

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

ORDER: WQ 2000 - 07

In the Matter of the Petition of
SAN LUIS OBISPO GOLF AND COUNTRY CLUB
For Review of Waste Discharge/Water Reclamation Requirements Order 99-18
Issued by the
California Regional Water Quality Control Board,
Central Coast Region

SWRCB/OCC FILE A-1208

BY THE BOARD:

On April 9, 1999, the Central Coast Regional Water Quality Control Board (Regional Water Board) issued Waste Discharge/Water Reclamation Requirements Order 99-18 (WDRs) to the San Luis Obispo County Service Area No. 18, Country Club Estates.

San Luis Obispo County Service Area No. 18 operates a domestic wastewater treatment facility that discharges to a pond owned by the San Luis Obispo Golf and Country Club (SLOGCC or Petitioner).

In May 1999, SLOGCC filed a petition requesting the State Water Resources Control Board (State Water Board or Board) to review the WDRs and requested a stay of the order. On May 26, 1999, the petitioner was notified that its petition was complete.¹

This order remands the WDRs to the Regional Water Board for modifications consistent with this order.

¹ See Cal. Code Regs., tit. 23, § 2050.5. The State Water Board has not acted on the request for a stay, which is not necessary because this order addresses the merits of the petition.

BACKGROUND

A. Waste Discharge Water Reclamation Requirements

In 1987, the Regional Water Board adopted Water Reclamation Requirements Order No. 87-53 for San Luis Obispo County Service Area No. 18, Country Club Estates, Producer of Reclaimed Water (Order No. 87-53). Order No. 87-53 regulated the discharge of wastewater from a wastewater treatment and disposal facility that is owned and operated by the County of San Luis Obispo (County). The residential developments of Country Club Estates, Fairway Manor and Country Club Development (CSA No. 18) are served by the facility. Order No. 87-53 authorized the discharge of the wastewater only to a pond at the SLOGCC -- the “blending pond” -- or to an emergency overflow pond and specified that the wastewater was for reclamation use only. SLOGCC blended the wastewater with groundwater prior to use for irrigation on its golf course pursuant to Water Reclamation Requirements Order 87-54.

In 1986, SLOGCC and the County entered into a written contract entitled “Agreement for Provision of Sewage Treatment and Disposal Facilities and for Acceptance and Disposal of Treated Sewage Effluent” (Agreement), whereby the County agreed to deliver to SLOGCC’s blending pond a specific quantity of treated effluent for irrigation use on SLOGCC’s golf course property. The Agreement contemplated that the wastewater would be treated to meet Department of Health Services requirements for reclamation and the quality established by waste discharge requirements issued by the Regional Water Board.² Order No. 87-53 contained requirements consistent with the requirements discussed in the County’s Engineering Report.³

² Agreement and Engineering Report on the Production, Distribution and Use of Reclaimed Water, San Luis Obispo County Country Club Project, George S. Nolte and Associates (April 23, 1986).

³ See Footnote 2.

Order No. 87-53 required the County to meet requirements specified in the Water Quality Control Plan for the Central Coast Region (Basin Plan) as well as Department of Health Services' criteria for the use of reclaimed wastewater (Title 22, California Code of Regulations). Order No. 87-53 included effluent limitations for total dissolved solids (TDS), chloride, and sodium, based on incremental increases above water supply concentrations.⁴ The incremental increases were based on a study performed in 1982 in the Santa Ana River Basin. The Regional Water Board's response to the Petition⁵ states that incremental limits were not specifically based on protecting water quality but instead allowed for an incremental amount of increased salts in the waste stream caused by domestic use above the amount in the water supply. The Regional Water Board's response also states that CSA No. 18 includes many newer homes with water-conserving fixtures that result in higher than average salt concentrations in the wastewater due to the reduced flows.

The County frequently failed to meet the effluent limitations in Order No. 87-53 for TDS, sodium, and chloride. In 1992, the Regional Water Board adopted Cease and Desist Order No. 92-144, requiring the County to comply with the salts limitations and to protect the golf course reclamation area. The County was required to implement a salts management plan and to adopt an ordinance prohibiting and phasing out the use of self-regenerating water softeners. The County adopted an ordinance prohibiting the use of self-generating water softeners and regulated discharges of brine waste into the public sewer of CSA No. 18. Despite these measures the County never consistently complied with the limitations for TDS, sodium, or chloride and did not fully comply with the Cease and Desist Order.

⁴ Water supply concentrations refer to the water quality of the water that is supplied to the residences in CSA No. 18.

On April 9, 1999, the Regional Water Board adopted Waste Discharge/Water Reclamation Requirements Order No. 99-18 issued to the County.⁶ Order No. 99-18 rescinded Order No. 87-53 and included less stringent effluent limitations for TDS, sodium, and chloride than Order No. 87-53. Tentative Order No. 99-18 contained no effluent limitations for TDS, sodium, and chloride. After hearing testimony, however, the Regional Water Board requested staff to include effluent limitations in Order No. 99-18 for TDS, sodium, and chloride.⁷ The effluent limitations were based on the average levels of those constituents actually present in the effluent delivered by the County during the preceding three years.⁸ The Regional Water Board also rescinded Cease and Desist Order No. 92-144.

The Petitioner blends the wastewater from the County with groundwater before irrigation use on the golf course, but it has limited sources of groundwater. Petitioner contends that the wastewater discharged by the County to the Petitioner's blending pond contains excessive levels of sodium, TDS, chloride and other constituents that result in the water no longer being suitable for reclamation by golf course irrigation. According to Petitioner, application of the blended wastewater has severely damaged and is continuing to damage the Petitioner's golf course. The current problem with the quality of the effluent supplied to SLOGCC is twofold. TDS is contributing to degradation of the local groundwater. The sodium-calcium ratio of the effluent is significantly out of balance, with sodium predominating, causing

⁵ Letter from Roger W. Briggs, Executive Officer, to Frances McChesney, Senior Staff Counsel (July 7, 1999).

⁶ Note that Order No. 87-53 was called Reclamation Requirements, while Order No. 99-18 is called Waste Discharge/Water Reclamation Requirements.

⁷ At the hearing the Regional Water Board required staff to determine the effluent limitations based on the past performance by the County. The determination of the specific effluent limitations was made after the Regional Water Board meeting and included in the final Order No. 99-18. The effluent limitations included in Order No. 99-18 were not subject to public comment.

compaction of clay soils under the golf course, reduced infiltration, salt buildup in the soils in the root zone, and “burning” of turf and vegetation. If the wastewater meets the requirements contained in Order No. 87-53, the blended water does not damage the golf course. Given the relaxed limitations in Order No. 99-18, Petitioner’s limited sources of groundwater are not sufficient to dilute the effluent to protect the golf course groundwater or vegetation. Petitioner has proposed that the County install a reverse osmosis system to treat the water to reduce salts.

The Petitioner is subject to Reclamation Order No. 99-19 that authorizes the use of reclaimed water only for golf course irrigation and prohibits discharges to surface waters. Both Order No. 99-18 and Order No. 99-19 require the dischargers to develop a groundwater monitoring plan to be implemented by April 9, 2000.

The Basin Plan includes the following water quality objectives for the San Luis Obispo Creek Sub-basin:

Total Dissolved Solids	900 mg/l
Sodium	50 mg/l
Chloride	200 mg/l
Nitrate (as N)	5 mg/l

Orders No. 87-53 and 99-18 state that the quality of the underlying groundwater⁹ is as follows:

Total Dissolved Solids	616 mg/l
Sodium	72 mg/l
Chloride	55 mg/l

⁸ Note that the record is inconsistent. The record states that the effluent limitations were based on two years and three years of operation of the County’s facility.

⁹ The administrative record does not clearly state the basis for the Orders’ findings concerning the quality of the underlying groundwater. Both the Petitioner and the County are required to install a groundwater monitoring system by April 9, 2000. Groundwater monitoring is not current so it is not possible to determine whether the groundwater quality concentrations specified in the permit are accurate at this time.

Nitrate 4 mg/l

Order No. 87-53 included effluent limitations as follows:

Total Dissolved SolidsWater Supply + 300 mg/l
SodiumWater Supply + 70 mg/l
ChlorideWater Supply + 65 mg/l

Order No. 99-18 included effluent limitations as follows:

Total Dissolved SolidsWater Supply + 353
SodiumWater Supply + 153
ChlorideWater Supply + 83

The Basin Plan contains a requirement for water used for irrigation as follows:

“No controllable water quality factor shall degrade the quality of any groundwater resource or adversely affect long-term soil productivity.”¹⁰

CONTENTION

1. Contention: The Petitioner contends that Order No. 99-18 violates the California Water Code by failing to prevent water pollution and by causing nuisance. It asserts that the high level of salts in the wastewater degrade the groundwater and are causing damage to the golf course and adversely affecting soil productivity. The Petitioner requests the State Water Board to reinstate the effluent limitations of the previous WDRs.

Finding: This Board agrees, in part, with Petitioner. Water Code section 13263 requires waste discharge requirements to “implement any relevant water quality control plans that have been adopted, and shall take into consideration the beneficial uses to be protected, the water quality objectives reasonably required for that purpose, other waste discharges, the need to

¹⁰ Water Quality Control Plan, Central Coast Basin, Page III-14 (Sept. 8, 1994).

prevent nuisance, and the provisions of Section 13241.”¹¹ This Board has addressed the issue of effluent limitations for salt in several previous Orders.¹²

In Order WQ 81-5, this Board set out several principles for determining effluent limitations.

“Where the constituent in a groundwater basin is already at or exceeding the water quality objective, the Regional Water Board must set limitations no higher than the objectives set forth in the Basin Plan:

1. Exceptions to this rule may be granted where it can be shown that a higher discharge limitation is appropriate due to system mixing or removal of the constituent through percolation through the ground to the aquifer.

2. The Regional Water Board should set limitations more stringent than the Basin Plan objectives if it can be shown that those limitations can be met using ‘best efforts.’ The ‘best efforts’ approach involves (a) making a showing that the constituent is in need of control; and (b) establishing limitations which the discharger can be expected to achieve using reasonable control methods. Factors which should be included in the ‘best efforts’ analysis include: (a) The water supply available to the discharger; (b) the past effluent quality of the discharger; (c) the effluent quality achieved by other similarly situated dischargers; (d) the good faith efforts of the discharger to limit the discharge of the constituent; and (e) the measures necessary to achieve compliance.

“Where the receiving water is of better quality than the Basin Plan objective, the Regional Water Board may set limitations which are more or less stringent than the objective.

1. The Regional Water Board may set limitations less stringent than the water quality objective by adding an increment to the objective to reflect reasonable use of the remaining assimilative capacity. The increment should consider use of the capacity by the discharger and other dischargers. Of greatest importance, however, is that the Regional Water Board should ensure that the cumulative impact of all dischargers does not result in a situation where the water quality objectives set for the basin are exceeded.

¹¹ In State Water Board Order WQ 73-4, the Board determined that the Regional Water Board need not consider the factors in Water Code section 13241 where it has already adopted water quality objectives and beneficial uses.

¹² See State Water Board Orders WQ 73-4, 79-14, 81-5, and 82-9.

2. After establishing the increment providing for reasonable use, the Regional Water Board should then apply the 'best efforts' analysis to determine if a more stringent limitation is appropriate."

See State Water Board Order WQ 81-5, at pages 6-7.

State Water Board Resolution 68-16 also applies to the discharge. Resolution 68-16 states in part:

"1. Whenever the existing quality of water is better than the quality established in policies . . . , such existing high quality will be maintained until it has been demonstrated to the State that any change will be consistent with maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial use of such water and will not result in water quality less than that prescribed in the policies.

"2. Any activity which produces or may produce a waste or increased volume or concentration of waste and which discharges or proposes to discharge to existing high quality waters will be required to meet waste discharge requirements which will result in the best practicable treatment or control of the discharge necessary to assure that (a) a pollution or nuisance will not occur and (b) the highest water quality consistent with the maximum benefit to the people of the State will be maintained."

A. Total Dissolved Solids

As described above, the water quality objective for TDS contained in the Basin Plan is 900 mg/l. The groundwater quality for the groundwater underlying the reclamation area is stated to be 616 mg/l.¹³ Since the receiving water quality for TDS is better quality than the water quality objective, based on information provided in 1987, the Regional Water Board may set limitations that are more or less stringent than the water quality objective after considering a number of factors. It is unclear in Order No. 99-18 whether the Regional Water Board considered any of the factors discussed in State Board Order WQ 81-5. Order WQ 81-5 states

¹³ This concentration was used in both Order No. 87-53 and Order No. 99-18, but it may not be an accurate representation of the groundwater quality.

that the Regional Water Board may set limitations less stringent than the water quality objective to reflect reasonable use of the assimilative capacity. The effluent limitation for TDS in Order 99-18 is “Water Supply + 353 mg/l.” This effluent limitation was added after the hearing. The administrative record provides no explanation of the basis for the effluent limitation other than the history of the discharge. The record does not demonstrate that the Regional Water Board considered the beneficial uses, the quality of the receiving water, the water quality objectives in the Basin Plan, or considered the use of the assimilative capacity by all dischargers.¹⁴

As stated above, this Board has indicated that Regional Water Boards may add an incremental level above the water quality objective to reflect reasonable use of remaining assimilative capacity. In this case, the Regional Water Board has added an increment to the water supply. The water supply may be higher than the water quality objective for TDS. The Regional Water Board did not determine how such effluent limitations relate to the assimilative capacity of the groundwater. In addition, the wastewater is blended with groundwater underlying the area of application prior to irrigation of the golf course. Over the long term, the concentration of constituents in the groundwater will converge toward the concentration of constituents in the effluent.¹⁵

¹⁴ Tentative Order No. 99-18 contained no effluent limitations for TDS, chloride, or sodium, but the Regional Water Board added effluent limitations at the hearing. This Board has determined that inclusion of effluent limitations in waste discharge requirements is the “appropriate means” to implement the requirements of Water Code section 13263, which requires waste discharge requirements to implement the provisions of the Basin Plan. See State Water Board Order WQ 73-4.

¹⁵ See Memorandum from Stan Martinson, Chief, Division of Water Quality, to Craig M. Wilson, Assistant Chief Counsel, Office of Chief Counsel “Staff Technical Report on Petition by San Luis Obispo Gold and Country Club for Review of Waste Discharge Requirements Order No. 99-18 for San Luis Obispo CSA No. 18” (Nov. 2, 1999).

State Water Board Order 81-5 stated that the increment should also consider use of the assimilative capacity by the discharger and other dischargers. Both Petitioner and the County are required to submit a feasibility report addressing methods of reducing salt impacts to the reclamation area (Provision D.6. of Order No. 99-18 and Provision D.4. of Order No. 99-19). The Petitioner states that it has only limited ability to provide water to blend with the County's effluent before irrigating the golf course. Under the requirements of Order No. 87-53, Petitioner had sufficient blending capacity, but not under the requirements of Order No. 99-18. The relaxed limitations in Order No. 99-18, coupled with the limited blending capabilities of SLOGCC allows faster use of remaining assimilative capacity and appears to shift the burden to SLOGCC to be responsible for disposal of the County's waste salt. It may also render the wastewater unusable for its only authorized purpose -- golf course irrigation.

State Water Board Resolution 68-16 allows some degradation of high quality water if the discharge is required to meet waste discharge requirements which will result in the "best practicable treatment or control" of the discharge and will not result in water quality less than that prescribed in the policies. Since the groundwater, with respect to TDS, is a high quality water based on the information stated in Order No. 99-18 (it is of higher quality than the water quality objective), the Regional Water Board must comply with Resolution 68-16. Order No. 99-18 contains no findings demonstrating compliance with Resolution 68-16. The discharger must use best practicable treatment or control of the discharge to assure protection of beneficial uses and to prevent nuisance and comply with the irrigation provisions of the Basin Plan. One factor to be considered in determining best practicable treatment or control would be the water quality achieved by other similarly situated dischargers and the methods used to

achieve that water quality. Information concerning alternatives and costs of alternatives is relevant to determining compliance with Resolution 68-16.¹⁶

In determining compliance with Resolution 68-16, the Regional Water Board must also consider its own Basin Plan. Resolution 68-16 requires that the discharge not result in water quality less than that prescribed in the policies. The Basin Plan states: “No controllable water quality factor shall degrade the quality of any ground water resource or adversely affect long-term soil productivity.” The Staff Report provided at the hearing for adoption of Order No. 99-18 contains the following statement:

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“It should be noted that golf course irrigation is currently the only disposal option available for the discharge. Therefore it is incumbent upon the County to protect the disposal/reclamation area by providing reclaimed water which will not adversely affect irrigated plants.”

Staff Report at page 2 (April 9, 1999).

The Staff Report also states that the County has implemented a salts management plan and reduced effluent salts concentrations. However, compliance with effluent limitations in Order No. 87-53 were not attained. Order No. 99-18 established effluent limitation for TDS

¹⁶ One alternative discussed before the Regional Water Board was reverse osmosis. Petitioner states that the Regional Water Board’s Staff Report provided at the April 9, 1999, hearing, contained information that the cost of reverse osmosis system would be approximately \$75,000 to \$100,000. The costs specific in the Regional Board’s Staff Report were consistent with the Petitioner’s own analysis of costs. At the hearing, however, the staff stated that the information in the Staff Report was not accurate and that the cost of reverse osmosis would be approximately \$750,000 to \$1,000,000. Petitioner did not have its own information available at the hearing since it did not expect the staff to change the report. The petitioner requested that the State Water Board record be augmented with its information. The State Water Board has accepted the Petitioner’s additional information into the record for consideration of the petition in accordance with Title 23, California Code of Regulations, section 2064.

based on the history of the quality of the effluent not on impacts on irrigated plants. The effluent limitation does not appear to comply with the Basin Plan. Petitioner states that the concentrations of salts in the discharge is adversely affecting the long-term soil productivity at the golf course.

While the Regional Water Board may not specify the manner of compliance with the waste discharge requirements, however, it must consider “best practicable treatment or control” of the discharge. The Regional Water Board should require the County to consider additional methods that will control the discharge, including methods used by other similarly situated dischargers, in determining the appropriate effluent limitations. The effluent limitation must protect beneficial uses, prevent nuisance, and comply with the Basin Plan.

B. Sodium

As described above, the water quality objective contained in the Basin Plan for sodium is 50 mg/l. The groundwater quality is stated to be 72 mg/l, which is higher than the water quality objective. The effluent limitation for sodium is “Water Supply + 153 mg/l.” The effluent limitation is significantly higher than the water quality objective for sodium. This Board has stated that where the constituent in a groundwater basin is already at or exceeding the water quality objective, the Regional Water Board must set limitations no higher than the objectives set forth in the Basin Plan. Exceptions may be granted where it can be shown that a higher discharge limitation is appropriate due to system mixing or removal of the constituent through percolation through the ground to the aquifer. In addition “best efforts” must be considered. State Water Board Order 81-5 stated that after establishing the increment providing for reasonable use of the assimilative capacity, the Regional Water Board should then apply the “best efforts” analysis to determine if more stringent limitations are appropriate.

The record indicates that the limitation was based on the average discharge for the past three years, not on system mixing or percolation. Compliance with the Basin Plan's irrigation provision was also not considered. Order No. 99-18 is remanded to the Regional Water Board to reconsider the sodium effluent limitation consistent with this Order. The Regional Water Board should consider additional methods that will control the discharge, including methods used by other similarly situated dischargers, in determining the appropriate effluent limitations. The effluent limitation must be set at no greater than the water quality objective of 72 mg/l unless specific findings are made consistent with this Order.

C. Chloride

As described above, the water quality objective contained in the Basin Plan for chloride is 200 mg/l. The groundwater quality is stated to be 55 mg/l, which is better quality than the water quality objective. The effluent limitation for chloride is Water Supply plus 83 mg/l. As mentioned above, where the receiving water is better quality than the Basin Plan objective, the Regional Water Board may set limitations that are more or less stringent than the water quality objective after considering a number of factors. It is unclear in Order No. 99-18 whether the Regional Water Board considered any of the factors discussed in State Water Board Order 81-5. The record does not indicate whether the Regional Water Board considered the impacts to beneficial uses, the water quality objectives in the Basin Plan, the irrigation provision of the Basin Plan, or Resolution 68-16. It is likely, however, that the chloride effluent limitation is protective of both the groundwater and the irrigation use since it is apparently lower than the water quality of the groundwater. Depending on the concentration in the water supply and the current water quality of the groundwater, the chloride limitation may be very similar to the water

quality objective. Order No. 99-18, therefore, is remanded to the Regional Water Board to reconsider and make findings concerning chloride consistent with this Order.

ORDER

IT IS HEREBY ORDERED that, for the reasons discussed above, Waste Discharge Requirements/Water Reclamation Requirements Order No. 99-18 for San Luis Obispo County Service Area No. 18, Country Club Estates is remanded to the Regional Water Board for further consideration of the effluent limitations for the constituents TDS, sodium, and chloride consistent with findings and conclusions of this order. In undertaking such reconsideration, the Regional Water Board must consider the factors discussed in State Water Board Order 81-5, the Basin Plan objectives, and the requirements of State Water Board Resolution 68-16. It should

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specifically consider the feasibility report on methods of reducing salt required by Order No. 99-18. In all other respects the Petition is denied.

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 April 26, 2000.

AYE: Arthur G. Baggett, Jr.
 Mary Jane Forster
 John W. Brown

NO: None

ABSENT: None

ABSTAIN: None

/s/
Maureen Marché
Administrative Assistant to the Board