

**STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION**

STAFF REPORT FOR REGULAR MEETING OF SEPTEMBER 10, 2004

Prepared July 30, 2004

ITEM: 18

SUBJECT: Reissuance of Waste Discharge Requirements/NPDES Permit for City of Pismo Beach Wastewater Facility, San Luis Obispo County--Order No. R3-2004-0051, NPDES Permit No. CA0048151.

KEY INFORMATION

Location: 550 Frady Lane, Pismo Beach
Type of Waste: Municipal
Current Design Capacity: 1.75 MGD
Present Volume: 1.06 MGD.
Future Design Capacity: 1.9 MGD
Current Treatment: Secondary (primary clarification, activated sludge, secondary clarification, and chlorination)
Future Treatment: Secondary (oxidation ditch extended aeration, secondary clarification, and chlorination)
Disposal: Pacific Ocean
Existing Orders: Waste Discharge Requirements Order No. 99-31 and Cleanup and Abatement Order 98-83

SUMMARY

The existing NPDES Permit, Waste Discharge Requirements Order No. 99-31 for the City of Pismo Beach (City) Wastewater Facility expired July 9, 2004. This proposed Order No. R3-2004-0051 is the reissued permit. Proposed changes in requirements or discharge limits from the existing Order reflect changes to the California Ocean Plan, revisions to monitoring requirements, and required completion of upgraded treatment facilities. These changes are described in detail below. The City shares a common outfall with the South San Luis Obispo County Sanitation District (Sanitation District). Discharge requirements specified in this Order are essentially the same as those proposed for the Sanitation District. Monitoring requirements (receiving water, benthic sediment, benthic biota and outfall inspection) are identical to those specified for the Sanitation District so that such monitoring can be coordinated between the two agencies, minimizing redundant effort and expense.

DISCUSSION

Purpose of Proposed Order: Order No. R3-2004-0051 is proposed as revised Waste Discharge Requirements (WDR) for the City of Pismo Beach Wastewater Facility, San Luis Obispo County. The proposed Order is based on the Ocean Plan as it applies to municipal dischargers and continues existing permit conditions with some additions (as described below).

Facility Description: The existing treatment system consists of primary clarification, activated sludge, secondary clarification and chlorine disinfection. Biosolids are anaerobically digested, dewatered and hauled to a composting facility. The existing treatment facilities have a design capacity of 1.75 MGD, however the City has not been successful in consistently meeting discharge requirements with flows considerably less than the design capacity. The treatment plant location and processes are depicted on Attachments A and B of the proposed Order.

The City and Sanitation District discharge secondary effluent to the ocean, 4,400 feet off Pismo State Beach. The outfall terminates in the Pacific Ocean (35° 05' 85" N. Latitude, 120° 38' 75" W. Longitude) in approximately 55 feet (16.8 m) of water. The coordinates of this termination point are slightly different from past orders due to the use of more precise measuring equipment.

Facility Upgrade: In February 2004, the City began construction on a \$10 million upgrade of its treatment facility. The upgraded treatment facility is expected to be completed by mid 2005 with an expanded capacity of 1.9 MGD. Existing activated sludge treatment processes will be replaced with extended aeration processes using oxidation ditch units. The new treatment facility will include larger headworks, two oxidation ditches, two secondary clarifiers, waste and return activated sludge pumping stations, operations laboratory, administration building, and converting the existing aeration basin to effluent disinfection chamber with new pumping station. The upgraded facilities are expected to significantly improve the City's ability to consistently meet discharge requirements.

Disinfection: The outfall was designed to preclude the need for disinfection. However, receiving water bacterial limit violations in 1992 prompted staff's concern regarding possible contamination of Pismo clams in the vicinity of the discharge. Staff requested California Department of Health Services (DHS) aid in an investigation of possible bacterial contamination in shellfish. In June 1992, DHS, Department of Fish and Game (DFG), and Regional Board staff performed a study of shellfish near the discharge. Results from this sampling effort indicated shellfish bacterial concentrations violated standards and the discharge may have been impacting shellfish tissue.

To address this issue, the City and Sanitation District performed an extensive shellfish and seawater investigation to determine appropriate disinfection levels. Results from this study showed that a median fecal coliform limit of 200 MPN should adequately protect shellfish harvesting and recreational beneficial uses of the receiving waters, and allow the discharge to consistently meet receiving water and shellfish bacteria standards. Accordingly, the City's permit was revised in 1994

to specify disinfection limits of 200 MPN fecal coliform (weekly median limit).

For practical reasons, all sampling takes place at the City's facility, approximately 50 feet downstream of the chlorine contact chamber. On occasion, elevated chlorine residuals have been reported in the effluent entering the outfall transmission line. These levels, however, do not cause a threat to receiving waters. The four-hour detention time in the pipeline and the 3 to 1 mixing with effluent from the Sanitation District has been demonstrated to diminish chlorine levels to meet effluent limits before discharge. However, as a precaution, if levels above 0.33 mg/l (the 6-month median limit) are recorded at the plant, operators resample at the downstream junction box (before mixing with Sanitation District effluent) and data is included in monthly reports.

Secondary Treatment Standards: Federal requirements (40 CFR 133) for secondary treatment of municipal wastewater (generally defined as biochemical oxygen demand and suspended solids of 30 mg/l monthly average) are included in the proposed Order. The proposed Order also includes standard suspended solids removal rate of 85% (revised from 80% which appears to have been an error in the existing Order).

Stormwater: Provisions are included in the proposed Order to continue implementing the stormwater pollution prevention program. The City directs all storm runoff from the treatment facility to the headworks. This eliminates the need for a separate permit specifically for stormwater discharges since stormwater discharges will be regulated by the proposed Order.

Sewage Spill Reporting: The proposed Order includes spill reporting language which has become standard in this Regional Board's permits over the past few years. Specific guidance is provided for development of collection system maintenance plans, spill prevention and reporting. These requirements are added to assist dischargers in developing effective spill prevention plans and to assure that sewage spills are contained, cleaned up and reported in a timely manner.

All other provisions of the proposed Order are carried over from the existing Order adopted in July 1999, and are standard for municipal treatment facilities discharging to the ocean.

Monitoring and Reporting Program: The proposed Order includes Monitoring and Reporting Program No. R3-2004-0051; which specifies influent, effluent, sludge, receiving water, benthic sediment and benthic communities monitoring. Monitoring requirements are carried over from the existing Order, including waiver of shoreline monitoring.

Historically, the Discharger has performed shoreline monitoring for coliform bacteria. However, coliform bacteria detected at shoreline sample stations, have historically been linked to adjacent creek discharges rather than the effluent discharge. This information, in conjunction with the length and configuration of the outfall (disinfected effluent discharged more than 3/4 mile offshore), leads staff to conclude that the shoreline monitoring is not representative of or particularly useful for evaluating water quality impacts from the discharge. Accordingly, shoreline monitoring is conditionally waived in the proposed Order, with wording carried over from the existing Order.

The remainder of the monitoring program is carried over from the existing Order and is identical to the monitoring program for the Sanitation District, to facilitate coordinated monitoring efforts.

Outfall Inspection: Every three years, the Discharger performs a comprehensive outfall inspection, including divers and video documentation. Benthic sediment and communities are sampled at the same time. This tri-annual inspection and sampling last occurred in 2001 revealing no visible deterioration of the outfall structure, and is scheduled to be repeated this year. The tri-annual outfall inspection requirements are continued in the proposed Order.

Water Recycling: Currently, none of the City's treated wastewater is reused (recycled).

Proposed Changes to Requirements: The proposed Order incorporates changes in requirements due to the revised Ocean Plan and corresponding revisions to monitoring requirements. Following are the specific changes proposed and the corresponding rationale for those changes.

Change	Section	Rationale
1. Effluent Limitations revised as follows: TSS removal rate of 80% revised to 85%.	WDR, Section B.1	Correct error in existing permit and apply federal 'Secondary Treatment Standards'.
2. Acute Toxicity effluent limitations of the existing Permit (1.5 TUa 30-day ave, 2.0 TUa 7-day ave, and TUa 2.5 daily max) are replaced with a 5.25 TUa daily max.	WDR, Section B.2	Acute Toxicity is now a Water Quality Objective (with an associated dilution credit) as specified in the revised 2001 Ocean Plan.
3. Effluent limitations for the following constituents are added to or more stringent than those stated in the existing Permit: thallium, isophorone, tetrachloroethylene, chlorodibromomethane, 1,2-dichloroethane, N-nitrosodi-N-propylamine, dichlorobromomethane, 2,4,6-trichlorophenol, 1,1,2,2-tetrachloroethane, 1,1,2-trichloroethane, 1,1-dichloroethylene, heptachlor.	WDR, Section B.2	Water Quality Objectives for these constituents reflect changes in the updated (2001) Ocean Plan. It should also be noted that the silver limit is revised to correct an error in the existing permit and footnotes are added to clarify requirements.
4. Collection system maintenance and spill response and reporting requirements are added to the proposed Order.	WDR, Section F	Provide guidance and requirements for development and ongoing implementation of spill prevention and response plans.

Change	Section	Rationale
5. Modifications to the monitoring program corresponding to changes in requirements and reduction in Acute Toxicity monitoring frequency.	MRP	Chronic Toxicity (detecting subtle changes in organism health) is more sensitive than Acute Toxicity (measured by death of the organism) and will continue semi-annually. Acute Toxicity monitoring frequency is reduced to once in the life of the permit.
6. Increased flow authorization upon completion of facility upgrade. Also, mass loading limits for BOD, suspended solids and oil and grease corresponding with upgraded design capacity.	WDR, Section B.1 and B.2	The upgraded treatment facility will have an expanded capacity (from 1.75 to 1.9).

COMPLIANCE HISTORY/STATUS

The City’s treatment system has experienced overloading and filamentous algae problems resulting in noncompliance with discharge limitations. The average flow of 1 MGD is well below the reported designed capacity of the system (1.75-MGD). However, the large transient population of Pismo Beach (one million visitors annually) causes weekend and holiday flows to frequently exceed design specifications.

On December 8, 1998, the Executive Officer issued Cleanup or Abatement Order No. 98-83, directing the City to correct various deficiencies in their wastewater collection system.

In July 2000, the Regional Board adopted Order No. 00-059 for mandatory minimum penalties of \$12,000 against the City for effluent violations at its wastewater treatment facility. In December 2001, the Regional Board adopted Order No. 01-117 for mandatory minimum penalties of \$120,000 against the City, again for effluent violations occurred at its wastewater treatment facility.

On May 14, 2004, the Regional Board issued Mandatory Minimum Penalty Order No. R3-2004-008 in response to violations of effluent limits for BOD, suspended solids, settleable solids and fecal coliform bacteria. This most recent penalty order is currently under review by the State Board.

As described in the Facility Upgrade section above, the City is currently in the process of upgrading its treatment facility. The upgrading treatment facility is expected to provide for consistent compliance with discharge limitations. However, it is likely that

additional effluent violations may occur during the upcoming months, until such time as the new facility is operational.

In December, 2003, the City’s effluent transmission line sustained damage during the San Simeon Earthquake. That same night, City crews diverted effluent around the damaged area (using a fleet of borrowed trucks) and repaired the pipe. Pipeline repairs were completed quickly and without incident.

In addition to regular water quality monitoring reports, the existing Order requires submittal of reports intended to assure ongoing maintenance of the collection system, spill prevention, and evaluation of industrial discharges into the collection system. The City submits annual reports summarizing collection system issues (spill prevention, response, staff training, and planned collection system upgrade projects). The City has identified several collection system areas with deficiencies, which are being addressed as part of the current treatment facilities upgrade project described above. In addition, the City implements an ongoing pretreatment (industrial source control) program concentrating on grease trap inspections to address its primary industrial waste issue (grease from restaurants). Annual summaries of such activities are included in the annual monitoring reports. The City has not identified any federally regulated (categorical or significant) industrial users within its service area. Also, the City maintains a local source control ordinance to effectively address industrial discharge problems should they occur.

ENVIRONMENTAL SUMMARY

Waste discharge requirements for this discharge are exempt from the provisions of the California Environmental Quality Act (Public Resources Code, Section 21100, et. seq.) in accordance with Section 13389 of the California Water Code. The proposed action is not expected to reduce water quality since more stringent discharge limitations are proposed. Therefore, complete antidegradation analysis is not required for the issuance of this Order.

COMMENTS

City of Pismo Beach: The City submitted minor editorial corrections and comments on the draft documents.

Staff Response: The City's edits and corrections have been incorporated into the staff report and proposed Order. Also, Effluent Limitations B.1 and B.2 are expanded to authorize discharge from the upgraded treatment facility. Flows above 1.75 MGD (current treatment capacity) are authorized up to 1.9 MGD (upgraded treatment capacity) after completion of the facility. Mass loading limits (lbs/day and kg/d) are listed corresponding to the upgraded capacity for BOD, total suspended solids and oil and grease. Some modifications of monitoring dates specified in the draft have been included in the proposed Order to coincide with changes requested by the Sanitation Districts (keeping the monitoring requirements as consistent as feasible). These revisions include Chronic toxicity monitoring in April and October (formerly January and July), Benthic Sediment monitoring between July-October (formerly September-October), and Biosolids monitoring in July (formerly October). These changes retain the same monitoring frequency, but will allow for safer ocean sampling and more convenient biosolids sampling during dry weather.

SLO Co. Planning – No comments received
SLO Co. Envi. Health – No comments received
SLO Co. Public Works – No comments received
U. S. EPA – No comments received
CA DHS – No comments received
CA Fish & Game – No comments received
TetraTech – No comments received
SWRCB – No comments received
U. S. Fish & Wildlife – No comments received
So. SLO Co. San. Dist. – No comments received

RECOMMENDATION

Adopt Waste Discharge Requirements Order No. R3-2004-0051 as proposed.

ATTACHMENTS

1. Proposed Order No. R3-2004-0051 with Attachments
 - A. Facility Location Map
 - B1. Treatment Facility Processes Diagram
 - B2. Upgraded Facility Processes Diagram
 - C. MRP No. R3-2004-0051
 - D. Elements of the Wastewater Collection System Management Plan
 - E. Sewage Overflow Report
2. Standard Provisions and Reporting Requirements for NPDES Permits