

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

In the Matter of the Petition of)
)
COASTAL RESIDENTS UNITED, INC.)
)
For Review of Order No. 87-62)
for Cambria Community Services)
District, of the California)
Regional Water Quality Control)
Board, Central Coast Region.)
NPDES Permit No. CA0048615.)
Our File No. A-485.)

ORDER NO. WQ 88- 6

BY THE BOARD:

On May 8, 1987, the California Regional Water Quality Control Board, Central Coast Region (Regional Board) issued Order No. 87-62 (NPDES Permit No. CA0048615), waste discharge and reclamation requirements for the Cambria Community Services District.

On June 4, 1987, the State Water Resources Control Board (State Board) received a petition from Coastal Residents United (Petitioner) seeking review of Order No. 87-62. The petition was deemed complete on July 29, 1987. Petitioner has agreed to a 60-day time extension in this matter.

1. BACKGROUND

The Cambria Community Services District operates a wastewater collection, treatment and disposal system to provide sewerage service for the community of Cambria, San Luis Obispo County. Design capacity of the treatment

facility is 1.0 MGD and current average flow is .3 MGD. Petitioner claims that the design capacity is occasionally exceeded. The treatment facility consists of flow equalization and grit removal facilities, two contact stabilization treatment facilities, two holding ponds and disinfection facilities. The primary method of wastewater disposal is to a 51-acre spray disposal area owned by the District located 2-1/2 miles north of the treatment facility. Excess wastewater flows are pumped to an effluent holding reservoir with a total capacity of slightly less than six million gallons for redistribution to the land disposal area or discharge through a slow-sand gravity filter to Van Gordon Creek approximately 1-1/2 miles from the Pacific Ocean. Van Gordon Creek is a tributary to the San Simeon Creek, which discharges to the Pacific Ocean. The land disposal area is located near the confluence of Van Gordon and San Simeon Creeks.

The District is also responsible for providing the water supply for the community of Cambria. The production well field utilized by the District for this purpose is located approximately 2,000 feet east of the disposal area. Relative to San Simeon Creek, the production well field is located ungradient from the disposal area.

Petitioner's contentions center on the potential for degradation of the domestic water supply due to a reversal of the ground water gradient between the disposal and production fields during periods of peak pumping in the production field.

II. CONTENTIONS AND FINDINGS

1. Contention: To insure that the back flow of wastewater into the drinking water well field does not take place, Petitioner contends that the

District should be required to maintain minimum levels in the production wells such that the cone of ground water depression does not reach below five feet above mean sea level (MSL). This is urged by petitioner until an equivalent method of insuring a seaward gradient between the production wells and the top of the effluent mound at all times can be developed.

Finding: Petitioner believes that when the ground water is lowered by pumping the production well level below five feet above MSL, a ground water gradient from the effluent disposal area to the production field exists and the quality of the water supply is threatened.

The long-term existence of a reversal in the ground water gradient (from disposal field to production well area) would be an indication that the potential exists for degradation of water in the production field due to migration of wastewater from the disposal area. The District and petitioner agree that ground water monitoring indicates that a reversal in the ground water gradient does occur for short periods of time. This is a localized reversal in the ground water gradient which has not resulted in degradation in water in the production field.

The District is required to conduct water quality monitoring from several observation wells located in the area. Of particular interest are well SS3, located in the production well field; well SS4, located midway between the spray disposal area and the production well field; and well 9P2, located in the spray disposal area. Quarterly monitoring data from these wells submitted since 1982 indicates that ground water quality at these locations meets the overall water quality objectives for municipal and agricultural uses as contained in the Water Quality Control Plan, Central Coast Basin. In addition, monitoring results from these wells for salt loadings, electroconductivity and

nitrate-nitrogen provide no indication that ground water underlying the production well field is being degraded by the District's wastewater disposal practices.

At the time of adoption of Order No. 87-62, the Regional Board acknowledged the potential for migration of wastewater into the production well field. In response to this concern, the Regional Board included provision D.6 to assure protection of the production well field. This provision provides as follows:

"By January 1, 1988, the discharger shall submit a comprehensive management plan for protection of its production well field from wastewater disposal activities. This plan shall include methods for achieving full compliance with effluent limitations B.3. (incremental increase in salts) by July 1, 1988, or methods for positively preventing wastewater migration to the well field and protecting beneficial uses of underlying and downgradient ground water."

The District in its comments contends that Provision D.6. has already been met by the District's prior adoption of the San Simeon Valley Water Basin Management Program and Operation Manual. However, the State Board record does not contain any evidence to this effect nor does it contain the required January 1, 1988 submittal. It appears that the Regional Board had an additional submittal in mind as it already acknowledged the existence of the Management Program and Operation Manual in finding No. 10 of Order No. 87-62. The Regional Board should clarify the status of compliance with Provision D.6. This appears to be an important provision for protection of the production well field.

The District in its letter to the State Board dated May 31, 1988, has proposed methods to assure protection of the District's production wells from

possible migration of wastewater effluent. These methods include more frequent water level and water quality monitoring than required in Order No. 87-62. We find these methods to be appropriate and should be added to the monitoring requirements of Order No. 87-62. Limited gradient reversals do not appear to cause water quality problems. However, during times of reversal, increased water level monitoring of wells 9P2 and SS4 should be performed. Well 9P2 should be monitored at least two hours after pumping in nearby wells has ceased. Increased water quality sampling of wells SS4 and SS1 through SS3 should be performed. The elevation of well 9P2 should be allowed to be not more than 0.9 feet above the level of well SS4 for up to a total of three months during the dry season. If this water level differentiation is exceeded, or if water quality monitoring of tracer constituents indicates migration toward the production wells, the Regional Board should require the District to take immediate steps to correct this situation. Such steps may include pumping from well 9P2 to control the water table gradient at the disposal area if consistent with waste discharge requirements, or reduced production from the production wells, or a combination of both.

In view of the above analysis, it is unnecessary to address petitioner's contention of requiring the District to maintain minimum levels in the production well field.

2. Contention: Petitioner contends that the District should measure well levels under dynamic pumping conditions (during times of peak production field pumping).

Finding: As previously indicated, a long-term reverse ground water gradient has not been found to exist. In addition, no degradation of the production well field has occurred.

At the May 8, 1987 Regional Board hearing, the District testified that it would be difficult to measure water levels under dynamic conditions as the production wells are not equipped for such measurements. Thus, the Regional Board modified the monitoring requirements to require that static water level measurements be made during periods when the District's well field has been operated at peak operating pumping rates.

We find the monitoring requirements to be appropriate with the addition of the above-mentioned requirements.

3. Contention: Petitioner contends that limitations for total dissolved solids (TDS) and sodium for land disposal should be more stringent.

Finding: The 30-day mean effluent limitations for these two constituents contained in the permit are based on the quality of the water supply plus an incremental increase for consumptive uses. At the May 8, 1987 hearing, the Regional Board modified the proposed incremental increase for TDS from water supply (390 mg/l) plus 300 mg/l to water supply plus 325 mg/l. The proposed incremental increase for sodium was also modified from water supply (31 mg/l) plus 70 mg/l to water supply plus 120 mg/l. These changes were based upon testimony presented by the District.

TDS is not reduced through conventional wastewater treatment. The sodium concentrations in the wastewater are elevated due to the use of on-site regenerated water softeners. The District has developed a water softener maintenance and efficiency program to reduce sodium concentration in the wastewater. However, the success of this program has not been sufficient to assure the District's compliance with the limits proposed prior to Regional Board modification. Based on the efforts being made by the District to reduce sodium loadings, the lack of treatability of TDS, and the absence of water

quality degradation in the production well field, the Regional Board adopted limits for incremental increases that the District could meet.

The ground water basin underlying the disposal area has designated beneficial uses of municipal and agricultural water supply. The water quality objectives for ground water contained in the Basin Plan are based on protection of these beneficial uses. The current discharge is such that beneficial uses are being protected.

Our review of the above factors and the record indicates that the incremental limits adopted by the Regional Board are consistent with the "best efforts" approach outlined in State Board Order NO. 79-14 which requires dischargers of waste to waters of the state at a minimum to control constituents of a waste discharge that are of concern using best efforts methods and technology.

While the 30-day mean limits for TDS and sodium appear appropriate, the Regional Board should consider placing an appropriate numerical daily and instantaneous maximum effluent limitation on TDS and sodium in accordance with State Board Order No. 73-4. The District has provided evidence that the San Simeon State Beach located down gradient from the disposal area no longer uses their well to supply potable water in the campground. The well is now used solely for irrigation purposes. However, we find that providing a maximum effluent limit will assure that water quality objectives will be met in the event of a change in the water supply quality. Such action will also ensure that potential downstream beneficial uses are protected and will be an additional safeguard against degradation from possible reverse migration of ground water flow.

The petitioner in his 60-day extension letter for the first time raised concerns regarding trihalomethanes and viral entry into the ground water supply. The record contains no evidence regarding these issues. Since only short term reverse migration has occurred and no water quality degradation has occurred in the production well field, it is unnecessary to address these issues in this order.

III. SUMMARY AND CONCLUSIONS

1. While it is not necessary to require the District to maintain minimum levels in the production wells, we recommend that the District maintain water level differentials of not more than 0.9 feet between wells 9P2 and SS4 as described above. The Regional Board should modify the monitoring requirements of Order No. 87-62 as indicated herein and as recommended in the District's letter dated May 31, 1988. The Regional Board should also review compliance with Provision D.6 of Order No. 87-62 which requires submittal of and compliance with a comprehensive management plan for protection of the production well field.

2. The monitoring requirements for static water levels are generally appropriate.

3. If monitoring of water level differentials or water quality constituents indicate wastewater migration toward the production field, the Regional Board should require the District to take correction action as described in this order.

4. The 30-day mean effluent limits for TDS and sodium are appropriate. The Regional Board should consider placing appropriate numerical daily and instantaneous maximum effluent limits on TDS and sodium.

IV. ORDER

We hereby remand Order No. 87-62 to the Regional Board for reconsideration regarding the above conclusions. In all other respects the petition is denied.

CERTIFICATION

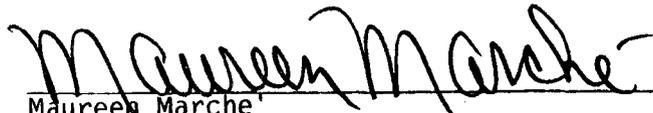
The undersigned, Administrative Assistant to the Board, does hereby certify that the foregoing is a full, true, and correct copy of an order duly and regularly adopted at a meeting of the State Water Resources Control Board held on June 16, 1988.

AYE: W. Don Maughan
Darlene E. Ruiz
Danny Walsh
Eliseo M. Samaniego

NO: None

ABSENT: Edwin H. Finster

ABSTAIN: None


Maureen Marche
Administrative Assistant to the Board

