

STATE WATER RESOURCES CONTROL BOARD

RESOLUTION NO. 68-16

STATEMENT OF POLICY WITH RESPECT TO
MAINTAINING HIGH QUALITY OF WATERS IN CALIFORNIA

WHEREAS the California Legislature has declared that it is the policy of the State that the granting of permits and licenses for unappropriated water and the disposal of wastes into the waters of the State shall be so regulated as to achieve highest water quality consistent with maximum benefit to the people of the State and shall be controlled so as to promote the peace, health, safety and welfare of the people of the State; and

WHEREAS water quality control policies have been and are being adopted for waters of the State; and

WHEREAS the quality of some waters of the State is higher than that established by the adopted policies and it is the intent and purpose of this Board that such higher quality shall be maintained to the maximum extent possible consistent with the declaration of the Legislature;

NOW, THEREFORE, BE IT RESOLVED:

1. Whenever the existing quality of water is better than the quality established in policies as of the date on which such policies become effective, 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 maximum benefit to the people of the State will be maintained.
3. In implementing this policy, the Secretary of the Interior will be kept advised and will be provided with such information as he will need to discharge his responsibilities under the Federal Water Pollution Control Act.

Excerpts from "Questions and Answers SWRCB Res. No. 68-16"

and A's Resolution No. 68-16

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water (specified in Water Quality Control Plans); (2) economic and social costs, tangible and intangible, of the proposed discharge compared to the benefits, (3) environmental aspects of the proposed discharge; and (4) the implementation of feasible alternative treatment or control methods. With reference to economic costs, both costs to the discharger and the affected public must be considered. "Cost savings to the discharger, standing alone, absent a demonstration of how these savings are necessary to accommodate 'important social and economic development' are not adequate justification" for allowing degradation. See SWRCB Order No. WQ 86-17, at 22, n. 10. With respect to social costs, consideration must be given to whether a lower water quality can be abated through reasonable means. In other words, the lower water quality should not result from inappropriate treatment facilities or less-than-optimal operation of treatment facilities. Local ordinances concerning water quality or nuisance and the use of the water as a water supply may also be factors in determining maximum benefit to the people.

In a situation that involves reinjection of treated ground water resulting from remediation activities, the need for the remedial action would be a factor favoring the discharge, but other factors would include alternatives to the reinjection, such as reclamation, and the need to maintain ground water (to protect it from, for example, salt water intrusion, to prevent surface subsidence, and to provide public water supply). Water Quality Control Plans for some RWQCBs require consideration of discharge alternatives.

7. Q. What does the term "best practicable treatment or control" mean?
- A. Neither the CWC or the Resolution define the term "best practicable treatment or control". The SWRCB has interpreted the term in several SWRCB water quality orders. The SWRCB has evaluated what level of treatment or control is technically achievable using "best efforts." See SWRCB Order Nos. WQ 81-5, WQ 82-5, and WQ 90-6. To evaluate the best practicable treatment or control method, the discharger should compare the proposed method to existing proven technology; evaluate performance data, e.g., through treatability studies; compare alternative methods of treatment or control; and/or consider the method currently used by the discharger or similarly situated dischargers. This information would usually be included in the report of waste discharge required by CWC Section 13260. Promulgated requirements such as federal best available technology economically achievable (BAT) or other promulgated technologies may be appropriate for ground water discharges and would apply to surface water discharges. In certain situations, BAT would be

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considered "best practicable treatment or control" under Resolution No. 68-16. The costs of the treatment or control should also be considered, and would be considered in determining the "maximum benefit to the people of the State." See Question and Answer No. 6.

8. Q. What do the words "not unreasonably affect present and anticipated beneficial use of such water" mean as used in Resolution No. 68-16?
- A. The CWC requires the SWRCB and RWQCBs to specify the beneficial uses of each water body in Water Quality Control Plans. (CWC Section 13241.) Such beneficial uses include past, present, and probable future uses and include domestic, municipal, agricultural and industrial supply, power generation, recreation, aesthetic enjoyment, navigation, and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves. (CWC Section 13050(f).) Waters are designated for particular beneficial uses if they are suitable for that use even if they are not currently being used. Such probable uses must also be protected to ensure future usability of the water. See e.g., CWC Sections 13000 and 13241.
- The CWC requires the SWRCB and RWQCBs to establish water quality objectives in water quality control plans to ensure the reasonable protection of beneficial uses. (CWC Section 13241.) Compliance with Resolution No. 68-16 would at a minimum require compliance with the water quality objectives in order to ensure the reasonable protection of beneficial uses. In other words, even if degradation is justified, it cannot be allowed to unreasonably affect beneficial uses. The discharge must also be to the maximum benefit to the people of the State and the discharger must apply best practicable treatment or control as described in Question and Answer Nos. 6 and 7. Such considerations may result in a requirement that discharges to high quality waters meet limits that are more stringent than water quality objectives. See SWRCB Order No. WQ 91-10.
9. Q. What are the "water quality control policies" referred to in Resolution No. 68-16?
- A. The SWRCB and the RWQCBs have the authority under the CWC to adopt policies, including water quality control plans, for the protection of waters of the State. Such policies establish beneficial uses (e.g., SWRCB Resolution No. 88-63, "Sources of Drinking Water Policy"), water quality objectives (e.g., California Ocean Plan, RWQCB Water Quality Control Plans), cleanup procedures (SWRCB Resolution No. 92-49), and other

Before discussing the numerical limitations set forth in the waste discharge requirements and those proposed by the petitioner, we shall set forth the general principles which are applicable in establishing limitations to prevent salt loading problems. These principles are distilled from two of our previous orders, State Board Orders Nos. 73-4 and WQ 79-14, and from our experience in the application of those decisions to various areas within the State. The principles vary depending on whether or not the presence of the constituent in the receiving water is already at or exceeding the level provided for in the Basin Plan's water quality objectives.

Where the constituent in a groundwater 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:^{2/}

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 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

2. Where compliance with the limitations cannot be achieved by reasonable efforts, review of the appropriateness of the water quality objective may be required.

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 Board may set limitations which are more or less stringent than the objective.^{3/}

1. The Regional 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 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.

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

It is the belief of this Board that implementation of the principles described above will result in a reduction of the serious salt balance problems that plague many areas of the State.

3. Adoption of limitations in this situation must be consistent with the State Board's nondegradation policy, which states circumstances under which receiving waters should remain of higher quality than water quality objectives.

II. DISCUSSION

A. Mineral Limits.

Because the issues raised herein deal with limitations to prevent salt loading problems, it is appropriate to review the general principles previously established (State Board Order Nos. 73-4, WQ 79-14 and WQ 81-5).

To apply these principles, one must first determine how the constituent in the receiving water relates to the objective set forth in the Basin Plan.

As set forth in the Order WQ 81-5^{2/}

"Where the constituent in a groundwater 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.*

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 Board should set limitations more stringent than the Basin Plan objectives if it can be shown that these 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 efforts. Factors which should be included in the

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2. In the Matter of the Petition of the City of Lompoc at page 6.

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

**Adoption of limitations in this situation must be consistent with the State Board's nondegradation policy, which states circumstances under which receiving waters should remain of higher quality than water quality objectives.

The petitioner contends that the mineral quality requirements should be established at the same concentration levels as the water quality objectives for receiving stream. The Regional Board adopted more stringent limits based on the "best efforts" approach. Petitioner sets forth several arguments in support of its contention:

(a) That the Regional Board erred in concluding there was no assimilative capacity in the receiving water. This error was allegedly caused through the Regional Board's use of out-of-date data; the fact that the Regional Board used one or two specific instances where receiving water quality exceeded objectives to conclude that certain water quality objectives are threatened, ignoring the 12- or 60-month averages which define the objectives; and the fact that it has not been shown that petitioner's discharges have caused objectives to be exceeded.

(b) That the Regional Board improperly applied the "best efforts" approach;

(c) That, in view of the effluent limitations established for Total Filterable Residue, it should not be necessary to also set separate requirements for the mineral constituents which are a part of the Total Filterable Residue.

The Regional Board and the petitioner disagree over whether there is assimilative capacity in the receiving water for minerals. However, with the exception of the boron limitation, we need not resolve the question of assimilative capacity in order to dispose of the issue as to whether the mineral concentration limitations were appropriately established. Regardless of whether there is or is not assimilative capacity, the Regional Board may employ best efforts to adopt effluent limitations at a more stringent level than the water quality objectives for the Santa Ana River.

Water Code Section 13263(b) provides that "A Regional Board, in prescribing requirements, need not authorize the utilization of the full waste assimilation capacities of the receiving waters." Such an approach is also consistent with the principles set forth earlier in this Order. The issue is whether this approach was properly employed.

We further note, in response to the petitioner's contention that although it is not necessary to set requirements for both Total Filterable Residue and individual mineral constituents, that the Regional Board may do so. In this situation, the mineral constituent objectives established for the receiving water are approached on an average basis and have been exceeded at particular times. Accordingly, we feel that if the individual mineral constituent requirements for petitioner's effluent were deleted, it would be possible for petitioner to comply with a Total Filterable Residue limitation, but still contribute to violations of a particular mineral receiving water objective. In this regard, the Regional Board need not show that petitioner has caused or threatens to cause violations of receiving water objectives. It need only show that the waste discharge requirements will help ensure that objectives are met. However, as is discussed in Section C below, we feel that these mineral objective limitations should be expressed in terms of a 12-month average when Colorado River water is being used.

We will now examine whether the Regional Board's actions are in accord with our previous orders regarding best efforts.

2. Mineral Increments

The fundamental philosophy of TDS management plans in Santa Ana Region Basin Plans to date has been to allow a reasonable use of the water, to treat the wastewater generated appropriately, and to allow it to flow downstream (or to lower groundwater basins) for reuse. "Reasonable use" is defined in terms of appropriate mineral increments that can be applied to water supply quality in setting discharge limitations.

The Department of Water Resources has recommended values for the maximum use incremental additions of specific ions that should be allowed through use, based on detailed study of water supplies and wastewater quality in the Region [Ref. 8]. Their recommendations are as follows:

Sodium	70 mg/L
Sulfate	40 mg/L
Chloride	65 mg/L
TDS	250 mg/L
Total Hardness	30 mg/L

These mineral increments were incorporated into the 1983 Basin Plan. They will be incorporated into waste discharge requirements when appropriate and necessary.

3. Nitrogen Loss Coefficients

The Regional Board's regulatory program has long recognized that some nitrogen transformation and loss can occur when wastewater is discharged to surface waters or reused for landscape irrigation. For example, the Total Inorganic Nitrogen (TIN) wasteload allocation adopted for the Santa Ana River in 1991 included unidentified nitrogen losses in the surface flows in Reach 3 of the River. Waste discharge requirements have allowed for nitrogen losses due to plant uptake when recycled water is used for irrigation.

In contrast, nitrogen has been considered a conservative constituent in the subsurface, not subject to significant transformation or loss, and no such losses have been identified or assumed for regulatory purposes.

One of the tasks included in the Nitrogen/TDS Task Force studies leading to the 2004 update of the N/TDS Management Plan was the consideration of subsurface transformation and loss. One objective of this task was to determine whether dischargers might be required to incur costs for additional treatment to meet the new groundwater management zone nitrate-nitrogen objectives (Chapter 4), or whether natural, subsurface nitrogen losses could achieve any requisite reductions. The second objective was to develop a nitrogen loss coefficient that could be used with certainty to develop appropriate limits for nitrogen discharges throughout the Region.