



Policy Discussion Outline for CV-SALTS Executive Committee Meeting (8/15/2013)

Describing of the CURRENT Regulatory Approach (e.g. "No Project" Condition) for Controlling Salt and Nitrate Discharges to Groundwater in the Central Valley Region

General: the Regional Water Quality Control Board authorizes discharges to groundwater in accordance with the California Water Code (Porter-Cologne Act). The Board imposes Waste Discharge Requirements (WDR) to ensure compliance with applicable water quality objectives which, in turn, are intended to protect designated beneficial uses in the receiving waters. These uses and objectives (collectively referred to as "water quality standards") are defined in the Water Quality Control Plans (aka "Basin Plans"). Water quality objectives may be expressed as specific numeric thresholds (e.g. 10 mg/L nitrate-nitrogen) or in a narrative form (e.g. "discharges may not cause nuisance"). In either case, the state-issued permit must include WDRs to ensure the discharge complies with water quality objectives. Over time, the Regional Board has developed a number of policies, procedures and common practices for establishing water quality standards and issuing WDRs.

Beneficial Uses

- 1) MUN:** In accordance with the State Board's Sources of Drinking Water Policy (Res. No. 88-63) the Regional Board presumes that all groundwaters in the Central Valley are or should be capable of supporting a municipal or domestic drinking water use. The MUN use is presumed to apply irrespective of whether the receiving water is explicitly identified, or the use explicitly designated, in the Basin Plan. In addition, the MUN use is presumed to apply at all depths throughout the length and breadth of the entire saturated zone. Exceptions to these presumptions may be made for groundwaters that meet one or more of the exceptions identified in the Sources of Drinking Water Policy. However, such exceptions require a formal Board action, including proper notice, opportunity for public comment and a public hearing to amend the designated uses in the Basin Plan. In addition These exceptions must also be approved by the State Water Resources Control Board before becoming effective.

- 2) **AGR:** The Regional Board presumes that all groundwaters in the Central Valley are or should be capable of supporting agricultural uses because commercial agriculture is ubiquitous throughout the region and there are tens of thousands of irrigation wells operating to support this use. The Regional Board may make site-specific exceptions to this presumption on a case-by-case basis. The State Board has not established formal exception criteria for AGR as it has for MUN. Nevertheless, such determinations still require formal Board action to amend the Basin Plan where AGR was previously identified as a designated use for a given groundwater body or where a groundwater body was not previously named in the Basin Plan. The Board recognizes that in many instances the current cropping practices are dependent on imported water and such practices could not be maintained based on the volume and quality of native groundwater that is generally available in the same area. Thus, there is not always a clear connection between the existing or potential AGR use and the current water quality in the underlying aquifer.

- 3) **Most Sensitive Use:** Where a groundwater basin supports multiple beneficial uses, the Regional Board is required to impose WDRs that will protect the "most sensitive use." Historically, the Regional Board has defined the "most sensitive use" as that use which requires the highest water quality. This determination is made on a pollutant-by-pollutant basis. Therefore, the most sensitive use may be defined differently when developing a discharge limitation for nitrate-nitrogen than when developing a similar limitation for salinity.

- 4) **Existing vs. Potential Uses:** The Regional Board has not previously drawn any distinction between "existing" and "potential" uses when identifying the most sensitive use. However, the Board has the authority to do so at its discretion.

Water Quality Objectives

- 5) **Nitrate-Nitrogen:** When establishing a water quality objective for nitrate-nitrogen, the Regional Board has determined that MUN is the most sensitive use. Because groundwater may be used directly as a source of supply for domestic drinking water, without additional treatment, the water quality objective for nitrate-nitrogen was set equal to 10 mg/L (the Primary Maximum Contaminant Level recommended by both U.S. EPA and the California Department of Public Health). Since MUN is a presumed use for all groundwaters, meeting the water quality objective for nitrate-nitrogen in these waters will be protective of all other existing or potential uses that may occur in the same aquifers. And, since water supply well may pump from any location within an aquifer, WDRs must ensure compliance with the nitrate-nitrogen objective at or before the point where the discharge reaches the receiving water.

- 6) **Salinity:** When establishing a water quality objective for salinity, the Regional Board has determined that MUN is the most sensitive use. The water quality objective for salinity was set equal to 500 mg/L (the Secondary Maximum Contaminant Level recommended at Table 64449-A and Table 64449-B in Title 22 of the California Code of Regulations. The salinity objective was established to prevent excessive salinity from adversely affecting the taste or odor of drinking water or causing other nuisance to water users.

Although the Regional Board has not established specific numeric water quality objectives to protect salt-sensitive crops, it has enacted a narrative objective which prohibits the discharge of chemical constituents (including salt) in concentrations that adversely beneficial uses. In general, the Regional Board has concluded that the salinity objective established to protect the MUN use (e.g. <500 mg/L as TDS) will also assure that water quality is adequate to protect any salt-sensitive crops grown in the region.

- 7) **Natural Background Concentrations:** The water quality objectives established in the Basin Plans do not require improvement over naturally-occurring background concentrations of these same constituents in the groundwater. However, where the existing background concentration of a given pollutant exceeds the applicable water quality objective prior State Board decisions require the Regional Board to impose WDRs limiting the discharge of that pollutant to concentrations no greater than the applicable objective. To date, the Regional Board has not established any criteria for determining what constitutes a naturally-occurring condition or a specific method for quantifying the "background concentration" of a given pollutant.

Waste Discharge Requirements

- 8) **First Encountered Groundwater:** Because beneficial uses are deemed to apply at all depths and at every location throughout the length and breadth of the aquifer, any discharges are required to meet the applicable water quality objectives at the point where the effluent first encounters the groundwater. However, in practice, the Regional Board has not relied on the availability of assimilative capacity to authorize discharges to groundwater in excess of Basin Plan objectives because compliance with the objectives is evaluated at "First Encountered Groundwater" before there is any significant opportunity for mixing to occur. The Regional Board can take into account transformations (including dilution by other sources of recharge, such as stormwater) that may occur in the vadoze zone (between the point of surface discharge and the saturated zone) when and where there is adequate data to demonstrate consistent transformation is occurring.

- 9) **Assimilative Capacity:** Assimilative capacity exists when and where the groundwater is able to accept the discharge of additional pollutants at concentrations in excess of the applicable water quality objective without causing water quality in the aquifer to actually exceed that objective. This is functionally-equivalent to the surface-water concept of a mixing zone. Assimilative capacity is determined on a pollutant-by-pollutant basis. When there is assimilative capacity for a given pollutant in the receiving water and the concentration of that same pollutant is greater in the discharge than in the receiving water, the Regional Board may permit such a discharge subject to conditions set forth in the State Board's antidegradation policy (Res. No. 68-16). Where water quality in the receiving water is better than the Basin Plan objective, the Regional Board is not obligated to allocate that assimilative capacity to any discharger. The assimilative capacity may be apportioned or reserved at the Board's discretion.
- 10) **Effluent Limitations:** When developing a WDR permit, the Regional Board usually sets the effluent limitation for any given pollutant equal to the water quality objective for that pollutant to ensure that the discharge will comply with the applicable water quality standard at First Encountered Groundwater. In practice, this means that the average nitrate-nitrogen concentration in the discharge must not exceed 10 mg/L and the average TDS concentration cannot exceed 500 mg/L.. In addition, where pollutant concentrations in the receiving water are already better than the applicable Basin Plan objectives, the Regional Board is required to establish effluent limitations designed to preserve the higher water quality in accordance with the state antidegradation policy.
- 11) **Point-of-Compliance:** Most permits require waste discharges to demonstrate compliance with applicable water quality objectives at the point-of-discharge. This is especially true when the Regional Board has no reason to expect significant pollutant transformation following discharge and there is no assimilative capacity in the receiving water. The Regional Board assumes an effluent that meets the water quality objective at the point-of-discharge will continue to comply with the water quality standard at First Encountered Groundwater. This is a rebuttable presumption and the effluent limitation may be adjusted (up or down) to reflect site-specific conditions.
- 12) **Time-to Comply:** Dischargers are generally required to comply with WDRs immediately upon issuance. An exception may be made where a new effluent limitation is imposed and it is infeasible or impracticable for the discharger to come into immediate compliance. Under such circumstances, the Regional Board may authorize a Compliance Schedule to provide sufficient time for dischargers to implement the means needed to meet the effluent limitation. Most compliance schedule require conformance prior to the expiration of the permit (usually 5 years) and rarely ever exceed 10 years.

Enforcement Options

Where a discharger is unwilling or unable to comply with the Waste Discharge Requirements, the Regional Board has a number of options:

- 13) **Civil and Criminal Penalties:** Permit violations are subject to both civil and criminal enforcement. The Regional Board has authority to levy fines and impose more severe penalties (e.g. prison terms). Such penalties are usually reserved for those who violate the terms of the permit and have not made a good-faith effort to come into compliance in the time allotted.
- 14) **Time Schedule Order:** Where a discharger is unable to comply with the WDR's by the deadlines specified in the permit, the Regional Board may adopt a Time Schedule Order. Unlike a Compliance Schedule, where the discharger is deemed "in compliance" while developing and implementing the means to comply with new effluent limitations, a TSO is an enforcement action that recognizes the discharger is out of compliance while imposing additional interim and final deadlines to ensure final conformance with the permit. As such, the Regional Board usually imposes a fine associated with the discharger's failure to meet prior deadlines at the same time the TSO is adopted.
- 15) **Cease and Desist Order (CDO):** Where a discharger is unable or unwilling to comply with the terms and conditions specified in the permit, the Regional Board may issue a Cease and Desist Order prohibiting any further discharges unless and until the discharger is able to comply with the effluent limitation in the WDRs. It should be noted that the inability to comply may justify approval of a Compliance Schedule or a Time Schedule Order but it does not provide a long-term waiver from the obligation to comply with the WDRs even where it is impractical or infeasible to comply with the effluent limitations in the permit. Such an approach would require the Basin Plan be amended to grant the Regional Board the authority to issue conditional variances.
- 16) **Cleanup and Abatement Orders (CAO):** Where a prior discharge has violated a narrative or numeric water quality objective, the Regional Board may issue a Cleanup and Abatement Order requiring the person(s) responsible for that discharge to undertake specific actions designed to mitigate and remediate the resulting adverse effects on beneficial uses in the receiving water. This may include, but is not limited to, requiring the discharger to provide an alternate water supply to those who have been adversely impacted by the prior discharge. At present, the Board is not authorized to allow dischargers to achieve compliance by providing an alternate water supply where it is otherwise impractical or infeasible to meet the effluent limitations in the discharge.