

STATE OF CALIFORNIA  
STATE WATER RESOURCES CONTROL BOARD

In the Matter of the Petition of )  
 )  
**GOLETA SANITARY DISTRICT** ) ORDER NO. WQ 96-3  
 )  
For Review of Denial of Proposed )  
Waste Discharge Requirements Order )  
No. 94-87, NPDES Permit No. CA0048160 )  
by the California Regional Water )  
Quality Control Board, Central Coast )  
Region. Our File No. A-941. )  
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BY THE BOARD:

On December 16, 1994, the State Water Resources Control Board (SWRCB or Board) received a petition from the Goleta Sanitary District (GSD or petitioner) regarding regulation of discharges from its wastewater treatment plant. GSD seeks review of the California Regional Water Quality Control Board, Central Coast Region's (CCRWQCB or Regional Board) denial of proposed Waste Discharge Requirements Order No. 94-87, National Pollution Discharge Elimination System (NPDES) Permit No. CA0048160.<sup>1</sup> The permit would have granted GSD a variance from secondary-treatment requirements in accordance with Section 301(h) of the federal Clean Water Act (CWA) for its wastewater discharge into the Pacific Ocean. The petitioner challenges the CCRWQCB's action on

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<sup>1</sup> The petitioner requested a stay of the denial of the proposed waste discharge requirements. In a letter dated February 7, 1995, the SWRCB informed the petitioner that this request would not be reviewed although the petitioner was advised that it could submit a request to the SWRCB to consider granting a stay if, at some point in the future, the CCRWQCB issued waste discharge requirements with a time schedule to meet secondary-treatment requirements. This has not happened.

The petitioner requested a hearing before the SWRCB to submit additional evidence that was not presented to the CCRWQCB. The SWRCB did not hold a hearing but accepted additional written evidence from the petitioner and allowed time for comment on the submittals by interested persons.

the ground that the criteria for waiver of secondary-treatment requirements have been met.<sup>2</sup>

#### I. BACKGROUND

Under the federal CWA, no person may discharge wastewater to the ocean or other waters of the United States except as authorized by an NPDES permit. See 33 U.S.C. §§ 1311, 1342. In California, these permits are issued by the SWRCB and the nine Regional Water Quality Control Boards, in accordance with regulations adopted by the federal Environmental Protection Agency (U.S. EPA). See *id.* § 1342(b); California Water Code § 13370 et seq.

NPDES permits regulate the discharge of pollutants from point sources to surface waters through the application of technology-based treatment requirements. The permits must, in addition, include any more stringent limitations necessary to assure compliance with receiving water standards and other applicable state and federal requirements. 33 U.S.C. § 1331(b)(1)(C).

NPDES permits issued to publicly-owned treatment works (POTWs) generally must include technology-based effluent

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<sup>2</sup> The petition was deemed complete on February 7, 1995. Because the time limit for reviewing the petition expired 270 days after this date, the SWRCB and the petitioner agreed to extend the time for SWRCB review as allowed by 23 California Code of Regulations Section 2052(d). (See letter dated October 5, 1995 from Richard Battles, Attorney for GSD, to Kathleen Keber, Attorney for the SWRCB.)

The time for SWRCB action pursuant to this extension expired on December 20, 1995; therefore, the SWRCB is reviewing on its own motion the issues raised by this petition. (Water Code § 13320(a).)

limitations based upon secondary treatment. See 33 U.S.C. §§ 1311(b)(1)(B) and 1342. The administrator of U.S. EPA has defined secondary treatment in terms of three parameters: biochemical oxygen demand (BOD), suspended solids (SS), and pH. See 40 C.F.R. § 133.102. In particular, U.S. EPA regulations specify that, on a 30-day average, the concentration of SS in treated effluent shall not exceed 30 milligrams per liter (mg/l), and the percent removal of SS in the influent must be at least 85 percent. *Id* (b)<sup>3</sup> In California, NPDES permits issued for discharges from POTWs to ocean waters must also comply with the water quality standards for ocean waters established in the SWRCB's 1991 Water Quality Control Plan, Ocean Waters of California (Ocean Plan). These standards have been approved by U.S. EPA. The standards include a standard which generally requires, as a 30-day average, 75-percent removal of SS, a level of treatment referred to as "advanced primary". (Ocean Plan, page 6.)

In 1977, Congress amended the CWA to include Section 301(h). 33 U.S.C. § 1311(h). This section authorized U.S. EPA to waive the requirement of secondary treatment for POTWs discharging into marine waters, if the applicant demonstrates that the following criteria are met:

"(1) There is an applicable water quality standard specific to the pollutant for which the

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<sup>3</sup> Section 133.102 imposes identical requirements for BOD concentrations. In addition, the regulation specifies that effluent values for pH must, in general, be maintained within the limits of 6.0 to 9.0.

modification is requested, which has been identified under section 1314(a)(6) of this title;

"(2) The discharge of pollutants in accordance with such modified requirements will not interfere, alone or in combination with pollutants from other sources, with the attainment or maintenance of that water quality which assures protection of public water supplies and the protection and propagation of a balanced, indigenous population of shellfish, fish and wildlife, and allows recreational activities, in and on the water;

"(3) The applicant has established a system for monitoring the impact of such discharge on a representative sample of aquatic biota, to the extent practicable, and the scope of such monitoring is limited to include only those scientific investigations which are necessary to study the effects of the proposed discharge;

"(4) Such modified requirements will not result in any additional requirements on any other point or nonpoint source;

"(5) All applicable pretreatment requirements for sources introducing waste into such treatment works will be enforced;

"(6) In the case of any treatment works serving a population of 50,000 or more, with respect to any toxic pollutant introduced into such works by an industrial discharger for which pollutant there is no applicable pretreatment requirement in effect, sources introducing waste into such works are in compliance with all applicable pretreatment requirements, the applicant will enforce such requirements; and the applicant has in effect a pretreatment program which, in combination with the treatment of discharges from such works, removes the same amount of such pollutant as would be removed if such works were to apply secondary treatment to discharges and if such works had no pretreatment program with respect to such pollutant;

"(7) To the extent practicable, the applicant has established a schedule of activities designed to eliminate the entrance of toxic pollutants from nonindustrial sources into such treatment works;

"(8) There will be no new or substantially increased discharges from the point source of the pollutant to which the modification applies above that volume of discharge specified in the permit;

"(9) The applicant at the time such modification becomes effective will be discharging effluent which has received at least primary or equivalent treatment and which meets the criteria established under Section 1314(a)(1) of this title after initial mixing in the waters surrounding or adjacent to the point at which such effluent is discharged".<sup>4</sup>

Under CWA Section 301(h), authority to issue an NPDES permit incorporating a waiver of secondary-treatment requirements resides in the administrator of U.S. EPA. *Id.* The state must, however, concur in the issuance of a modified permit under CWA Section 301(h). *Id.* In California, waste discharge requirements authorizing a discharge at less than secondary treatment constitute the State's concurrence in the issuance of a CWA Section 301(h) waiver. The CCRWQCB's decision to not issue waste discharge requirements to GSD that would have allowed a discharge of less than secondary-treated wastewater is the subject of this petition.

The Goleta wastewater treatment plant (WWTP) is located about eight miles west of the City of Santa Barbara. It provides sewerage service to the GSD, the Goleta West Sanitary District, the University of California at Santa Barbara, the Santa Barbara Municipal Airport, and facilities of Santa Barbara County. GSD owns and operates interceptors and treatment and disposal facilities, including an 1802m (5,912 foot) ocean outfall/diffuser system.

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<sup>4</sup> CWA Section 301(h) was amended in 1987 by Public Law 100-4. Two new provisions were added, subsections (6) and (9).

The plant has a primary treatment design capacity of 9.0 million gallons per day (mgd) (average dry weather flow) and 9.7 mgd (peak seasonal dry weather flow); secondary-treatment design capacity is 3.8 mgd (constant flow). Average annual flow in 1986 was 6.8 mgd. The projected flow by 1999 was estimated to be 7.64 mgd. The Goleta WWTP uses a split-stream process of physical and biological treatment. All wastewater flows through primary sedimentation basins. A portion is then diverted through secondary-treatment facilities, including biofiltration, solids-contact, and secondary clarification. Secondary-treated wastewater is then blended with primary-treated wastewater and disinfected by chlorination/dechlorination prior to ocean discharge. Sludge is anaerobically digested and stored in stabilization basins, air-dried, and used as a soil conditioner.

In September 1985, the GSD was issued an NPDES permit which allowed the discharge of less than full secondary-treated effluent to the Pacific Ocean. The permit expired in September 1990. GSD submitted a renewal application to the U.S. EPA on March 2, 1990. U.S. EPA issued a Tentative Decision Document on January 6, 1994 that supported the reissuance of GSD's NPDES permit, with the recommendation that additional monitoring requirements be added to the permit. CCRWQCB concurrence is required by CWA Section 301(h) and a joint hearing was held at the November 1994 CCRWQCB meeting to consider a draft order constituting both an NPDES permit and waste discharge requirements. After closing the hearing, the CCRWQCB denied

GSD's request for adoption of an order continuing its CWA Section 301(h) waiver from meeting secondary-treatment requirements. The CCRWQCB staff was directed to revise the draft NPDES permit to require secondary treatment, and to draft a cease and desist order with interim limits and a time schedule for meeting secondary-treatment limitations. GSD petitions for review of these actions.

## II. CONTENTIONS AND FINDINGS<sup>5</sup>

1. Contention: Petitioner contends that the GSD plant meets all applicable criteria for a CWA Section 301(h) waiver and that all applicable water quality standards are being met in receiving waters in the area of its discharge. Therefore, there is no justification for requiring a costly upgrade to full secondary treatment.

Finding: Tetra Tech, Inc., a contractor to U.S. EPA, prepared a report evaluating GSD's application for reissuance of its NPDES permit allowing a waiver of secondary treatment requirements. After review of this report, U.S. EPA's findings, GSD's permit compliance history, and extensive relevant monitoring data, the SWRCB agrees with the petitioner that the criteria for a CWA Section 301(h) waiver as outlined on pages 4 through 5 of this order are met.

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<sup>5</sup> Because this order finds in favor of the petitioner regarding several contentions that are dispositive of the issues raised, we do not need to reach the other arguments raised in the petition.

In addition, the record supports the petitioner's assertion that all currently applicable water quality standards are being met. In particular, there is an area approximately four miles east of the GSD outfall where shellfish may be harvested for human consumption. The water in that area has consistently met the bacterial objectives established by the Ocean Plan for shellfish harvesting areas; that is, the median total coliform density has not exceeded 70 per 100 ml, and not more than 10 percent of the samples have exceeded 230 per 100 ml. (Ocean Plan, page 2.)

However, CWA Section 301(h) does not mandate that a waiver of secondary treatment requirements be granted if criteria are met. In this instance, it appears that, although those criteria and relevant Ocean Plan standards were met, the CCRWQCB nonetheless denied the waiver because of a concern about the impact of the discharge on water in an area where shellfish are harvested for human consumption. This leads to the petitioner's second contention.

2. Contention: GSD argues that its current discharge has had no adverse impact on shellfish harvesting areas and that concerns expressed by the Department of Health Services (DHS) and other interested persons regarding bacterial shellfish contamination from the GSD discharge are unfounded.

Finding: Federal secondary-treatment requirements specify that, on a 30-day average, the concentration of SS in treated effluent shall not exceed 30 mg/l and at least 85 percent



of the SS in the influent must be removed. GSD's proposed permit required that SS not exceed 63 mg/l as a 30-day average and that the discharger remove at least 75 percent of the SS from the influent.

The more suspended solids there are in wastewater prior to disinfection, the less effective chlorine will be in killing bacteria. GSD argues that full secondary treatment would only increase bacterial removal by 0.00005 percent which is insignificant. This argument is specious. Accepting petitioner's figures for bacterial removal (99.99990 percent removal currently at GSD; 99.99995 percent removal by full secondary treatment), bacterial survival with full secondary treatment would be 50 percent less than under GSD's current treatment.

However, the more critical issue before the Board in resolving this contention is whether the need for such a reduction in bacterial output has been substantiated to a degree that warrants denial of the CWA Section 301(h) waiver.

Bacterial Objectives: During the 1980s, Pacific Seafood Industries, Inc. (PSI) conducted an oyster mariculture operation approximately four miles east of GSD's outfall and roughly an equal distance west of the City of Santa Barbara's wastewater outfall. PSI began experiencing high bacteria levels in its oyster meat samples. In late 1988 and 1989, following improvements in wastewater treatment at both GSD and Santa Barbara's treatment plants (including commencement of

chlorination at GSD's plant), bacterial concentrations at the oyster operation decreased. Since that time, water quality and tissue bacteria levels in the shellfish harvesting area have met all regulatory requirements.

There was no evidence presented at the CCRWQCB's hearing to suggest that GSD's current discharge is having any impact on shellfish harvesting areas. In fact, Tetra Tech, Inc., U.S. EPA's contractor, concluded that any such impact would be unlikely given the generally westward direction of the current, bacterial die-off rates, and GSD's level of treatment that includes chlorination. (Technical Review, Goleta Sanitary District, California, Section 301(h) Application for Modification of Secondary Treatment Requirements for a Discharge into Marine Waters, Tetra Tech, Inc., December 1993, p. 95.)

Total Coliform Bacterial Effluent Limit: In addition to requiring that certain bacterial objectives in shellfish harvesting areas be met, GSD's proposed permit contained a new total coliform bacterial effluent limit of 2300 most probable number (MPN)/100 ml provided that not more than ten percent of the samples in any monthly (30-day) period can exceed 2300 MPN/100 ml. A representative of the DHS requested that the CCRWQCB revise the proposed permit to set an effluent limit for total coliform bacteria at a median of 23 MPN/100 ml, with no sample allowed to exceed 430 MPN/100 ml.

This recommendation bears no direct relation to existing water quality objectives and does not take into

consideration initial dilution which will take place prior to effluent reaching shellfish harvesting areas. DHS' recommendation appears to be based on its proposed Uniform Guidelines for Wastewater Disinfection which are contained in a document entitled "Wastewater Disinfection for Health Protection" which was published by DHS' Sanitary Engineering Branch in February 1987<sup>6</sup>. The proposed guidelines state that if there is a discharge to the ocean where a high degree of dilution (100 to 1 or greater) is provided but the discharge can affect the quality of water overlying shellfish beds, then the median 23 MPN/100 ml effluent limitation is required. Further, it is recommended that the maximum coliform bacterial limitation should be the concentration which is approximately 20 times the median coliform bacterial number. Applying the 100 to 1 dilution to DHS' recommended effluent limitation of 23 MPN/100 ml, it appears that DHS' proposed receiving water objective for shellfish harvesting areas in ocean waters would be approximately 0.2 coliform/100 ml. This is orders of magnitude less than the Ocean Plan standard of 70 MPN/100 ml in shellfish harvesting areas which has been supported by DHS in the past. Neither DHS' document which contains its proposed guidelines or DHS' testimony before the CCRWQCB presented the derivation for the 23 MPN/100 ml effluent limit for discharges to ocean waters or the underlying water

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<sup>6</sup> The guidelines retain their "proposed" status and have never been adopted or published by DHS in "final" form. Therefore, we question the weight that they should be given in our analysis but nonetheless review their content.

quality objective of 0.2 MPN/100 ml that this would implement. Therefore, there is insufficient evidence in the record to support the more stringent total coliform bacterial effluent limitation proposed by DHS.

However, at the SWRCB workshop where a draft of this order was considered, a representative of DHS stated that monitoring indicated that shellfish harvesting beds were not contaminated by the post-1988 level of coliform in GSD's discharge. Therefore, it is acceptable to DHS if, instead of an effluent limitation for total coliform bacteria based on DHS' Proposed Uniform Guidelines for Wastewater Disinfection, a total coliform effluent limitation that reflects the performance of the GSD plant since 1988 is included in the permit. This position has merit. The CCRWQCB is directed to include a new total coliform bacterial effluent limitation in GSD's permit that reflects the level of coliform that has been in GSD's discharge since 1988.

The second part of DHS' request to the CCRWQCB regarding the issue of a total coliform bacterial effluent limitation was a request that no sample be allowed to exceed 430 MPN/100 ml. Once again, the need for this requirement, which is in the proposed Uniform Guidelines for Wastewater Disinfection, is not contained in the record before the CCRWQCB. There is no evidence of unacceptable bacterial peaks under current plant operation. Nonetheless, CCRWQCB staff stated at the Regional Board hearing that a maximum bacterial limit could

be imposed on the GSD effluent, albeit not nearly as stringent a limit as requested by DHS. The CCRWQCB is directed to add a maximum total coliform bacterial limit to the permit that reflects the level of coliform that has been in the discharge since 1988.

Part of DHS' testimony regarding the issue of an adequate effluent limit for total coliform bacteria related to the provisions of the Shellfish Protection Act (SPA) of 1993. (Water Code § 14950 et seq.) The DHS representative before the CCRWQCB said that if the Regional Board adopted the 2300 MPN/100 ml total coliform bacterial effluent limit, DHS would be required by the SPA to immediately downgrade the nearby shellfish harvesting area to "restricted" classification and the CCRWQCB would have to establish a technical advisory committee, find funding, and create another ocean study.

First of all, the SPA does not mandate or even establish the criteria for DHS to determine reclassification of a shellfish harvesting area to "restricted". As previously discussed, the record does not contain monitoring data or other evidence to support DHS' contention that the proposed permit's effluent limitation for total coliform is inadequate to protect receiving water quality. If DHS were to classify the area as restricted in the future with an adequate record to support its action, the CCRWQCB would be required to form a technical advisory committee to assist the Regional Board in developing a strategy for appropriate investigation and remediation. However,

the committee would first have to determine that additional investigatory efforts are needed and funding is available before carrying out any new water quality investigation project. (Water Code § 14955.) Given the lack of information before the Board correlating GSD's current and projected future discharge with the need for reclassification, further review of this issue at this point would be mere speculation on our part.

Before leaving this issue, it is noted that one of DHS' requests was that the proposed permit be modified to require GSD to notify certified commercial shellfish growers, DHS, and others if appropriate, of accidental discharges of high bacterial levels from the plant. This recommendation has merit and should be included in the permit.

Total Chlorine Residual Requirement: The proposed permit for GSD requires that a total chlorine residual of 5 mg/l or greater (calculated as a 7-day average) be maintained at the end of the chlorine contact tank. In addition, the chlorine contact tank is required to be operated and maintained to provide maximum chlorination effectiveness at all times.

DHS raised the concern that the chlorine requirement is a 7-day average that could allow chlorine residual to drop to low levels resulting in inadequate disinfection. This could cause short-term spikes in bacterial content in the effluent. It was argued that this could result in periodic pollution in shellfish growing areas.

Once again, the record does not support these contentions. There was no evidence presented to the CCRWQCB that existing fluctuations in chlorination are adversely impacting the receiving waters. Nor was there evidence to indicate that there would be adverse impacts in the future. There was no data presented on unacceptable bacterial peaks nor any attempt to show that disinfection fluctuation was adversely impacting beneficial uses such as shellfish harvesting. Given the lack of information to support DHS' concern, we cannot rely on it as a valid basis to deny GSD's request for a CWA Section 301(h) waiver.

Future Wastewater Flows: One of the interested parties commenting on this petition, the Environmental Defense Center (EDC) representing the Citizen's Planning Association and the Surfriders Foundation, disputes GSD's claim that wastewater flows through the GSD plant are not expected to increase significantly in the near future. EDC argues that Goleta's population is expected to increase about 22 percent from 1990 to 2015 and that total water demand for the Goleta Water District is expected to increase about 52 percent from 1993/94 to 2015. It is anticipated that a similar increase in GSD's discharge will take place.

The petitioner states that its current flow rate is 5 mgd. The proposed permit projects an end-of-permit (1999) monthly average flow rate of 7.64 mgd. Analysis by U.S. EPA and its contractor, as well as staff of the CCRWQCB, conclude that the plant will still achieve compliance with its permit

requirements at that rate of discharge. The permit's projection of future flows is consistent with EDC's allegations regarding future increases in population and water demand.

Nonetheless, we agree with EDC that forward-looking trend analysis is necessary to assure continued high water quality. We expect the CCRWQCB to ensure that future wastewater treatment needs in the GSD service area are reviewed each time permit renewal is considered by taking into consideration population and water demand projections. This is consistent with the requirements of Title 23, California Code of Regulations, Section 2232 that steps be taken to ensure adequate treatment plant capacity.

### III. CONCLUSIONS

1. The GSD proposed discharge meets the federal CWA Section 301(h) enumerated criteria for a waiver from secondary-treatment requirements.

2. All applicable water quality standards, including relevant water quality objectives contained in the California Ocean Plan, are currently being met and are expected to continue to be met under the terms of the proposed permit.

3. Shellfish harvesting areas in the vicinity of the discharge have been in compliance with bacterial standards for such waters.

4. Evidence from monitoring data, dilution calculations, ocean current data, and bacterial die-off rates indicate it is unlikely that the GSD discharge pursuant to the



proposed CWA Section 301(h) waiver permit will adversely impact shellfish growing areas.

5. The proposed permit increases controls over bacterial discharge by adding a total coliform bacterial effluent limitation of 2300 MPN/100 ml, provided that not more than 10 percent of the samples in any monthly (30-day) period can exceed 2300 MPN/100 ml.

6. There is insufficient evidence in the record to support the more stringent total coliform bacterial effluent limitation as originally proposed by DHS and other interested persons to the Regional Board.

7. The CCRWQCB is directed to include a new total coliform bacterial effluent 90th percentile limitation in the permit that reflects the level of coliform that has been in GSD's discharge since 1988. Such limitation shall not be more restrictive than the 90th percentile limitation set forth in paragraph 5 above as long as this limitation reflects the actual historic levels of total coliform bacteria in the effluent discharge since 1988.

8. The CCRWQCB is directed, upon reconsideration of the proposed permit, to add a maximum total coliform bacterial effluent limitation that reflects the level of coliform that has been in the discharge since 1988.

9. The proposed permit should be modified to include a requirement that GSD notify certified commercial shellfish

growers, DHS, and others if appropriate, of accidental discharges of high bacterial levels from the plant.

10. There is insufficient evidence in the record to support the contention that the chlorine residual requirement in the proposed permit could result in adverse impacts on shellfish harvesting areas.

11. The proposed permit's estimate of future flows at the GSD plant was appropriate.

Given the above conclusions, the SWRCB finds that it was inappropriate for the CCRWQCB to deny petitioner's request for a CWA Section 301(h) waiver of secondary-treatment requirements.

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IV. ORDER

IT IS HEREBY ORDERED that the CCRWQCB reconsider proposed Waste Discharge Requirements Order No. 94-87, NPDES Permit No. CA0048160 and issue a new order that grants a waiver from secondary-treatment requirements and is consistent with the conclusions enumerated above.

CERTIFICATION

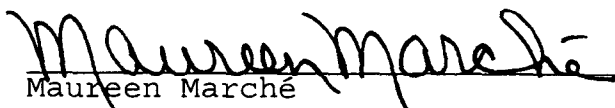
The undersigned, Administrative Assistant to the Board, does hereby certify that the foregoing is a full, true, and correct copy of an order duly and regularly adopted at a meeting of the State Water Resources Control Board held on February 22, 1996.

AYE:            John P. Caffrey  
                  Mary Jane Forster  
                  James M. Stubchaer  
                  John W. Brown

NO:             Marc Del Piero

ABSENT:        None

ABSTAIN:       None

  
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Maureen Marché  
Administrative Assistant to the Board

