

**STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION**

STAFF REPORT FOR REGULAR MEETING OF AUGUST 24-25, 2023

Prepared on August 1, 2023

ITEM NUMBER: 9

SUBJECT: *Amendment to Order No. R3-2019-0089, General Waiver for Specific Types of Discharges*

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KEY INFORMATION

Type of Discharge: Residual wastewater from reverse osmosis drinking water supply treatment for nitrate
Design Capacity: 10,000 gallons per day (gpd) (combined flow of domestic wastewater and residual wastewater)
Disposal: Discharge into onsite wastewater treatment system (OWTS)
Existing Order: Order No. R3-2019-0089, *General Waiver for Specific Types of Discharges*

ACTION: **Adopt Proposed Order No. R3-2023-0044**

SUMMARY

In the Central Coast Region, nitrate pollution in groundwater is a severe and widespread water-quality problem that poses serious health risks to vulnerable communities. Addressing nitrate pollution in groundwater and removing obstacles to ensure safe drinking water are among the Central Coast Water Board's highest priorities. This item aims to support the effective implementation of drinking water treatment options to address nitrate.

This staff report provides an overview of proposed Order No. R3-2023-0044 (Amending Order), which would amend Order No. R3-2019-0089, *General Waiver for Specific Types of Discharges* (General Waiver). The intent of this amendment is to support the implementation of the human right to water in rural areas by helping local agencies remove obstacles to drinking water treatment of groundwater contaminated by nitrate by establishing a waiver of waste discharges requirements for discharges of reverse osmosis wastewater that meet specific conditions.

As authorized by Water Code section 13269, the General Waiver conditionally waives waste discharge requirements and the requirement to submit a report of waste discharge for the specific types of discharges listed in the General Waiver, Attachment A, Section A, provided that the associated conditions are met. The proposed Amending Order would add discharges of residual wastewater from reverse osmosis (RO) drinking water supply treatment systems to the list provided in the General Waiver, Attachment A, Section A. Discharges from RO drinking water systems will not have significant effects on water quality provided that dischargers comply with the corresponding conditions.

Attachment 1 to the Staff Report includes the proposed Amending Order No. R3-2023-0044, with Attachment 1A - the revised General Waiver and Attachment 1B – the Initial Study/Negative Declaration Addendum. Attachment 2 to the Staff Report is the revised General Waiver, with revisions highlighted.

This summary is also provided in Spanish. Interested persons may also request that the entire staff report be translated into Spanish, dependent upon available resources.

DISCUSSION

Background

In the Central Coast Region, nitrate pollution in groundwater is a widespread water quality problem that can pose serious health risks, especially in agricultural areas with intensive fertilizer application. In some areas, drinking water well testing results indicate that more than 40 percent of the wells tested exceeded safe drinking water standards. Nitrate contamination is especially problematic for domestic wells and small drinking water systems in vulnerable communities that have limited resources for drinking water treatment or alternative sources of drinking water. Reverse osmosis (RO) is a common method of treatment for nitrate in drinking water. However, with any RO drinking water supply treatment system, it is important to evaluate and manage the discharge of residual wastewater containing nitrate and other constituents so that it does not contribute to water quality impacts.

With small drinking water systems impacted by nitrate and various other pollutants, local water agencies have requested guidance from the Central Coast Water Board on how to permit the discharge of residual wastewater (RO concentrate) from RO drinking water treatment systems. The proposed Amending Order provides a permitting mechanism and clear requirements for discharge of RO concentrate from RO drinking water treatment systems for nitrate into onsite wastewater treatment systems (OWTS).

If properly managed, discharges of RO concentrate to OWTS do not pose a significant threat to water quality because (1) the RO concentrate recombines with domestic wastewater prior to disposal, causing only a minimal net increase in salts and minerals and (2) research confirms that when RO concentrate containing nitrate is discharged to properly functioning OWTS, the OWTS can significantly reduce nitrate concentrations through denitrification. This is demonstrated by the successful implementation of a

drinking water treatment pilot project conducted at three sites in Monterey County by a University of California, Los Angeles (UCLA) research team. The results of the UCLA pilot project documented a reduction of nitrate concentrations when the RO concentrate was discharged directly to an OWTS.¹

Pilot-Project Research

In 2015, the State Water Board provided grant funding to UCLA to conduct a pilot project to implement nitrate drinking water treatment using centrally managed systems for small communities impacted by nitrate pollution. The goal of the pilot project is to demonstrate effective and economical treatment methods and remote telemetry management such that multiple, limited resource communities can be managed collectively, thus reducing individual system technical operation and management costs. The pilot project is being implemented in three communities in the Salinas Valley: Bluerock View Apartments, Pryor Farms, and Santa Teresa Park (San Vicente Water System).

An important component of the UCLA pilot project was to evaluate discharges from RO drinking water systems to ensure that discharges will not have negative impacts on water quality. In coordination with the State Water Board Division of Drinking Water (DDW) and Division of Financial Assistance (DFA), Monterey County Environmental Health Bureau - Department Drinking Water Protection Services, and UCLA, the Central Coast Water Board issued monitoring and reporting requirements to UCLA to conduct monitoring to inform future requirements for RO residual waste discharges. Monitoring results indicated that, if properly managed, discharges of RO concentrate to OWTS do not pose a significant threat to water quality because (1) the RO concentrate recombines with domestic wastewater prior to disposal, causing only a minimal net increase in salts and minerals and (2) research confirms that when RO concentrate is discharged to properly functioning OWTS, the OWTS can significantly reduce nitrate concentrations through denitrification. Using these results, staff developed the proposed Amending Order revising the General Waiver to include discharges of residual wastewater from RO drinking water supply treatment systems.

The UCLA Pilot Project is nearing completion as the drinking water treatment systems are completed for all three communities in the Salinas Valley. Project partners will provide an update to the Central Coast Water Board at a future meeting.

Revisions to the General Waiver

The proposed Amending Order adds *Residual Wastewater from Reverse Osmosis Drinking Water Supply Treatment Systems* to the list provided in Attachment A, Section A of the General Waiver. RO systems are often installed to produce high-quality, potable drinking water for individual residences and small communities. This

¹ UCLA reports and correspondence are available on GeoTracker for the three projects at: (1) Bluerock View https://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T10000012707 (2) Pryor Farms https://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T10000012702 (3) Santa Teresa https://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T10000012978

amendment authorizes waste discharges of RO concentrate from RO drinking water treatment systems into existing OWTS where the design flow is limited to a daily maximum of 10,000 gallons of combined domestic wastewater and RO concentrate flow and where the water provided by the water system or private domestic well exceeds the primary maximum contaminant level (MCL) for nitrate or is under threat of not meeting the MCL for nitrate.

Human Right to Water

California Water Code section 106.3, subdivision (a) states that it is the policy of the State of California “that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitation purposes.” On January 26, 2017, the Central Coast Water Board adopted Resolution No. R3-2017-0004², which affirms the realization of the human right to water and the protection of human health as the Central Coast Water Board's top priorities. Specifically, the resolution directs staff to promote policies that advance the human right to water and discourage actions that delay or impede opportunities for communities to secure safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes.

The proposed Amending Order removes obstacles and facilitates the consideration of drinking water treatment options by providing a clear framework for how to discharge RO concentrate to support the installation of RO treatment on drinking water systems impacted with nitrate. This will allow clear direction and facilitate the installation of RO drinking water systems in areas impacted by nitrate.

Environmental Justice

Environmental justice principles call for the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income in the development, adoption, implementation, and enforcement of all environmental laws, regulations, and policies that affect every community's natural resources and the places people live, work, play, and learn. The Central Coast Water Board implements regulatory activities and water quality projects in a manner that ensures the fair treatment of all people, including Underrepresented Communities. Underrepresented Communities include but are not limited to Disadvantaged Communities (DACs), Severely Disadvantaged Communities (SDACs), Economically Distressed Areas (EDAs), Tribes, Environmentally Disadvantaged Communities (EnvDACs), and members of Fringe Communities.³

² https://www.waterboards.ca.gov/centralcoast/board_decisions/adopted_orders/2017/2017-0004_hrtw_fnl.pdf

³ Disadvantaged Community: a community with an annual median household income that is less than 80% of the statewide annual median household income (Public Resources Code section 80002(e)); Severely Disadvantaged Community: a community with a median household income of less than 60% of the statewide average. (Public Resources Code section 80002(n)); Economically Distressed Area: a municipality with a population of 20,000 persons or less, a rural county, or a reasonably isolated and divisible segment of a larger municipality where the segment of the population is 20,000 persons or less with an annual median household income that is less than 85% of the statewide median household income and with one or more of the following conditions as determined by the department: (1) financial

Furthermore, the Central Coast Water Board is committed to providing all stakeholders the opportunity to participate in the public process and provide meaningful input to decisions that affect their communities.

The proposed Amending Order supports the state-wide priority to ensure all Californians have access to safe and affordable drinking water, including State Water Board Resolution No. 2016-0010 and Central Coast Water Board Resolutions No. R3-2017-0004 and R3-2023-0002⁴. Groundwater in rural areas of the Central Coast is more likely to be degraded by nitrate. Residents of rural areas are also historically at higher risk of being underrepresented and/or economically disadvantaged and often have limited access to safe drinking water. Additionally, this amendment streamlines permitting and clarifies requirements for drinking water treatment system wastes in cases where treatment is required to meet public health standards or where drinking water is at threat of not meeting public health standards (drinking water maximum contaminant levels, or MCLs) for nitrate.

Climate Change

The Central Coast faces the threat and the effects of climate change for the foreseeable and distant future. To proactively prepare and respond, the Central Coast Water Board has launched the Central Coast Water Board's Climate Action Initiative, which identifies how the Central Coast Water Board's work relates to climate change and prioritizes actions that improve water supply resiliency through water conservation and wastewater reuse and recycling; mitigate for and adapt to sea level rise and increased flooding; improve energy efficiency; and reduce greenhouse gas production. The Climate Action Initiative is consistent with the Governor's Executive Order B-30-15 and the State Water Board's Climate Change Resolution No. 2017-0012.⁵

Considering the frequent drought conditions the state experiences and subsequent overdraft in groundwater basins throughout the state, there is a need to ensure that additional clean drinking water is available. The proposed Amending Order aligns with the Climate Action Initiative's objective to improve water supply resiliency by establishing clear requirements for the use of RO drinking water treatment for nitrate with discharge to OWTS.

hardship, (2) unemployment rate at least 2% higher than the statewide average, or (3) low population density. (Water Code section 79702(k)); Tribes: federally recognized Indian Tribes and California State Indian Tribes listed on the Native American Heritage Commission's California Tribal Consultation List; EnvDACs: CalEPA designates the top 25 percent scoring census tracts as DACs. Census tracts that score the highest five percent of pollution burden scores but do not have an overall CalEnviroScreen score because of unreliable socioeconomic or health data are also designated as DACs (refer to the CalEnviroScreen 3.0 Mapping Tool or Results Excel Sheet); Fringe Community: communities that do not meet the established DAC, SDAC, and EDA definitions but can show that they score in the top 25 percent of either the Pollution Burden or Population Characteristics score using the CalEnviroScreen 3.0.

⁴ https://www.waterboards.ca.gov/centralcoast/board_decisions/adopted_orders/2023/r3-2023-0002.pdf

⁵ https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2017/rs2017_0012.pdf

CEQA

Since the adoption of the Initial Study/Negative Declaration (IS/ND) (SCH No. 2002101068) in 2002, minor changes to the General Waiver have been made in subsequent renewals (2008, 2014 and 2019) and this proposed Amending Order in 2023. The changes with the proposed Amending Order will not result in any new significant environmental impacts. As such, the IS/ND continues to serve as the appropriate document addressing the environmental impacts from the revised General Waiver under CEQA, and a subsequent ND and/or subsequent Environmental Impact Report (EIR) does not need to be prepared. Therefore, consistent with title 14, CCR sections 15162 and 15164, an addendum to the IS/ND is appropriate. The addendum to the IS/ND is included as Attachment 1B.

PUBLIC COMMENTS

During the development of the proposed Amending Order, staff provided a draft of the revised General Waiver to local agencies that regulate OWTS and implement local area management program (LAMPs) and provided an opportunity for early input.

On May 31, 2023, the Central Coast Water Board posted the draft Amending Order to the Central Coast Water Board's website and notified potential dischargers, agencies, and other interested persons of its intent to consider adoption of the proposed order and the opportunity to submit written comments during the 30-day public comment period. Written comments were due to the Central Coast Water Board by June 30, 2023. Community Water Center and Monterey Waterkeeper submitted a comment letter on June 30, 2023. The organizations indicated that they are supportive of removing obstacles to the implementation of the human right to water and commented on the need to address flow limits and RO concentrate discharge variability and loading, particularly if there are multiple OWTS serving one drinking water system.

Central Coast Water Board staff discussed the comments with Community Water Center staff in email and phone conferences. To address the comments, Central Coast Water Board staff added text in the proposed Amending Order to clarify that: (1) RO concentrate from the RO drinking water treatment systems must be combined with domestic wastewater, (2) RO concentrate flow cannot be a significant percentage of the discharge to the OWTS, and (3) RO concentrate must be discharged to the OWTS that treats the domestic wastewater; for cases when the drinking water treatment system discharges to multiple OWTS, General Waiver eligibility must be confirmed by the regulatory agency that permitted the OWTS (city, county, or Central Coast Water Board).

CONCLUSION

In the Central Coast Region, nitrate pollution in groundwater is a severe and widespread water quality problem that poses serious health risks to vulnerable communities. Addressing nitrate pollution in groundwater and removing obstacles to ensuring safe drinking water are among the Central Coast Water Board's highest

priorities. The proposed Amending Order No. R3-2023-0044 and revised General Waiver support the implementation of the human right to water in rural areas for drinking water treatment of groundwater contaminated by nitrate through establishing a waiver for discharges of RO concentrate that meet specific conditions, including discharge to OWTS. The proposed Amending Order and revised General Waiver will not lead to significant threats to waters of the state and are consistent with the maximum benefit to the people of the state.

RECOMMENDATION

Adopt Amending Order No. R3-2023-0044.

ATTACHMENTS

1. Proposed Order No. R3-2023-0044 and Attachments
2. Proposed Revised Order No. R3-2019-0089