STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

In the Matter of the Petition of the CITY OF CORONA For Review of Order No. 84-112 of the California Regional Water Quality Control Board, Santa Ana Region. Our File No. A-371.	ORDER NO. WQ 86-5

BY THE BOARD:

On December 14, 1984, the California Regional Water Quality Control Board, Santa Ana Region (Regional Board) adopted waste discharge requirements (Order No. 84-112) for the City of Corona's Wastewater Treatment Plant No. 1. These requirements replaced earlier orders which regulated discharges from the sewage treatment plant. On January 2, 1985, the City of Corona filed an incomplete petition seeking review of the Regional Board action. On May 3, 1985, the petition was deemed complete.

I. BACKGROUND

The City of Corona (City) operates a municipal wastewater collection and treatment facility in Riverside County. The existing treatment facility is designed to treat up to 5.5 mgd. After secondary treatment, the wastewater is discharged to ten percolation/evaporation ponds located adjacent to and on both sides of Temescal Creek less than two miles from the Santa Ana River.

Previous to adoption of Order No. 84-112, the City's wastewater discharge was regulated by Santa Ana Regional Board Order No. 79-98, an NPDES permit. It provided for emergency discharges to Temescal Creek. Consequently,

Order No. 79-98 contained effluent limitations for total filterable residue (TFR) which were identical to the TFR objectives for the Santa Ana River. This is the same effluent limitation specified in Order No. 84-112 and in the Water Quality Control Plan for the Santa Ana Region (basin plan) for the City's discharge. The City would be required to comply with the TFR and other limitations by June 30, 1988. Interim less-stringent limitations would apply until that time. The City now has the opportunity to discharge to the Santa Ana River Interceptor (SARI) which eliminates the need for the emergency Temescal Creek discharge and the need for an NPDES permit.

The water supply for the City comes from three discreet sources: The Temescal ground water basin, the Coldwater ground water basin, and the Colorado River. The City blends local ground water with Metropolitan Water District (MWD) water from Lake Mathews (Colorado River water). The blending reduces the high nitrate concentrations found in the Temescal basin. However, TFR concentrations are approximately the same for the MWD water and the local ground water. The City obtains a high quality water from the Coldwater ground water basin which is very suitable for blending and will result in reducing both nitrate and TFR concentrations of the entire water supply. During years with heavy rainfall and high ground water recharge, the Coldwater ground water basin can supply up to 30 percent of the City's demands. However, during dry years, it supplies less than 15 percent.

According to information in the record before the Regional Board, the City had indicated that plans are being worked out by the MWD to improve the water supply to Lake Mathews and concomitantly the City. Santa Ana Regional Board Order No. 84-112 incorporates a time schedule for compliance with TFR, chloride, and sodium effluent limitations by June 1988. The time schedule was

included to allow the City time to improve water supply quality. We now understand from the City that their ability to make significant improvements to the quality of its water supply by 1988 is uncertain. This new information, if correct, bears on the ability of the City to meet the TFR and other limitations by 1988.

The major issue presented in the petition is whether the Regional Board's action to implement basin plan provisions regarding the salt balance problem in the Santa Ana Region are appropriate. To put this matter in perspective, the basin plan states in relevant part:

> "The waters of the Santa Ana Region are threatened by excessive mineralization. The amount of dissolved minerals in water, usually reported as TFR, TDS, or EC, affects the usability and desirability of the water. Each use of the water adds an increment of dissolved minerals, or salts. Salts may be added to the water as it is used, or the concentration of dissolved minerals can be increased by reducing the volume, such as by evaporation. Waters imported to the region from the Colorado River or via the State Water Project contain quite different concentrations of salts. Salts are exported from the system principally by discharges to the ocean. In addition, the Santa Ana River Interceptor (SARI) and Chino Basin Non-Reclaimable Line (NRL) are important in exporting brines and keeping them out of the Region's ground and surface waters. In the past, industries or other entities which generate brines have been required to contain them in impervious evaporation facilities. This is still being done where there are no other practical disposal alternatives available.
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> "At present, about 91,000 tons of salt are being added to the waters of the Upper Basin each year. This tonnage is projected to decrease gradually, with actual balance (imports = exports) being achieved about the year 2020. Most of the TFR increase will occur in certain specific ground water basins, which have already been identified as having no assimilative capacity (below). Several other increasing TFR problem areas, such as Chino II, have been identified. Mitigation measures or potential solutions to these latter problems are being investigated.
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> "In order to expedite salt exports, discharges of brines and other mineralized wastewaters to the SARI and NRL are encouraged. California's allocation of Colorado River water is scheduled to be cut beginning in 1985 as Arizona starts to take

its full entitlement. Although this may reduce the total imported water supplies available, it will help in terms of the salt balance problem.

"Although reclamation and conservation projects have clearly beneficial aspects, both tend to add to the salt balance problem, and therefore must be carefully planned and implemented ....

"... The Clean Water Act recognizes the fact that upgrading all point source discharges to secondary treatment will not necessarily achieve the goals of the Act: to make all surface water bodies fishable and swimmable. The flowing portion of the Santa Ana River (Reaches 2 and 3) is such a water body. In these cases, Section 303(d)(1)(c) of the Act requires calculation of the maximum waste load which can be discharged to the river without violating water quality standards. The two water quality objectives (Prado Objectives) which are being violated or are in danger of being violated are those for total filtrable residue (TFR) and nitrogen, so maximum acceptable waste loads for these constituents were calculated. At present, there are five direct point source discharges to Reach 3: Riverside, Norco-CRC, Indian Hills, Ontario-Upland (CBMWD RP1) and Chino (CBMWD RP2). In addition, Corona discharges to percolation ponds in or immediately adjacent to Prado Basin. San Bernardino, Colton and Rialto discharge to Reach 4. Those effluents have historically percolated in the normally dry river bed, mixed with ground water and appeared again as rising water at Riverside Narrows. Discharges from Juruppa Community Services District and Rubidoux Community Services District have been discontinued: those flows are now treated by the City of Riverside's plant. The City of Norco, currently sewered to Corona, may construct its own sewage treatment plant in the near future. The total discharge of treated municipal wastewater to Reaches 3 and 4 is projected to be 92 MGD (143 cfs) by 1985. Some of this volume still percolated into the river bed in various parts of Reaches 3 and 4. A mixture of these percolated effluents and ground water rises to add to river flow at several other points along the river.

"As it leaves Reach 3 (at Prado Dam), the river may contain as much as 95 percent treated municipal effluent during dry weather flow. A detailed Waste Load Allocation was made for Reaches 3 and 4 (Prado Dam to San Bernardino) for a five-year period (mid-1983 to mid-1988) using data for 1985. The surface water mathematical model "Qual II" was used to determine flow and quality of the River. Data on rising water was provided by the basin on ground water models.

"Each of the controllable wastewater discharges (direct discharges under NPDES permit) has been allocated a fair share of the total TFR and nitrogen load to the river based on the plans used in the basin ground water models. Those plans take

into account the water supply to the service area, the location of the service area in the basin, a reasonable source control program, plant performance, reclamation and/or direct reuse, downstream uses of the wastewater, effects on the receiving ground water basin, and stream enhancement." (Pages 4-3 to 4-5; emphasis added.)

We will now address the contentions of the City.

II. CONTENTIONS AND FINDINGS

1. Contention : Petitioner contends that the Regional Board incorrectly used the water quality objectives for the Santa Ana River, Reach 3, as a basis to setting the discharge limitation for TFR. Petitioner argues that the water quality objectives of the Temescal ground water basin should have been used since the percolation ponds discharge to the basin, not the Santa Ana River. The objective for the river is 700 mg/l TFR. The objective for the ground water basin is 840 mg/l TFR.

Finding: In recognition of the significant impact that large municipal wastewater discharges have on the quality of the Santa Ana River, the basin plan contains wasteload allocations for all municipal discharges. It allows the City to discharge a maximum 700 mg/l TFR which is the same effluent limitation as in Santa Ana Regional Board Order No. 84-112. (See Basin Plan Table 4-1). This allocation is consistent with the Regional Board's finding that the City's discharge affects the Santa Ana River. The effluent limitation at issue implements this basin plan provision. Unless changed, the discharger will ultimately have to meet this limitation. The question next becomes whether the ground water objective should be considered in setting interim limitations.

The Regional Board has historically considered the Santa Ana River water quality objectives when setting effluent limitations for the City of

Corona. It has done so based on its findings that, although the discharge occurs in the Temescal ground water basin, the effects of the discharge are on the river. We have supported this approach in the past (State Board Order No. WQ 79-14, pages 21-22). However, based upon the record before us, we agree with the petitioner's contention that the water quality objectives for the ground water basin, should be considered when setting interim limitations since the discharge is to the former. First, the discharge takes place some one-and-one-half miles from the river. The effluent is discharged to ponds, percolates into the ground, mingles with the ground water and becomes part of it. Our conclusion that both the wasteload allocation and the ground water objectives should be considered is simply a recognition that Corona's discharges affect both areas.

Having determined that the Temescal ground water basin objectives of 840 mg/l TFR should be considered, we next turn to the question of whether the June 1988 compliance date for achieving the 700 mg/l TFR effluent limitation was reasonable based on the information in the record at the time Order No. 84-112 was adopted. Measurements presented by the City indicate that the quality of ground water in the Temescal ground water basin exceeds the basin plan objective by over 250 mg/l. Prior orders of this Board have delineated how to implement the basin plan in such a situation.[1] Where a constituent in a ground water basin is already at or exceeding the water quality objective, the Regional Board must set limitations no higher than the objectives set forth in the basin plan. Exceptions to this rule may be granted where it can be shown

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[1] State Board Orders Nos. WQ 73-4, 79-14, 81-5 and 82-5.

that a higher discharge limitation is appropriate due to system mixing or removal of the constituent through percolation through the ground to the aquifer. The Regional Board should set limitations more stringent than the basin plan objectives if it can be shown that those limitations can be met by 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.

In this case, the Santa Ana Regional Board demonstrated, at the time that it acted, a reasonable expectation that the City, by using "best efforts", could comply with the 700 mg/l effluent limit for TFR contained in Santa Ana Regional Board Order No. 84-112, Discharge Specification A.1.b. by June of 1988.

With its present water supply, the City may be unable to achieve consistent compliance with the limits by that time. However, based on testimony received during a public hearing regarding the City's other wastewater treatment plant, the City proposes to improve its water supply wastewater quality. That testimony and other information indicated that this improvement may occur as early as 1987; therefore, Order No. 84-112 provided a time schedule for compliance with the proposed limits, full compliance being required by June of 1988. Based on the information before the Regional Board

at the time it acted, this time schedule appeared reasonable. However, based on information available subsequently, particularly on the issue of whether the City can make significant improvements to its water supply prior to 1988, we feel that reconsideration of the time schedule is appropriate.

Order No. 84-112 also includes interim limits which are consistent with those adopted for the City's other wastewater treatment plants. Further, the TFR limits in the new order are consistent with those in the old NPDES permit which it replaces. It is unclear from the most recent data on the quality of the City's effluent whether the interim limit for TFR of 775 mg/l is achievable. Therefore at the same time the Regional Board reconsiders the time schedule for compliance with the TFR and other limits, it should also consider the appropriateness of the present 775 mg/l TFR limit.

2. Contention: The Santa Ana Regional Board set unrealistically low effluent limitations for sodium, sulfate, and chlorides in Order No. 84-112.

Finding: As discussed in the response to the first contention, statewide policy allows the Santa Ana Regional Board to use a "best efforts" approach when establishing effluent limitations. The record before the Regional Board supports the conclusion that the contended limits could be achieved by the 1988 compliance date. Therefore, the Regional Board acted appropriately based on the information available. The Santa Ana Regional Board recognized that lead time was time necessary to secure a new water supply by establishing relaxed interim limits for sodium and chloride while the time schedule in Provision C.5. is in effect.[2] That time schedule does not

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[2] Provision C.5 reads as follows:

(CONTINUED)

require compliance with TFR, sodium or chloride effluent limitations until June 15, 1988. As mentioned above, expected improvements to the City's water supply quality was a major factor in the Regional Board's determination that more stringent limits for chloride and sodium could be met by 1988. Based on new information which indicates that such improvements may not be possible, we feel these limits should also be reconsidered.

3. Contention: The 12-inch freeboard requirement in Santa Ana Regional Board Order No. 84-112 is overly restrictive since the City can construct emergency containment berms as the ponds become full.

Finding: The 12-inch freeboard requirement in Santa Ana Regional Board Order No. 84-112 is already minimal compared to freeboard requirements in other regions. The freeboard is essential to accommodate rainfall and prevent dike erosion by wind and wave action. Freeboard requirements should be based on pond fetch, local climatology, consequent wave height, and dike construction. Most Regional Boards have opted for a fixed freeboard requirement of 2 feet which can be relaxed upon acceptance of an engineering report detailing the structural or climatological reasons for relaxation. Some

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[2] (FOOTNOTE CONTINUED)

"5. The discharger shall comply with the following time schedule to assure compliance with the filtrable residue, chloride, and sodium requirements of Discharge Specification 1.b.

Task	Completion Date	Report Due
Develop Plan	1/15/85	1/31/85
Develop Implementation Plan	1/15/85	1/31/85
Status Report	1/15/87	1/31/87
" "	6/15/87	6/30/87
" "	12/15/87	12/31/87
Full Compliance	6/15/88	6/30/88"

reasons for relaxation can be armored dike construction, small pond fetch, pond surface below ground level, or secondary containment structures.

At times of high rainfall, high ground water, and slow percolation rates, it is very possible that it would be impracticable to construct emergency containment. This is especially true during extreme high water behind the Prado Dam since the ponds are within the high water line. The petitioner's contention that higher pond water levels would promote more ground water mixing is unsupported.

IV. CONCLUSIONS

1. Based on the record, the Regional Board's action to set limitations for TFR, sodium, sulfate and chloride was reasonable.

2. The time schedule established by the Regional Board to meet these limits should be reconsidered in light of new information that may be available, particularly the ability of the City to improve its water supply quality.

3. Interim limitations for the contested limitations should be reexamined at the same time the Regional Board reconsiders the time schedule.

4. The 12-inch freeboard required is not overly restrictive.

5. The Regional Board, based on its finding that the Corona discharge affects the River, included Corona in the Basin Plan calculation of the maximum wasteload which can be discharged without violating downstream water quality objectives. Corona's wasteload allocation for TFR is 700 mg/l. If the Regional Board determines that Corona cannot achieve this effluent limitation through best efforts, revision of the Basin Plan wasteload allocation for Corona should be considered.

V. ORDER

IT IS HEREBY ORDERED THAT the Regional Board consider revisions to (a) the time schedule for compliance and (b) the interim limitations for TFR and other constituents based on the factors set forth in this Order.

IT IS HEREBY ORDERED THAT the Regional Board shall not bring an enforcement action under the present limitations until such reconsideration has taken place, provided that Corona shall substantiate, at such times as it may be out of compliance, that it is using its best efforts to comply.

CERTIFICATION

The undersigned, Executive Director of the State Water Resources Control 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 March 6, 1986.

Aye: E. H. Finster
Eliseo M. Samaniego
Danny Walsh

No: None

Absent: Raymond V. Stone
Darlene E. Ruiz

Abstain: None

for
Raymond Walsh
Interim Executive Director