



New Water Quality Regulations Provide Options for Flexibility Oil and Gas Industry

Protecting Water Quality is Critical

Ensuring a safe, reliable drinking water supply is now the highest priority when managing water quality throughout the Central Valley. Existing and on-going salt and nitrate accumulations are impacting drinking water supplies, making them unsafe in some locations.

Discharges from municipal, agricultural and industrial activities, including oil and gas production, can contain pesticides, sediments, salts, boron, nitrates, heavy metals, and volatile organic compounds. These pollutants can impact water quality by direct discharge, storm season runoff, or by leaching into groundwater. At high enough concentrations, pollutants make groundwater and surface waters unusable for drinking water or agricultural uses.

New Salt and Nitrate Management Plan

A critical component in the future success of water quality regulations is the CV-SALTS initiative and its January 2017 *Salt & Nitrate Management Plan* (SNMP). The SNMP addresses the increasing impairments to surface and ground waters from salts and nitrates by recommending new, more flexible options for discharge regulation. In the future, the SNMP is expected to be amended to include regulatory provisions for boron.

Once amended into the Central Valley Regional Water Quality Control Board (Regional Board) Basin Plans, the new SNMP regulatory options will allow improvements in the way all dischargers are regulated. The options will allow, and even encourage, more local collaboration among all dischargers and more flexibility in meeting discharge requirements.

The SNMP includes new industry-specific general compliance requirements and alternative compliance policies that focus first on providing safe drinking water in high-priority areas identified in the Kaweah, Turlock, Chowchilla, Tule, Modesto, and Kings sub-basins and basins.

Regulation: How it Works Now

Producing oil and gas naturally brings water to the surface known as **produced water**. Each barrel of oil recovered results in up to 15 barrels of produced water. In Kern County, oil producers annually provide more than 10 billion gallons of treated produced water for reuse by irrigated agriculture, supplementing irrigation water from other sources, such as groundwater.

The Regional Board regulates the way produced water is filtered, treated, and disposed. Produced water often contains salt, boron, and other naturally-occurring elements from its contact with petroleum-bearing rocks. Produced water that is low in salinity can be reused for irrigation after being filtered, treated, and blended. Higher salinity produced water is filtered, treated, and then either used to enhance oil production, reinjected into oil producing wells, or discharged to evaporation ponds or surface impoundments.

The Regional Board regulates the reuse of produced water for irrigation under operator-specific Waste Discharge Requirements (WDRs) that include testing to show adherence to strict pollutant limits. The discharge of produced water is regulated through individual WDRs or under three General WDR Orders adopted in April 2017. The General Orders regulate the discharge of produced water more efficiently and consistently to protect beneficial uses of groundwater.

General Order 1 regulates produced water discharges to land over high quality groundwater aquifers requiring oil and gas producers to implement produced water management practices and maintain secondary containment features at produced water disposal facilities to minimize the risk of groundwater quality degradation from constituents of concern, such as salt and boron.

General Order 2 regulates produced water treatment facilities, discharges to evaporation and percolation ponds, and production facility dust control on land over groundwater that does not consistently meet water quality requirements.



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General Order 3 regulates discharges of produced water where first encountered groundwater is absent, of poor quality, or associated with oil-bearing formations, and where the groundwater does not support beneficial uses for municipal (MUN), agricultural (AGR), industrial (IND) purposes. Under the time schedule set in this permit, an Exception or beneficial use de-designation can be granted. To qualify, the permittee must participate in the CV-SALTS program.

CV-SALTS and SGMA

CV-SALTS focuses on water quality while the 2014 Sustainable Groundwater Management Act (SGMA) focuses on groundwater supply. Coordination is expected as both programs move forward.

Benefits of New Regulatory Options

The oil and gas industry represents an important part of the CV-SALTS program. Under the new regulatory framework, all dischargers will be asked to collaborate locally to implement solutions to meet water quality standards. Oil and gas producers must choose to comply under a traditional permit or participate in the alternative compliance option – such as joining a local management zone. The new regulatory structure offers more local flexibility for permittees under either approach.

The following highlights a few examples of the recommended SNMP policies:

Local Management Zones. The formation of local management zones will save dischargers time, money, and resources by pooling resources to implement water quality protection measures that ensure safe drinking water supplies. Oil and gas producers, farmers, wastewater treatment plants, and other dischargers can work collectively in a distinct regulatory compliance unit. While working to protect groundwater for beneficial uses, members may be allowed to continue existing discharges and be given more time to comply.

Exceptions Policy. When prohibiting a discharge does more harm than good, and allowing the discharge to continue is determined to be better for the greater public good, an “Exception” can be authorized that provides dischargers relief from the applicable water quality objective(s) and more time to apply more effective, site-specific solutions.

Assimilative Capacity Allowances. Assimilative capacity is the ability of a natural body of water (e.g., lake, river, or groundwater aquifer) to receive discharges without harmful effects. In a management zone or a groundwater basin/sub-basin, assimilative capacity, coupled with the implementation of localized management measures, may be used to demonstrate compliance with water quality standards.

De-Designation of Specific Aquifers. Almost all groundwater in California has been designated for domestic and municipal use (MUN), regardless of the actual quality of the water. Where it can be demonstrated that the local groundwater meets the water quality law and policy requirements to show that the groundwater is not suitable for MUN and/or AGR uses, the Regional Board can de-designate that use(s) through a Basin Plan amendment. Under General Order 3, oil and gas producers are given a time schedule to follow a de-designation path for specific aquifers. The SNMP includes an example of de-designation of the Tulare Lake Bed.

Get Involved, Shape the Future

Without more flexible and localized management options for salts, nitrates, and boron, regulators will likely continue to develop control measures that may make compliance more difficult, and even prohibit discharges. To protect water quality for the future, the voice of oil and gas producers is critical in shaping the future of the new SNMP regulations and associated Basin Plans.

Visit www.cvsalinity.org to get involved and stay informed.