

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

STAFF REPORT FOR REGULAR MEETING OF MAY 15-17, 2019

Prepared on April 18, 2019

ITEM NUMBER: 15

SUBJECT: Cambria Community Services District Emergency Water Treatment Facility and Recycled Water Re-Injection Project, Waste Discharge Requirements and Water Recycling Requirements, San Luis Obispo County, Order No. R3-2019-0051

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KEY INFORMATION

Location: 990 San Simeon-Monterey Creek Road, North of Cambria, in San Luis Obispo County California 93428

Type of Discharge(s): Title 22 Groundwater Replenishment Reuse Project¹

Design Capacity: 540,000 gallons per day

Treatment: Title 22 Advanced treatment via membrane filtration, reverse osmosis, advanced oxidation, and disinfection

Disposal: Injection of treated water into San Simeon Aquifer

Reclamation: Yes, via indirect potable reuse

Existing Orders: R3-2014-0050

Owner/Operator: Cambria Community Services District

This Action: Adopt Order No. R3-2019-0051, Waste Discharge Requirements and Water Recycling Requirements for the Cambria Community Services District Emergency Water Treatment Facility and Recycled Water Re-Injection Project. Terminate Order No. R3-2014-0050

SUMMARY

Cambria Community Services District (CCSD) is currently permitted by Order No. R3-2014-0050, Waste Discharge Requirements (WDRs) and Water Recycling Requirements² for its emergency water supply (EWS) project which produces recycled water consistent with title 22, California Code of Regulations, division 4. Environmental Health criteria to recharge the San Simeon well field aquifer for indirect potable reuse of recycled water (i.e., a groundwater replenishment reuse project). The proposed Order No. R3-2019-0051 (Order)¹, replaces and updates Order No. R3-2014-0050. The groundwater supplied to the EWS includes a blend of

¹ Title 22 refers to California Code of Regulations (CCR), title 22, division 4, chapter 3 Water Recycling Criteria for the treatment and use of recycled water. Title 22 recycled water regulations may be found online at:

https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/Lawbook.html

² Order No. R3-2019-0051, Waste Discharge Requirements and Water Recycling Requirements for the Cambria Community Services District's Emergency Water Supply Treatment Facility and Recycled Water Re-Injection Project.

creek underflow, percolated wastewater treatment plant effluent, and a mix of the lower seawater wedge where it blends with freshwater. The groundwater blend is then treated to title 22 advanced treatment standards using a treatment system consisting of membrane filtration, reverse osmosis and advanced oxidation, followed by disinfection. The title 22 treated water is then reinjected into the San Simeon aquifer to supplement CCSD's municipal water supply.

This proposed Order provides limited updates to Order No. R3-2014-0050, including:

- Updates of the current EWS treatment system (e.g., addition of a dechlorination system);
- Removes the authority to discharge wastes (e.g., reverse osmosis brine and other EWS produced wastes) from the EWS system to the title 27 surface impoundment (permitted separately as noted in the table below);
- Reduces the allowable treated water re-injection rate based on the results of an updated tracer study; and
- Amends or updates outdated information contained in the current order.

The CCSD is regulated by several Central Coast Regional Water Quality Control Board (Central Coast Water Board) orders, as summarized in the table below. This board action only addresses the updates to Order No. R3-2014-0050:

Facility	Order No.	Discharge	Notes
Emergency Water Supply (EWS) - title 22	R3-2014-0050	Production and injection of advanced treated water to the San Simeon Aquifer	Updated by this proposed Order No. R3-2019-0051 .
CCSD Wastewater Treatment Plant	01-100	Treated municipal wastewater discharged to percolation ponds	Updated on November 14, 2014 to include discharge of EWS microfiltration reject and backwash flows to the wastewater treatment plants percolation ponds.
Surface Impoundment - title 27	R3-2014-0047 ¹	Brine and other EWS wastewater to surface impoundment	Subject to Cease and Desist Order No. R3-2017-0016. No new discharge of reverse osmosis brine has been discharged to the surface impoundment since July 13, 2017.
EWS Lagoon Mitigation	R3-2011-0223	NPDES Low Threat Discharge of membrane filtered water to lagoon	No discharge from EWS to the lagoon since December 2016.

Notes:

1. This order will be rescinded after the CCSD complies with the Cease and Desist Order to remove the residual brine waste mixed with stormwater from the surface impoundment for disposal at an appropriately permitted facility.

DISCUSSION

Background

On November 14, 2014, the Central Coast Water Board adopted Order No. R3-2014-0050, Waste Discharge Requirements and Water Recycling Requirements for the CCSD's Emergency Water Treatment Facility Recycled Water Re-Injection Project. This is a title 22 California Code of Regulations, Groundwater Recharge Reuse Project (GRRP) utilizing a subsurface [injection] application for the indirect potable reuse of recycled municipal wastewater. Order No. R3-2014-0050 permits the production of reclaimed water at the CCSD's EWS project, and the re-injection of advanced treated water into the San Simeon aquifer, one of two aquifers supplying potable water to customers in the town of Cambria in San Luis Obispo County. Waste discharge requirements for a title 27 surface impoundment were adopted on the same date (Order No. R3-2014-0047) to store and evaporate reverse osmosis reject water and various other wastes associated with EWS operations. The EWS project is located at 990 San Simeon-Monterey Creek Road, North of Cambria, in San Luis Obispo County, California (see Figure 1).

The EWS project and San Simeon well field are located within the San Simeon Valley groundwater basin. The Water Quality Control Plan for the Central Coastal Basin (Basin Plan) lists the beneficial uses for groundwater in this area as municipal and domestic supply (MUN), agricultural Supply (AGR), and industrial use (IND).

The EWS facility was originally permitted during a period of prolonged drought pursuant to state of emergency declarations from the Governor, which allowed projects to forego the usual California Environmental Quality Act (CEQA) review process. The EWS project was deemed necessary to avoid the potentially disastrous consequences from not having adequate water for health, safety, sanitation, and fire protection.

Since becoming operational in January 2015, the EWS has operated approximately 277 days, primarily during the 1st and 4th quarters of 2015, and the 4th quarter of 2016. The facility did not operate in 2017, 2018, or to date in 2019.

On July 13, 2017, the Central Coast Water Board adopted cease and desist order No. R3-2017-0016 for the title 27 surface impoundment after flood waters inundated the facility in early 2017, resulting in the discovery of significant design flaws. The cease and desist order led to the subsequent approval of a Pond Closure Plan to eliminate the surface impoundment and this resulted in significant changes to the waste disposal procedures originally detailed in the current order. This Order updates and formalizes the new waste disposal procedures and removes the option to discharge wastes from the EWS to the surface impoundment.

This proposed Order also identifies the addition of a dechlorination system for treated recycled water which may now be employed to supplement the membrane filtrate water used for lagoon water mitigation should the need arise, pursuant to the adaptive management plan, which is intended to ensure that baseline lagoon conditions are maintained when the EWS is in operation.

Pursuant to State Water Resources Control Board Division of Drinking Water requirements, an initial tracer study conducted in 2014 showed that injecting water at a rate averaging 437 gallons per minute (gpm) could not meet the minimum 60-day residence time requirement for indirect potable reuse groundwater replenishment subsurface injection projects. A second tracer study was conducted in the fall of 2016, using an average injection rate of 407 gpm. The second tracer study concluded that the 60-day minimum residence time was met, and the Division of

Drinking Water conditionally accepted the study in a letter dated October 10, 2017, provided that CCSD's injection of recycled water does not exceed 400 gpm. This Order includes the updated 400 gpm limit for injection of recycled water in accordance with Division of Drinking Water requirements and title 22 recycled water criteria.

Not all injected water will become available to the municipal supply wells. The 400 gpm limit does not represent the volume of additional water available to CCSD's municipal wells. The Division of Drinking Water has stated that they will amend CCSD's municipal well permit to require balanced injection and pumping rates when the EWS is injecting water, and to maintain a combined ≤ 400 gpm pumping rate for 60-days after injections cease to maintain the required residence time in the aquifer.

EWS Leads to Improved Water Quality

In April 2015, the EWS was shut down due to exceedances of the effluent limit for nitrate as nitrogen. In response, the CCSD implemented a reconfiguration of its treatment processes at the municipal wastewater treatment plant to reduce overall nitrogen levels in the effluent being discharged to percolation ponds. When the EWS was restarted in December 2015, nitrogen levels were significantly reduced both in the treated municipal effluent, and in the EWS recycled water injected into the aquifer.

Groundwater quality shows marked improvements for nitrate in monitored wells, with the greatest overall improvements in monitoring well 16D1. Well 16D1 is downgradient from both the EWS facility and the municipal wastewater plant percolation ponds and is immediately up-gradient from the San Simeon Lagoon (see Figure 2).

The Central Coast Ambient Monitoring Program (CCAMP) has been collecting nitrate as N data in the San Simeon Lagoon for years, and the data show considerable improvement in lagoon nitrate concentrations following implementation of the CCSD's 2015 nitrogen reduction efforts.

Violations History

The CCSD has received numerous notices of violation associated with the current order since it was adopted in 2014. Most of the notices of violations were related to the submittal of late and incomplete monitoring reports. CCSD settled an administrative civil liability complaint for late reporting in May 2017. All monitoring reports required by Monitoring and Reporting Program R3-2014-0050 have been submitted on time since the January 2017 monthly monitoring report. It should be noted that the EWS was not operational during 2017, 2018, or to date in 2019, and the CCSD has yet to demonstrate that it can meet all data requirements and reporting deadlines while the facility is operational. Although not discussed in detail here, the CCSD has been subject to notices of violation and enforcement actions associated with some of its other permitted facilities.

Other Permits

The CCSD constructed and initially operated the EWS pursuant to Emergency Permit ZON2013-00589 issued by San Luis Obispo County on May 15, 2014 (Emergency Coastal Development Permit) which states the following:

“This emergency permit is valid until such time that the CCSD-declared Stage 3 Water Shortage Emergency has ended, or the project has been authorized to continue to serve existing development through approval of a regular Coastal Development Permit,

whichever is sooner. While processing the regular Coastal Development Permit, the emergency water facility may only be re-activated and utilized to produce water in the event of the occurrence of another Stage 3 Water Shortage Emergency and only after the CCSD has issued a formal declaration of the existence of such a Stage 3 Water Shortage Emergency.”

The Emergency Coastal Development Permit further requires that the CCSD apply for a regular Local Coastal Development permit for the project, which the CCSD did on June 13, 2014, and again on February 27, 2017. To date, a regular Local Coastal Development permit has not been issued to the CCSD.

California Environmental Quality Act

The EWS was initially exempt from provisions of the California Environmental Quality Act (CEQA) pursuant to proclamations by the Governor, dated January 17, 2014, and April 25, 2014, suspending the environmental review required by CEQA for certain actions conducted pursuant to identified directives in the April 25, 2014 proclamation. The project construction, operation, and issuance of waste discharge requirements for the EWS were all exempt from CEQA because the EWS was consistent with Directive 12 of the April 25, 2014 proclamation.

CCSD's Board of Directors certified a supplemental environmental impact report (SEIR) for the facility on July 27, 2017. The SEIR proposes project modifications including changing the purpose of the project from a facility intended to augment the water supply for existing Cambria residents only during emergency drought conditions, to a facility with ongoing daily operations intended to accommodate new development. Another project modification contemplated in the SEIR is the addition of a surface water treatment plant which would treat surface water from a potable water supply storage basin or San Simeon Well SS-1 to improve the potable water supply's overall reliability. The proposed Order does not include the project modifications proposed in the SEIR. Any future significant project modifications would need to be permitted through a new or revised WDR.

Climate Change

The EWS project objective as initially intended and permitted was to address the water supply related drought effects of climate change for the community of Cambria (i.e., to augment the water supply). The EWS project was constructed to provide an additional source of water for the community during periods of prolonged drought. Periods of prolonged drought are predicted to become more frequent as the effects of climate change become more pronounced.

Central Coast Water Board staff will continue to coordinate with California Coastal Commission and county staff to incorporate climate change adaptation strategies into any future permit revisions.

Human Right to Water

California Water Code section 106.3, subdivision (a) states: It is a 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.” The proposed Order is consistent with the human right to water policy by requiring the discharger to comply with effluent limits that will protect the municipal and domestic supply (MUN) drinking water beneficial use.

Disadvantaged Community Status

The EWS facility is not located in an area identified as a disadvantaged community (DAC) on the California Department of Water Resources DAC Mapping Tool³ as either a place, tract, or block group per 2016 census data. The CCSD serves water to 6,032 residents in the community of Cambria. Of the 6,032 residences served, the DAC Mapping Tool identified approximately 934 residents in the village area to be consider a disadvantaged block group per the 2016 census data.

Monitoring and Reporting Program

The Central Coast Water Board Executive Officer revised Monitoring and Reporting Program (MRP) R3-2014-0050 on July 3, 2018, to reduce the groundwater monitoring requirements when the EWS system is non-operational and to require electronic submittal of reports and water quality data to the GeoTracker database. Because of this recent revision to the MRP, the proposed Order does not include any MRP update. Additional changes to the MRP will be necessary in the future to comply with a new Division of Drinking Water requirement to include additional chemicals in the Monitoring and Reporting Program, and to ensure consistency with the revised Recycled Water Policy.

New Requirements in Order No. R3-2019-0051

This Order includes the following new or revised requirements:

1. A new maximum EWS recycled water injection limit of 400 gallons per minute.
2. Reverse osmosis reject (i.e., treatment system brine waste) and other EWS generated wastes must now be trucked offsite to an appropriately regulated disposal facility.
3. Addition of an EWS dechlorination system to provide supplemental treated water to the lagoon as needed to maintain or augment the lagoon habitat.

COMMENTS

The draft staff report, and proposed updated Order was posted for a 30-day public comment period on April 18, 2018. Central Coast Water Board staff received 6 comment via email during this comment period, 4 of which requested that the item be postponed to a later date to provide the opportunity for staff to attend the Central Coast Water Board meeting and respond to questions posed by the public.

The proposed updated Order was posted for a second comment period on February 8, 2019. A total of 82 comments were received during this comment period.

Comments received during both comment periods and Central Coast Water Board staff's responses to those comments are found in Attachment 1.

³ The DAC Mapping Tool (<https://gis.water.ca.gov/app/dacs/>) is used to inform statewide Integrated Water Resources Management (IRWM), Sustainable Groundwater Monitoring Act (SGMA), and California Water Plan implementation efforts.

Comment letters can be viewed in their entirety on the internet at:

https://www.waterboards.ca.gov/centralcoast/board_decisions/tentative_orders/commenters_listed.html

CONCLUSION

The proposed updated Order contains limited updates to the current order and incorporates the new treated water injection limit, requires a new waste disposal method, does not allow discharge of wastes to the title 27 surface impoundment, adds the dechlorination system, and updates water quality and other outdated information contained in the previous order. Adoption of this update will protect both groundwater and surface water quality. The proposed updated Order does not address potential future project modifications proposed in the SEIR but incorporates necessary changes that reflect the current facility operations and incorporates new treated water injection limits.

ATTACHMENTS

1. Responses to comments received.
2. Proposed Order No. R3-2019-0051, Waste Discharge Requirements and Water Recycling Requirements for the Cambria Community Services District Emergency Water Treatment Facility and Recycled Water Re-Injection Project.

RECOMMENDATION

Adopt Order No. R3-2019-0051, Waste Discharge Requirements and Water Recycling Requirements for the Cambria Community Services District Emergency Water Treatment Facility and Title 22 Groundwater Replenishment Reuse Project as proposed. Terminate Order No. R3-2014-0050.

ECM # 809684

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Figure 1 – Project Location



Figure 2 – Facility Site Map

