



# Oil and Gas Industry:

## Participation in New Water Quality Program Provides More Regulatory Flexibility

### Protecting Our 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 is important for protecting public health and environmental quality. A critical component in the future success of water quality regulations is the Central Valley Salinity Alternatives for Long-Term Sustainability (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 of Produced Water

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, each year oil producers provide more than 10 billion gallons of produced water 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. Some is reused for irrigation water or for oil production, some is discharged to evaporation ponds, and some is reinjected into wells.

Without advanced treatment, produced water cannot be used as drinking water because 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 or percolation ponds.

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 demonstrate adherence to strict pollutant limits. The Water Board also regulates the discharge of produced water to evaporation ponds or surface impoundments through individual WDRs or under three General WDR Orders adopted in April 2017 that update and modernize historic WDRs. The fundamental 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, groundwater monitoring plans, and maintain secondary containment features at produced water disposal facilities. These actions will 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 of the 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



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oil-bearing formations. These are areas where 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. Also, groundwater in aquifers outside oil-bearing zones was designated for MUN uses, regardless of the actual quality of the water. Where the local groundwater can be demonstrated to be not suitable for MUN and AGR uses, the Water Board can designate that use(s) through a Basin Plan amendment.

## Local Collaboration is Key

The CV-SALTS 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. Similarly, 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 programs move forward.

## Benefits of New Regulations

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 new local management zone option.

The SNMP includes an example of de-designation of the Tulare Lake Bed. As a requirement of 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 highlights a few of the new policies that will shape how the future of the oil and gas industry's produced water discharges will be regulated.

**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 (GSA). 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. Within 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.

**Long Term Salinity Solutions.** Part of CV-SALTS involves planning and funding a long-term salinity "fix" such as the implementation of a regulated brine line to remove salts from the Central Valley. CV-SALTS participants will be asked to help fund the *Prioritization and Optimization Study* to determine the best way to address salts, and how to fund solutions, over the long term. Dischargers participating in the Prioritization and Optimization Study can get additional flexibility and longer term compliance schedules for salinity discharge



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limits in the interim period (20-30 years) while long term solutions are being planned and implemented.

### Get Involved Now, Shape the Future

Without flexible and more locally-tailored management strategies for discharges containing salt, nitrate, and boron, regulators will continue to develop “one-size fits all” measures that will be expensive and make compliance difficult or impossible. 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](http://www.cvsalinity.org) to get involved and informed.

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## Water Quality Regulations Undergoing Change

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