Discharger from February 2005, through October 2006, the discharge has reasonable potential to cause or contribute to an in-stream excursion above the Basin Plan’s narrative toxicity objective. This provision requires the Discharger to develop a Toxicity Reduction Evaluation (TRE) work plan in accordance with EPA guidance. In addition, the provision establishes a numeric toxicity monitoring trigger, requirements for accelerated monitoring, and a protocol for requiring the Discharger to initiate a TRE if a pattern of toxicity is demonstrated. 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.
 - b. **Temperature Study.** The Thermal Plan specifies requirements for effluent and receiving water limitations based upon natural background receiving water temperatures. Since the effluent is discharged within the dead-end terminus of

Dredger Cut, it is not possible to measure background receiving water temperature. Therefore, the proposed Order requires the Discharger to determine appropriate temperature controls to protect the beneficial uses of the receiving water. Based upon the results of this study, the proposed Order may be reopened to add or modify temperature effluent limitations

- c. **Industrial Influent Characterization.** The Discharger collects industrial wastewater that is untreated and applied to the agricultural fields during irrigation season, or stored in unlined ponds during the remainder of the year. During the irrigation season, the industrial influent is comprised primarily of food processing waste, which is approximately 90% of the influent, and tailwater flows from 118 acres of the Discharger's agricultural fields. During the rainy season, when the industrial influent is stored in the ponds, in addition to the runoff from the Discharger's 118 acres, the industrial pipeline also collects stormwater runoff from a few industrial areas, and agricultural and stormwater runoff from properties located east of the Facility (The Discharger is constructing facilities to bypass these flows).

Currently, the industrial influent is monitored separately when directed to the ponds for storage, and is monitored when commingled with all irrigation waters applied to land. The goal of this study is to isolate and characterize the primary unique components of the industrial influent, including: 1) industrial influent that contains food processing waste (during the irrigation season June through September), 2) industrial influent that only contains discharges from the remaining industrial users (excludes food processing waste), and 3) industrial influent that contains the first-flush of off-site and on-site stormwater runoff. This study is necessary to determine the potential impacts of the untreated waste on the underlying groundwater quality.

- d. **Background Groundwater Quality and Groundwater Degradation Assessment.** The Antidegradation Policy requires that a discharge will not result in water quality impacts that exceed applicable water quality objectives or background water quality, unless the Discharger provides best practicable treatment and control (BPTC) of the discharge and an demonstrate such degradation is to the maximum benefit of the people of the state. The Discharger has been monitoring groundwater since 1989. The previous permit required the Discharger to continue groundwater monitoring, and to install additional wells in order to conduct monitoring of the groundwater up-gradient and down-gradient of the Facility. By April 2001, the Discharger had installed a total of 19 groundwater monitoring wells. However because of the low gradients and deflections within the local region, more groundwater monitoring wells are needed to fully characterize background groundwater quality.

The proposed Order contains narrative and numeric groundwater limits, and prohibits concentrations greater than the limit or in excess of natural background quality. This provision requires the Discharger to conduct, and finalize a study by 1 August 2010, that establishes the background ground quality within the vicinity of the Facility.

- e. **Title 22 Engineering Report.** The Discharger is a supplier of recycled municipal wastewater; however, the Discharger has never conducted a Title 22 Engineering study. The proposed Order requires the Discharger to conduct and submit a Title 22 Engineering Report in accordance with the information listed in DHS guidance document (March 2001).
- f. **Effluent and Receiving Water Characterization.** The proposed Order requires an effluent and receiving water monitoring study to ensure adequate information is available for the next permit renewal. This replaces the standard "priority pollutant" monitoring requirements (i.e. once per year or once per permit period) in the MRP.

SIGNIFICANT PERMITTING ISSUES

The significant permitting issues for the proposed Order are as follows: 1) Antidegradation Analysis for Requested Increase of Flow, 2) Compliance Schedules for Final Effluent Limits, 3) Design Hardness for Hardness-dependent Metals Water Quality Criteria, 4) Interim Total Mercury Limits, 5) Title 27 Requirements, 6) Groundwater Protection and Land Application Practices, and 7) Storage Pond Operational Requirements.

- 1. **Antidegradation Analysis for Requested Increase of Flow.** The proposed Order conditionally allows the increased flow from 7.0 mgd to 8.5 mgd (which is the design capacity of the Facility) upon compliance with all effluent and receiving water limits (except effluent limits for aluminum) and completion of the Discharger's Phase III upgrades. The Discharger committed to Phase III upgrades (currently underway, to be completed in 2-3 years) that include full nitrification/denitrification to meet anticipated more stringent ammonia, nitrate, and nitrite limits. The Discharger met the conditional provision to allow the increase in flow contained in the previous permit; however the Discharger did not submit an antidegradation analysis. Regional Board staff conducted an antidegradation analysis based on current tertiary level treatment performance with the findings summarized below:
 - a) **Inorganic Constituents.** In the case of inorganic constituents, the increase in loading directly correlates to the increase in flow, which is a 21% increase. However, most concentrations in the receiving water were below water quality standards, and therefore, demonstrate assimilative capacity for this increase. Molybdenum was not measured in the receiving water; however, because it is

not a 303(d) listed pollutant and the levels measured in the effluent are below the water quality objective, it is reasonable to assume that the receiving water has the assimilative capacity for this pollutant. For aluminum and manganese, effluent limitations are established in the proposed Order and the Discharger is required to implement additional BPTC measures that will result in compliance with these limits.

- b) **Organic Constituents.** For the organic constituents, some trihalomethane concentrations were projected to decrease in the discharge based on the limits established in the proposed Order. For other organic constituents, the concentration levels in the receiving water are well below respective water quality objectives, and therefore, demonstrate assimilative capacity for these pollutants in the receiving water.
- c) **Oxygen Demanding Substances.** For oxygen demanding substances (i.e. BOD, TSS, and ammonia), due to more stringent ammonia limitations and the requirement that wastewater discharged to Dredger Cut meet Title 22 tertiary requirements, or equivalent, the total mass loading of these constituents will increase only 10 percent from the current discharge. Receiving water dissolved oxygen (DO) levels have been measured at several locations since 1997, and water quality modeling based on 13 sampling runs at 25 different monitoring locations (a total of 325 samples) predicted DO levels in the terminus of Dredger Cut (located approximately 1000 feet from the effluent discharge) above 5 mg/L for every simulation performed at 8.5 mgd with weekly average BOD₅ loading up to 1021 lbs/day. Tertiary-level treated effluent analytical monitoring samples results indicate that the maximum weekly average BOD₅ loading, corresponding to a flow of 8.5 mgd as 807 lbs/day, which falls below the modeling BOD loading maximum. Thus, this increase should not have adverse affects on the beneficial uses of the receiving water.
- d) **Salinity.** For constituents that are indicative of the salinity of the water (e.g. TDS, chloride, sulfate, and EC), the proposed Order allows an increase in the mass loading of these constituents. However, the proposed Order requires the Discharger implement BPTCs in accordance with Resolution 68-16. For this discharge, the Regional Water Board finds that limiting effluent salinity to an increment of 500 µmhos/cm over the salinity of the municipal water supply meets BPTC. Therefore, the proposed Order includes an effluent limitation of 780 µmhos/cm for EC, based on the municipal water supply EC plus an increment of 500 µmhos/cm.
2. **Compliance Schedules for Final Effluent Limits.** The proposed permit and TSO contain compliance schedules for meeting the final effluent limitations for aluminum, ammonia, nitrate, nitrite, chlorodibromomethane, and dichlorobromomethane with final compliance required by 18 May 2010,. The compliance schedules for nitrite,

nitrate, and manganese are included in the TSO, while the schedules for the remaining constituents are in the permit. Regional Board staff set the effective date of the final limits to be as short as practicable. The final compliance date is approximately 6 months following anticipated completion of construction of the Dischargers Phase III project. For more information, please see the Response to Comments (City of Lodi - NPDES Comment #3 and CVCWA – NPDES Comment #1)

- 3. Design Hardness for Hardness-dependent Metals Water Quality Criteria.** In conducting a reasonable potential analysis for hardness-dependent metals, hardness values of the receiving water or the effluent were used. For copper, chromium III, nickel, zinc, and chronic cadmium, the water quality objectives were based on the lowest recorded effluent hardness; and for acute cadmium, lead, and acute silver, the water quality objectives were based on the lowest recorded effluent hardness value and the highest recorded receiving water value.

Effluent limitations for the discharge must be set to protect the beneficial uses of the receiving water for all discharge conditions. In the absence of the option of including condition-dependent, “floating” effluent limitations that are reflective of actual conditions at the time of discharge, effluent limitations must be set using a reasonable worst-case condition in order to protect beneficial uses for all discharge conditions. Recent studies indicate that using the receiving water lowest hardness for establishing water quality criteria is not the most protective for the receiving water. The Regional Water Board has evaluated these studies and concurs that for some parameters the beneficial uses of the receiving water are best protected using the lowest hardness value of the effluent, while for some parameters, the use of both the highest hardness value of the receiving water and the lowest hardness value of the effluent is the most protective.

- 4. Interim Mercury Limits.** The tentative Order contained a mercury mass performance-based limit based on mercury samples collected since the City upgraded the Facility to provide a tertiary level of treatment. The Discharger contends that the proposed, more stringent limit has the effect of penalizing the City for improving performance over the last five years, and is an approach to discourage, rather than encourage, aggressive actions to reduce total mercury loadings. Therefore, the Discharger requested a more reasonable mercury loading limit in its comments on the tentative Order. Regional Board staff agree with the City and have continued the interim total mercury effluent limitation from the previous Order. The only change is that the limitation was changed from a running 12-month average to a monthly average in the proposed Order.
- 5. Title 27 Requirements.** The Facility includes unlined storage ponds used for its water reclamation system. The ponds contain constituents that exceed water quality objectives, particularly nitrate. Water Code Section 13173 defines “designated

waste” to include “[n]on hazardous waste that consists of, or contains, pollutants that, under ambient environmental conditions at a waste management unit, could be released in concentrations that exceed applicable water quality objectives or that could reasonably be expected to affect beneficial uses of waters of the state as contained in the appropriate state water quality control plan.”

Pursuant to section 20090(b) of Title 27, California Code of Regulations, the discharge of wastewater to land, including but not limited to evaporation ponds, percolation ponds or subsurface leachfields, may be exempted from the State Water Board-promulgated provisions of this subdivision, as long as the activity meets, and continues to meet, all preconditions listed below:

- i. the applicable Regional Water Board has issued WDRs, reclamation requirements or waived such issuance;
- ii. the discharge is in compliance with the applicable water quality control plan; and
- iii. the wastewater does not need to be managed according to Chapter 11, Division 4.5, Title 22 of this code as a hazardous waste.

An additional Title 27 exemption, section 20090(a), is provided for discharges of domestic sewage or treated effluent associated with municipal wastewater treatment plants provided that the discharge is regulated under WDRs or a waiver of WDRs and that the discharge is consistent with applicable water quality objectives.

The storage ponds are part of the wastewater treatment facility and are explicitly exempt from Title 27 under section 20090(a). However, the ponds, as currently operated, are a threat to water quality, therefore, the proposed Order requires the Discharger to ensure it is meeting BPTC of the discharge, which may result in the need to line the ponds. Other BPTC alternatives, which the Discharger is currently implementing, are re-routing of biosolids supernatant and DAF subnatant to the treatment facility, and the construction of denitrification facilities. These measures will reduce nitrate concentrations in the storage ponds.

6. **Groundwater Protection and Land Application Practices.** The proposed Order contains discharge prohibitions, land discharge specifications, reclamation specifications, narrative and numeric groundwater limitations, and several provisions to protect the groundwater underlying the influence of the Facility and land application areas and to prevent nuisance conditions.

The Discharger asserts it cannot meet the new BOD₅ Loading Limits on a cycle average and requests the limit be applied over a seasonal average. However, this limit is necessary to prevent reducing conditions in soil that mobilize iron and manganese and to prevent anaerobic conditions in the soil that can cause odors. A study requirements has been added to the proposed Order to require the Discharger

to determine if additional daily maximum loading requirements are necessary and whether the cycle average limitation is appropriate for the site-specific conditions.

Dr. Ken Hajek has a neighboring farm and uses the groundwater for irrigation purposes and has expressed concerns over the proposed Order's requirements to protect groundwater. The California Sportsfishing Protection Alliance has similar concerns regarding the proposed Order.

These issues are addressed in the Staff Response to Comments document. Generally, the proposed Order contains numerous new requirements for protection of groundwater, as discussed above. Staff agree that the Discharger's current practices are a threat to groundwater quality, but due to a lack of adequate background groundwater monitoring wells it is difficult to determine if the Discharger is degrading groundwater quality. The proposed Order requires the Discharger to perform a hydrogeologic study. If the groundwater monitoring results show that the discharge of waste is threatening to cause or has caused groundwater to contain waste constituents in concentrations statistically greater than background water quality, the Discharger shall submit a BPTC Evaluation Workplan that sets forth a scope and schedule for a systematic and comprehensive technical evaluation of each component of the Facility's waste management system to determine BPTC for each waste constituent of concern.

7. **Storage Pond Operational Requirements (freeboard).** The previous Order does not contain a pond freeboard limitation, as is usually required and the Discharger occasionally needs to use the full capacity of its unlined storage ponds for winter storage. The pond berms are protected from erosion with geotextile/rock faces and the tops are paved. In addition, water from the ponds can be pumped to the Discharger's treatment system for discharge to Dredger Cut to prevent overflows. However, should the ponds overtop, the flows would remain on site and be returned through the agricultural tailwater system. The Discharger has been making changes to reduce flows directed to the ponds (i.e. sludge fluids and off-site stormwater runoff) and has plans to increase its Recycled Water Program. The proposed Order does not require the ponds to maintain a 2-foot freeboard. However, a study requirement has been added for the Discharger to determine the risk of failure of a berm should the ponds overflow.
8. **100-year Flood Plain Requirement for Land Application Areas.** The Discharger's agriculture fields west of I-5 are not protected from inundation during a 100-yr storm event. Typically, land application areas are required to be protected from inundation during a 100-yr storm event. However, for several reasons, in this particular instance, the water quality risks are likely minimal. The western fields are bordered by levees on the west and cannot naturally drain to the Delta. Flooding would occur if they were overtopped, which has happened in the past, but the water sits on-site until it is processed through the tailwater system. The only "runoff" would be the

volume of water that is higher than the elevation of the levees. In addition, biosolids are only applied to the corn fields, which are tilled in every year in the fall. Therefore, biosolids that had been applied during the previous irrigation season would be incorporated into the soil before there is a potential for a flooding event to occur. Finally, since flooding risk is always linked to high precipitation, there would be no need to irrigate. However, to reduce or prevent water quality impacts that can be caused by the flooding of the fields, the proposed Order has been modified to include a requirement that the Discharger develop and implement a management plan to reduce the risk of water quality impacts in the event the fields are inundated.

COMMENTS

Written comments on the proposed Order were required to be received by the Regional Water Board by 17 August 2007 in order to receive full consideration. Comments were received by the deadline from:

1. City of Lodi (City or Discharger)
2. California Sportfishing Protection Alliance (CSPA)
3. Central Valley Clean Water Association (CVCWA)
4. Dr. Ken Hajek (local farmer)

The significant permitting issues are discussed above and a complete response to comments is provided in the agenda package.

CHANGES TO PROPOSED ORDERS

The tentative NPDES permit and TSO have been modified in several areas based on comments received to provide clarification and/or correct minor factual errors. In addition to these corrections and clarifications, six changes have been made to the proposed Order that require some explanation. These changes are discussed in detail below. All changes are incorporated into the agenda copies of the Orders. Underline/Strikeout versions will be made available to the Discharger and interested persons on the Regional Water Board's website.

Ammonia Effluent Limitations Correction. An error was made in the calculation of the chronic long-term average concentration, which resulted in an error in the calculation of the effluent limits. The proposed Order has been corrected.

Interim Mercury Effluent Limit. The Discharger's previous Order required a mercury mass loading limit of 0.113 lb/month. In the proposed tentative Order, an interim monthly mercury mass limit of 0.013 lb/month was included based on mercury samples collected since the City upgraded the Facility to provide a tertiary level of treatment.

The City contended that the proposed more stringent limit has the effect of penalizing the City for improving performance over the last five years, and is an approach to discourage, rather than encourage, aggressive actions to reduce loadings. The Discharger also contended that the SIP (p.22) contains a provision to preserve the status quo in advance of TMDL development and to ensure that POTWs are not required to make significant investments in new treatment or infrastructure before a TMDL is completed and appropriate wasteload allocations are developed. Regional Water Board staff agree with the Discharger and have modified the proposed Order to include the interim total mercury mass loading limit from the previous Order. The only change being that the limit has been changed from a running 12-month average to monthly average. This change is necessary to allow automation of compliance determination in the California Integrated Water Quality System (CIWQS) database.

Cropping and Irrigation Management Plan. The Land Discharge Specifications of the proposed Order require the Discharger to apply wastewater to the agricultural fields at agronomic rates. However, to ensure the correct application of the loading limits, the proposed Order has been modified to require that all monitoring reports developed for compliance with the loading limits shall be prepared under the direct supervision of a certified agronomist. Furthermore, based on comments on the tentative Order, the proposed Order has been modified to include a requirement for submittal of a comprehensive cropping and irrigation management plan annually.

New Study Requirements. Three new study requirements have been added to the proposed Order based on comments received on the tentative Order.

Land Discharge Organic Loading Study. An organic loading study is required to evaluate a need for a daily maximum BOD loading rate for application of wastewater on the agricultural fields. The Discharger shall conduct a study that evaluates the maximum daily BOD loading rate necessary to prevent nuisance odors.

Pond Freeboard Evaluation Study. The previous Order does not contain a pond freeboard limitation, as is usually required and the Discharger occasionally needs to use the full capacity of its unlined storage ponds for winter storage. The pond berms are protected from erosion with geotextile/rock faces and the tops are paved. In addition, water from the ponds can be pumped to the Discharger's treatment system for discharge to Dredger Cut to prevent overflows. However, should the ponds overtop, the flows would remain on site and be returned through the agricultural tailwater system. The proposed Order does not require the ponds to maintain a 2-foot freeboard. However, a study requirement has been added for the Discharger to determine the risk of failure of a berm should the ponds overflow.

100-year Flood Evaluation Study. The Discharger's agriculture fields west of I-5 are not protected from inundation during a 100-yr storm event. Typically, land application areas are required to be protected from inundation during a 100-yr storm

event. However, for several reasons, in this particular instance, the water quality risks are likely minimal. However, to reduce or prevent water quality impacts that can be caused by the flooding of the fields, the proposed Order has been modified to include a requirement that the Discharger develop and implement a management plan to reduce the risk of water quality impacts in the event the fields are inundated.