



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 the highest priority for managing nitrates and salts throughout the Central Valley. Depending on local conditions, discharges from residences, commercial and industrial facilities, and agriculture can contain pesticides, sediments, salts, nitrates, heavy metals, and pathogens. These pollutants can impact water quality by storm season runoff or by leaching into groundwater. At high enough concentrations, pollutants can harm aquatic life in surface water or make groundwater unusable for drinking water or agricultural uses. Regulating the quality of all discharges to surface and ground waters important for protecting public health and environmental quality.

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 contains recommended policy changes that, once incorporated into existing Basin Plans, will provide improvements in how dischargers are regulated. The new regulatory process will allow for more local collaboration among dischargers and more flexibility in meeting discharge requirements.

Regulation: How it Works Now

Producing oil and gas naturally brings water to the surface, which is referred to as **produced water**. Every barrel of oil recovered results in up to 15 barrels of produced water.

In Kern County alone, oil producers provide more than 10 billion gallons of treated produced water annually for reuse by irrigated agriculture. This reuse avoids the need for irrigation water from other sources such as groundwater.

Produced water is filtered, treated, and disposed of in accordance with Central Valley Water Board (Water Board) regulations. Without advanced

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treatment, produced water cannot be used as drinking water as it often contains salt, boron, and other naturally-occurring elements from its contact with petroleum-bearing rocks. However, produced water that is low in salinity can be filtered, treated, and blended into irrigation water for water districts to provide to farmers for irrigation. Produced water that is not suitable for reuse for irrigation is filtered, treated, and reused to enhance oil production, reinjected into oil producing wells, or is discharged to evaporation ponds or surface impoundments.

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

General Order No. 1 (GO1) regulates produced water discharges to land that overlies high quality groundwater, which generally meets all applicable water quality objectives. Oil and gas producers are required to implement produced water management practices, monitoring plans, 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 No. 2 (GO2) sets the requirements for discharging produced water that does not consistently meet all water quality requirements to ponds and to land. This includes regulation for production wells, produced water treatment facilities, and evaporation and percolation ponds. GO2 also includes regulation of produced water for dust control at existing facilities.

General Order No. 3 (GO3) regulates discharges of produced water in areas where the first encountered groundwater is absent, of poor quality, or associated with oil-bearing formations. These are areas where



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groundwater does not support specific **beneficial uses** including for municipal (MUN), agricultural (AGR), industrial (IND) purposes. When a permittee's efforts to improve the quality of the land discharge cannot meet Basin Plan maximum salinity limits, the permittee can apply for an Exception from water quality objectives for salinity. To qualify for an Exception, the permittee must participate in the CV-SALTS program.

Almost all groundwater in California has been designated for domestic and municipal use (MUN), regardless of the actual quality of the water. Where the local groundwater can be demonstrated not suitable for MUN and AGR uses, the Water Board can de-designate that use(s) through a Basin Plan amendment.

Local Collaboration is Key

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. With the new regulatory options, all dischargers will be asked to collaborate locally to implement necessary solutions to meet water quality standards. The 2014 Sustainable Groundwater Management Act (SGMA) focuses on water quantity, through sustainable, local groundwater management. Coordination between SGMA and CV-SALTS is expected as both move forward.

Key Benefits of New Regulatory Options

The oil and gas industry represents an important part of the CV-SALTS program. Because salt and boron are associated with produced water, oil and gas producers may benefit from a new regulatory structure that will offer more locally-focused flexibility for permittees, whether they choose to comply under a traditional permit or participate in the alternative compliance option.

The SNMP includes an example of de-designation of the Tulare Lake Bed. Under GO3, oil and gas producers may follow a de-designation path for specific aquifers and specific beneficial uses that include MUN, AGR and IND. Also, in the future, the SNMP is expected to be amended to include regulatory provisions for boron, which is a

constituent of concern for agriculture as well as the oil and gas industry.

The following are three examples of the new SNMP policies that will help better shape the future of the regulation of produced water discharges.

Local Management Zones. The formation of local or regional management zones will save time, money, and resources. Oil and gas producers, agricultural interests, municipal wastewater treatment plants and other dischargers who decide to join a management zone can work collectively and in a distinct regulatory compliance unit, which could overlap with a SGMA Groundwater Sustainability Agency. Members can pool resources to implement water quality protection measures that ensure safe drinking water supplies. While working to protect groundwater for beneficial uses, members may be authorized to continue existing discharges and be given more time to comply with current WDRs.

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 more time to apply a workable, effective, and site-specific regulatory solution.

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, the consideration and granting of assimilative capacity, coupled with the implementation of localized management measures, will contribute toward demonstrating compliance with water quality standards.

Get Involved, Shape the Future

Protecting our water quality is critical. Without more flexible, and localized management options for nitrates, salts, and boron, regulators will likely continue to develop control measures that may make compliance more difficult, and even prohibit discharges.

To best protect water quality for all, the voice of oil and gas producers is critical in helping shape the future of the new SNMP regulations and associated Basin Plans. Visit www.cvsalinity.org to get involved and informed.